AGENDA

Orange City Council

June 09, 2026

6:00 PM Regular Session

City Council Chamber
300 E. Chapman Avenue
Orange, CA 92866

Jarad L. Hildenbrand
City Manager

Nathalie Adourian
City Attorney

Pamela Coleman
City Clerk

DAN SLATER
Mayor

DENIS BILODEAU
Mayor pro tem, District 4

ARIANNA BARRIOS
Councilmember, District 1

JON DUMITRU
Councilmember, District 2

KATHY TAVOULARIS
Councilmember, District 3

ANA GUTIERREZ
Councilmember, District 5

JOHN GYLLENHAMMER
Councilmember, District 6

The City of Orange City Council welcomes you to this meeting and encourages your participation. Regular City Council meetings are held on the second and fourth Tuesday of each month at 6:00 p.m.

Agenda Information

The agenda contains a brief general description of each item to be considered. The City Council may take legislative action deemed appropriate with respect to the item and is not limited to the recommended action indicated in staff reports or on the agenda. The agenda and supporting documentation is available after 4:00 p.m. on the Thursday prior to the Council meeting on the City's website at www.cityoforange.org, at the City Clerk's Office located at 300 E. Chapman Avenue, and at the Main Public Library located at 407 E. Chapman Avenue. Written materials relating to an item on the agenda that are provided to the City Council after agenda packet distribution and within 72 hours before Council is to consider the item will be made available for public inspection in the City Clerk's Office during normal business hours; at the City Council meeting; and made available on the City's website.

Public Participation

Regular meetings are televised live on Spectrum Cable Channel 3 and AT&T U-verse Channel 99, and streamed live and on-demand on the City's website at www.cityoforange.org.

Pursuant to Government Code Section 54954.3, members of the public may address the City Council on any agenda item before or during Council's consideration of the item, and on any other matters within the City Council's jurisdiction by using any of the following methods:

1) In-Person

To speak on an item on the agenda, complete a speaker card indicating your name, address, and identify the agenda item number or subject matter you wish to address. The card should be given to the City Clerk prior to the start of the meeting. General comments are received during the "Public Comments" section at the beginning of the Regular Session. No action may be taken on off-agenda items unless authorized by law. Public Comments are limited to three (3) minutes per speaker unless a different time limit is announced. It is requested that you state your name for the record, then proceed to address the City Council. All speakers shall observe civility, decorum, and good behavior.

(Continued on page 2)

2) Written Public Comments via eComment

Members of the public can submit their written comments electronically for City Council consideration by using the eComment feature on the Agenda page of the City's website at www.cityoforange.org. To ensure distribution to the City Council prior to consideration of the agenda, we encourage the public to submit written comments by 3:00 p.m. the day of the meeting. All written comments will be provided to the Council for consideration and posted on the City's website after the meeting.

3) Public Comments via recorded voicemail message

Finally, the public can record their comments by calling (714) 744-2234 no later than 3:00 p.m. the day of the meeting. Recorded messages will not be played at the meeting, but will be provided to the Council.

In accordance with Ordinance No. 10-01, any person making personal, impertinent, slanderous or profane remarks or who becomes boisterous while addressing the Council shall be called to order by the Mayor. If such conduct continues, the Mayor may order the person barred from addressing the City Council further during that meeting, unless permission to continue is granted by a majority vote of the Council.

Please contact the City Clerk's Office at (714) 744-5500 with any questions.

ADA Requirements: In compliance with the Americans with Disabilities Act, if you need accommodations to participate in this meeting, please contact the City Clerk's office at (714) 744-5500. Notification at least 48 hours in advance of meeting will enable the City to make arrangements to assure accessibility to this meeting.

REMINDER: Please silence all electronic devices while City Council is in session.

6:00 PM REGULAR SESSION

1. OPENING/CALL TO ORDER

1.1 INVOCATION

Pastor Eric Turbedsky, Sovereign Grace Church of Orange

1.2 PLEDGE OF ALLEGIANCE

Councilmember John Gyllenhammer

1.3 ROLL CALL

1.4 PRESENTATIONS/ANNOUNCEMENTS

Proclamation celebrating the 75th birthday of Eva Perez

Attachments: Staff Report
Draft Proclamation

2. PUBLIC COMMENTS

At this time, members of the public may address the Council on matters not listed on the agenda within the subject matter jurisdiction of the City Council, provided that NO action may be taken on off-agenda items unless authorized by law. Public Comments are limited to three (3) minutes per speaker unless a different time limit is announced.

3. CONSENT CALENDAR

All items on the Consent Calendar are considered routine and are enacted by one motion approving the recommended action listed on the Agenda. Any member of the City Council, staff, or the public may request an item be removed from the Consent Calendar for discussion or separate action. Unless otherwise specified in the request to remove an item from the Consent Calendar, all items removed shall be considered immediately following action on the remaining items on the Consent Calendar.

3.1. Waive reading in full of all ordinances on the Agenda

Recommended Action:

Approve.

Attachments: Staff Report

3.2. Confirmation of accounts payable warrant registers dated May 7, 14, 21, and 28, 2026 and payroll check registers dated May 8 and 22, 2026

Recommended Action:

Ratify the accompanying registers.

Attachments: Staff Report
Attachment 1 May 7, 2026 Accounts Payable Register
Attachment 2 May 14, 2026 Accounts Payable Register
Attachment 3 May 21, 2026 Accounts Payable Register
Attachment 4 May 28, 2026 Accounts Payable Register
Attachment 5 May 8 2026 Payroll Register
Attachment 6 May 22 2026 Payroll Register

3.3. Approval of minutes of the City of Orange City Council Regular Meeting held on May 12, 2026.

Recommended Action:

Approve minutes as presented.

Attachments: Staff Report
May 12, 2026, Regular Meeting minutes

3.4. Agreement with All City Management Services, Inc. for crossing guard services during Fiscal Year 2026-2027 and 2027-2028

Recommended Action:

Approve a two-year agreement with All City Management Services, Inc. in the amount of $915,000, representing the cost of crossing guard services of $884,340, plus a contingency of $30,660; and authorize the Mayor and City Clerk to execute on behalf of the City.

Attachments: Staff Report
Agreement with ACMS

3.5. Agreement with Western A/V for Council Chamber audio-visual presentation system upgrades

Recommended Action:

Approve the agreement with Western A/V in the amount of $130,470.82 for Council Chambers audio-visual presentation system upgrades; and authorize the Mayor and City Clerk to execute on behalf of the City.

Attachments: Staff Report
Agreement with Western A/V

3.6. First Amendment to Agreement with CR&R Incorporated for Integrated Solid Waste Management suspending the Road Mitigation Payment and updating fees paid to the City

Recommended Action:

Approve First Amendment to Agreement with CR&R Incorporated to suspend the existing Road Mitigation Payment and adopt a new encroachment-based Franchise

Fee set at the same annual dollar amount as the Road Mitigation Payment currently in effect; and authorize the Mayor and City-Clerk to execute on behalf of the City.

Attachments: Staff Report
First Amendment to Agreement with CR&R

3.7. Adoption of four projects into the Capital Improvement Plan; acceptance and appropriation of $1,628,550 in designated grant funding from the California Department of Transportation; and appropriation of $180,950 in local matching funds

Recommended Action:

1. Adopt the following four projects into the City's Capital Improvement Plan:
   265125 Flashing Beacon Installation at Four School Crossings
   265126 HSIP Bike Lane Enhancements
   265127 Signal Head Indication Upgrades
   265128 Edgeline Striping Installation at Various Locations
2. Accept into the City's Reimbursable Capital Projects (550) revenue budget $1,628,550 in grant funding from the California Department of Transportation to:
   550-5703-43201-265125 Flashing Beacon Installation at Four School Crossings $349,740
   550-5703-43201-265126 HSIP Bike Lane Enhancements $349,920
   550-5703-43201-265127 Signal Head Indication Upgrades $661,320
   550-5703-43201-265128 Edgeline Striping Installation at Various Locations $267,570
3. Authorize the appropriation of $1,628,550 into Reimbursable Capital Projects (550):
   550-5703-87101-265125 Flashing Beacon Installation at Four School Crossings $349,740
   550-5703-87102-265126 HSIP Bike Lane Enhancements $349,920
   550-5703-87101-265127 Signal Head Indication Upgrades $661,320
   550-5703-87102-265128 Edgeline Striping Installation at Various Locations $267,570
4. Authorize the appropriation of $180,950 from the Measure M-Traffic Improvement (263) unreserved fund balance to:
   263-5703-87101-265125 Flashing Beacon Installation at Four School Crossings $38,860
   263-5703-87102-265126 HSIP Bike Lane Enhancements $38,880
   263-5703-87101-265127 Signal Head Indication Upgrades $73,480
   263-5703-87102-265128 Edgeline Striping Installation at Various Locations $29,730

Attachments: Staff Report
Attachment 1 - Flashing Beacon Installation at Four School Crossings Vicinity Map
Attachment 2 - HSIP Bike Lane Enhancements Vicinity Map
Attachment 3 - Signal Head Indication Upgrades Vicinity Map
Attachment 4 - Edgeline Striping Installation at Various Locations Vicinity Map

3.8. Award of OMNIA Partners Contract to Milliken Services, LLC for carpet and flooring replacement at Fire Stations 3, 7, and 8; and finding of California Environmental Quality Act exemption

Recommended Action:

Approve the contract with Milliken Services, LLC in the total amount of $90,785, representing an original proposal amount of $82,532, plus a 10% contingency of $8,253, for carpet and flooring replacement at Fire Stations 3, 7, and 8; and authorize the Mayor and City Clerk to execute on behalf of the City.

Attachments: Staff Report
Contract with Milliken Services, LLC
Milliken Proposals

3.9. Second Reading and adoption of Ordinance No. 05-26 amending Chapter 5.100 of the Orange Municipal Code to eliminate certain restrictions on the retail sale of tobacco and tobacco products and provide clarification on the transferability of Tobacco Retailer Permits

Recommended Action:

Adopt Ordinance No. 05-26.

Attachments: Staff Report
Ordinance No. 05-26

3.10. Second Reading and adoption of Ordinance No. 06-26 approving Zone Change No. ZC25-0002 to change the zoning classification from Limited Business Tustin Redevelopment Project Area (C-TR) to Residential Multiple Family (R-3) on a 4.23-acre site located at 2375 N Tustin Street

Recommended Action:

Adopt Ordinance No. 06-26.

Attachments: Staff Report
Ordinance No. 06-26

3.11. Second Reading and adoption of Ordinance No. 07-26 amending Title 17 of the Orange Municipal Code to comply with State law regarding Residential Care Facilities (Health and Safety Code Sections 1267.16 and 1500-1569.889)

Recommended Action:

Adopt Ordinance No. 07-26.

Attachments: Staff Report
Ordinance No. 07-26

3.12. Authorize purchase of Police Department uniforms from Galls, LLC.

Recommended Action:

Approve the purchase of Police Department uniforms from Galls, LLC for $130,000.

Attachments: Staff Report
Galls Master Agreement No. 106-499158

3.13. Approval of Final Tract Map for Tract 18163 for the Mabury 22 project located at 6000 E. Mabury Avenue

Recommended Action:

Approve Final Map for Tract 18163.

Attachments: Staff Report
Site Plan
Tract 18163 Final Map

3.14. Approval of the Fiscal Year 2026-2027 Pavement Management Program budget to incorporate a list of eight arterial streets to be funded by SB 1 (The Road Repair and Accountability Act) and appropriate Road Maintenance and Rehabilitation Account funding

Recommended Action:

Adopt Resolution No. 11694. A Resolution of the City Council of the City of Orange approving the 2026-2027 Pavement Management Program budget to incorporate a list of eight streets to be funded by SB 1: the Road Repair and Accountability Act of 2017 and appropriate Road Maintenance and Rehabilitation Account (RMRA) funding.

Attachments: Staff Report
Resolution No. 11694

3.15. Community Facilities District No. 06-1 Del Rio Public Improvements 2026 Special Tax Refunding Bonds

Recommended Action:

Adopt Resolution No. 11701. A Resolution of the City Council of the City of Orange, acting as the Legislative Body of City of Orange Community Facilities District No. 06-1

(Del Rio Public Improvements), authorizing the issuance of its 2026 Special Tax Refunding Bonds and approving certain documents and taking certain other actions in connection therewith.

Attachments: Staff Report
Attachment 1 - Resolution No. 11701
Attachment 2 - Bond Indenture
Attachment 3 - Bond Purchasing Agreement
Attachment 4 - Preliminary Official Statement
Attachment 5 - Escrow Agreement

END OF CONSENT CALENDAR

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4. REPORTS FROM MAYOR SLATER

An opportunity for the Mayor to make a brief announcement, report, or request. Pursuant to Government Code Section 54954.2(a)(3), no action(s) or discussion(s) shall be undertaken on any item not appearing on the posted agenda.

4.1. Review of Council Meeting Decorum Standards

5. REPORTS FROM COUNCILMEMBERS

An opportunity for Councilmembers to make a brief announcement, report, or request. Pursuant to Government Code Section 54954.2(a)(3), no action(s) or discussion(s) shall be undertaken on any item not appearing on the posted agenda.

5.1. Highlight Local Business (Gutierrez)

6. AB 1234 REPORTS

This is the time for all AB 1234 reports required pursuant to Government Code Section 53232.3(d) on meetings and conferences attended at the City's expense.

7. REPORTS FROM CITY MANAGER

8. PUBLIC HEARINGS

8.1. Public hearing and reporting on City of Orange vacancies pursuant to Government Code 3502.3

Recommended Action:

1. Conduct and close the Public Hearing.
2. Receive and file report of City vacancies, recruitment, and retention efforts.

Attachments: Staff Report
Vacancy Report by Bargaining Group & Classification

8.2. Public Hearing to consider adoption of the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan and Introduction and First Reading of Ordinance No. 10-26 updating regulations to prohibit potable water from being used to irrigate non-functional turf areas

Recommended Action:

1. Conduct and close the Public Hearing.
2. Adopt Resolution No. 11692. A Resolution of the City Council of the City of Orange adopting the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan.
3. Introduce and conduct First Reading of Ordinance No. 10-26. An Ordinance of the City Council of the City of Orange prohibiting potable water from being used to irrigate areas of non-functional turf.

Attachments: Staff Report
Attachment 1 Resolution No. 11692
Attachment 2 Ordinance No. 10-26
Attachment 3 City of Orange 2025 UWMP
Attachment 4 City of Orange 2025 WSCP

8.3. Public Hearing to consider approval of the Landscape Maintenance Assessment Districts 86-2 (Santiago Hills), and 15-1 (Santiago Hills Overlay) Final Engineer's Report for Fiscal Year 2026-2027

Recommended Action:

1. Conduct and close the Public Hearing.
2. Adopt Resolution No. 11695. A Resolution of the City Council of the City of Orange approving the Engineer's Report and providing for the annual assessment for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay).
3. Establish the assessment per single family detached unit per year for Fiscal Year 2026-2027 for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay) at $369.44 and $287.68 respectively for single family detached, and $221.66 and $204.25 respectively for condominiums.

Attachments: Staff Report
Resolution No. 11695
Final Engineer's Report Land Maintenance District No. 86-2
Final Engineer's Report Landscape Maintenance District No.15-1

8.4. Public Hearing to consider approval of the Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) Final Engineer's Report for Fiscal Year 2026-2027

Recommended Action:

1. Conduct and close the Public Hearing.
2. Adopt Resolution No. 11696. A Resolution of the City Council of the City of Orange approving the Engineer's Report and providing for the annual assessment for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing).
3. Establish the assessment for Fiscal Year 2026-2027 for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) at $293.08 per single family unit per year.

Attachments: Staff Report
Resolution No. 11696
Final Engineer's Report for the Annual Levy Assessment Landscape Maintenance District No. 94-1 Fiscal Year 2026-2027

8.5. Continued Public Hearing to consider Introduction and First Reading of Ordinance No. 04-26 adding Chapter 8.38 of Title 8 ("Health and Safety") to the Orange Municipal Code relating to maintenance and security standards for unoccupied or abandoned properties and adoption of fees and fines for regulations, monitoring and progressive administrative citations (Continued from May 26, 2026)

Recommended Action:

1. Conduct and close the Public Hearing.
2. Introduce and conduct First Reading of Ordinance No. 04-26. An Ordinance of the City Council of the City of Orange adding Chapter 8.38 to the Orange Municipal Code relating to the maintenance and security standards for unoccupied or abandoned properties.
3. Adopt Resolution No. 11687. A Resolution of the City Council of the City of Orange amending the City's Master Fee Schedule setting the amount of fees and fines for regulations, monitoring and progressive administrative citations relating to unoccupied or abandoned properties as contained in newly added Chapter 8.38 of the Orange Municipal Code.

Attachments: Staff Report
Ordinance No. 04-26
Resolution No. 11687

9. ADMINISTRATIVE REPORTS

9.1. Fiscal Year 2026-2027 City of Orange Operating Budget and Five-Year Capital Improvement Program

Recommended Action:

The following action items are recommended to adopt the Fiscal Year 2026-2027 Budget, effective July 1, 2026:

1. Adopt Resolution No. 11702. A Resolution of the City Council of the City of Orange adopting said City's Budget for the Fiscal Year 2026-27 and authorizing transfer of funds within and between appropriations, transfer of funds between funds, and additional appropriations.
    a. Total revenues of $292.4 million and total expenditures of $315.7 million, including transfers.
    b. General Fund revenues totaling $170.7 million and expenditures totaling $169.6 million;
    c. Staffing for Fiscal Year 2026-2027 at 708.7 budgeted FTEs; and
    d. Five-Year Capital Improvement Program.
2. Adopt Resolution No. 11699. A Resolution of the City Council of the City of Orange adopting the appropriations limit for the Fiscal Year 2026-2027.
3. Adopt Resolution No. 11700. A Resolution of the City Council of the City of Orange amending Resolution No. 11668 between the City of Orange and the Orange Municipal Employees' Association.

Attachments:

Staff Report
Attachment 1 Resolution 11702
Attachment 2 Resolution 11699
Attachment 3 Resolution 11700
Attachment 4 FY27 Schedule of Changes in Fund Balances
Attachment 5 Schedule of Revenues and Expenditures
Attachment 6 Recommended Staffing Changes
Attachment 7 Schedule of Positions by Department
Attachment 8 FY 27 Budget Reduction and Balancing Measures
Attachment 9 FY27 Capital Improvement Plan
Attachment 10 Fund Description
Attachment 11 FY27 Financial Model

9.2. Resolutions declaring certain real properties of the City of Orange and formerly the Successor Agency to the Orange Redevelopment Agency as Surplus Land and Exempt Surplus Land pursuant to the California Surplus Land Act (Government Code Sections 54220 et seq.)

Recommended Action:

1. Adopt Resolution No. 11697. A Resolution of the City Council of the City of Orange declaring certain real properties to be exempt surplus land pursuant to the Small Parcel Exemption of the Surplus Land Act (Government Code Section 54221(f)(1)(B)), making findings in support thereof, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.
2. Adopt Resolution No. 11698. A Resolution of the City Council of the City of Orange declaring certain real properties to be surplus land pursuant to the Surplus Land Act (Government Code Section 54221(b)), making findings in support thereof, directing staff to comply with the notice and negotiation requirements of the Surplus Land Act, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.
3. Authorize the City Manager, or designee, to take all actions necessary to effectuate the disposition of the subject properties consistent with the resolutions, the Surplus Land Act and HCD Guidelines, the Long Range Property Management Plan and Dissolution Act (to the extent applicable), and other applicable law, including transmitting all required findings, notices, and documentation to the California Department of Housing and Community Development through the Surplus Land Portal.

Attachments: Staff Report
Attachment 1 - Resolution No 11697
Attachment 2 - Resolution No 11698
Attachment 3 - Property Location Map
Attachment 4 - Exerpts of Long-Range Property Management Plan

9.3. Brown Act Updates (SB 707) Presentation

Recommended Action:

1. Receive and file presentation.
2. Determine “reasonable efforts” for outreach to encourage participation in City Council meetings under Government Code § 54953.4.
3. Consider adoption of Resolution No. 11703. A Resolution of the City Council determining reasonable efforts to encourage public participation in City Council meetings pursuant to Government Code § 54953.4.

Attachments: Staff Report
Resolution No. 11703

10. ADJOURNMENT

The next Regular City Council meeting will be held on Tuesday, June 23, 2026, at 6:00 p.m., in the Council Chamber, with Closed Session beginning at 5:00 p.m., if necessary.

I, Pamela Coleman, CMC, City Clerk for the City of Orange, do hereby declare, under penalty of perjury, that a full and correct copy of this agenda was posted pursuant to Government Code Section 54950 et. seq., at the following locations: Orange Civic Center kiosk and Orange City Clerk's Office at 300 E. Chapman Avenue, Orange Main Public Library at 407 E. Chapman Avenue, Police facility at 1107 N. Batavia Street, and uploaded to the City's website www.cityoforange.org.

Date posted: June 4, 2026

Agenda Item

Orange City Council

Item #:	6/9/2026	**File #:** 26-0365

1. SUBJECT

Proclamation celebrating the 75th birthday of Eva Perez

2. SUMMARY

Recognize and celebrate the 75th birthday of Eva Perez. Eva is a lifelong resident of Orange with deep family roots in the El Modena Barrio with many years of service to her community.

3. ATTACHMENTS

- Draft Proclamation

Agenda Item

Orange City Council

Item #:	6/9/2026	**File #:** 26-0365

1. SUBJECT

Proclamation celebrating the 75th birthday of Eva Perez

2. SUMMARY

Recognize and celebrate the 75th birthday of Eva Perez. Eva is a lifelong resident of Orange with deep family roots in the El Modena Barrio with many years of service to her community.

3. ATTACHMENTS

- Draft Proclamation

Proclamation

Recognizing

Eva Perez on her 75th Birthday

WHEREAS, Eva Perez, a lifelong resident of Orange with deep family roots in the El Modena Barrio, celebrates her 75th birthday and many years of service to her community this year; and

WHEREAS, born and raised in Orange, Eva spent her career supporting local families through her work in behavioral health and community services, including jobs at the El Modena Family Resource Center and as a Program Supervisor with the Orange County Health Care Agency, where she focused on family advocacy, mental health and substance use treatment, and related community programs; and

WHEREAS, Eva has served the City of Orange through prior leadership on the Community Development Block Grant Committee and her current position on the Park Planning and Community Events Commission. As a Park Commissioner, she has supported Concerts in the Park, Movies in the Park, and efforts to improve and expand access to local parks and green spaces in the city; and

WHEREAS, following her retirement from the County of Orange, Eva returned to school and earned an Associate of Science (AS) degree in Social and Behavioral Sciences from Santa Ana College in 2018, reflecting her passion for education and her commitment to serving as a role model for her family and community; and

WHEREAS, a proud mother, grandmother, and great-aunt, Eva is the beloved matriarch of her family, offering guidance, strength, and support across generations; and

WHEREAS, as a cancer survivor now three years in remission, she continues to demonstrate resilience, optimism, and dedication to those around her. Through decades of service and community engagement, Eva stands as an inspiring example of civic pride, perseverance, and generosity.

NOW, THEREFORE, I, Daniel R. Slater, Mayor of the City of Orange, and the entire City Council, do hereby thank Eva for her lasting contributions to the Orange community, and congratulates her on a wonderful life, filled with friendship, love, and a beautiful family. Happy 75th birthday from the City of Orange.

DATED this 9th Day of June 2026.

_____
Daniel R. Slater, Mayor

_____ Denis Bilodeau, Mayor pro tem	_____ Arianna Barrios, Councilmember
_____ Jon Dumitru, Councilmember	_____ Kathy Tavoularis, Councilmember
_____ Ana Gutierrez, Councilmember	_____ John Gyllenhammer, Councilmember

DRAFT

Agenda Item

Orange City Council

Item #: 3.1. 6/9/2026 **File #:** 26-0312

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Waive reading in full of all ordinances on the Agenda

2. SUMMARY

This item asks the City Council to waive the reading in full of all ordinances on the agenda (if any) and approve their reading by title only.

State law requires that all ordinances be read in full either at the time of the introduction or at the time of passage, unless a motion waiving further reading is adopted by a majority of the City Council (Gov. Code § 36934).

3. RECOMMENDED ACTION

Approve.

4. ATTACHMENTS

- None

Agenda Item

Orange City Council

Item #: 3.1. 6/9/2026 **File #:** 26-0312

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Waive reading in full of all ordinances on the Agenda.

2. SUMMARY

This item asks the City Council to waive the reading in full of all ordinances on the agenda (if any) and approve their reading by title only.

State law requires that all ordinances be read in full either at the time of the introduction or at the time of passage, unless a motion waiving further reading is adopted by a majority of the City Council (Gov. Code § 36934).

3. RECOMMENDED ACTION

Approve.

4. ATTACHMENTS

- None

Agenda Item

Orange City Council

Item #: 3.2. 6/9/2026 **File #:** 26-0337

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Confirmation of accounts payable warrant registers dated May 7, 14, 21, and 28, 2026 and payroll check registers dated May 8 and 22, 2026

2. SUMMARY

Per Government Code Section 37208, the accounts payable and payroll warrant register for the above listed dates are submitted for approval by the City Council.

3. RECOMMENDED ACTION

Ratify the accompanying registers.

4. DISCUSSION AND BACKGROUND

Government Code Section 37208(a) provides that payroll warrants or checks need not be audited by the legislative body prior to payment. Payrolls shall be presented to the legislative body for ratification and approval at the first meeting of the month after delivery of the payroll warrants or checks. The sum of payroll warrants and checks issued is noted in the attachments.

Government Code Section 37208(b) provides that accounts payable warrants or checks drawn in payment of demands certified or approved by the city clerk as conforming to a budget approved by ordinance or resolution of the legislative body need not be audited by the legislative body prior to payment. The checks issued in the attached warrant registers have been certified to be in accordance with the City's approved budget.

5. ATTACHMENTS

- Attachment 1 - May 7, 2026 Accounts Payable Register
- Attachment 2 - May 14, 2026 Accounts Payable Register
- Attachment 3 - May 21, 2026 Accounts Payable Register
- Attachment 4 - May 28, 2026 Accounts Payable Register
- Attachment 5 - May 8, 2026 Payroll Register
- Attachment 6 - May 22, 2026 Payroll Register

Agenda Item

Orange City Council

Item #: 3.2. 6/9/2026 **File #:** 26-0337

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Confirmation of accounts payable warrant registers dated May 7, 14, 21, and 28, 2026 and payroll check registers dated May 8 and 22, 2026.

2. SUMMARY

Per Government Code Section 37208, the accounts payable and payroll warrant register for the above listed dates are submitted for approval by the City Council.

3. RECOMMENDED ACTION

Ratify the accompanying registers.

4. DISCUSSION AND BACKGROUND

Government Code Section 37208(a) provides that payroll warrants or checks need not be audited by the legislative body prior to payment. Payrolls shall be presented to the legislative body for ratification and approval at the first meeting of the month after delivery of the payroll warrants or checks. The sum of payroll warrants and checks issued is noted in the attachments.

Government Code Section 37208(b) provides that accounts payable warrants or checks drawn in payment of demands certified or approved by the city clerk as conforming to a budget approved by ordinance or resolution of the legislative body need not be audited by the legislative body prior to payment. The checks issued in the attached warrant registers have been certified to be in accordance with the City's approved budget.

5. ATTACHMENTS

- Attachment 1 - May 7, 2026 Accounts Payable Register
- Attachment 2 - May 14, 2026 Accounts Payable Register
- Attachment 3 - May 21, 2026 Accounts Payable Register
- Attachment 4 - May 28, 2026 Accounts Payable Register
- Attachment 5 - May 8, 2026 Payroll Register
- Attachment 6 - May 22, 2026 Payroll Register

City of Orange

Finance Department - Accounts Payable

WW # 0364

WEEKLY WARRANT WRITING CHECK REGISTER

Warrant Writing	Warrant Writing Confirmation Date: 05/07/26 1 of 4 reports for 06/09/26 Council Meeting
Notes:	
Requester Signature:	eSigned via GovOS.com Jocelin Mendez Key: c75eb71bc2d138050ea61da6a02e3123 — Date: 05-07-2026

AGENDA ITEM NO. 3.2

I certify that the attached register of demands has been prepared and audited under my direction and supervision. I also certify that each demand is accurately set forth and correctly stated, that each is a legal obligation of the City, and that there are sufficient funds available for the payment of each demand.

Please review and approve before:

eSigned via GovOS.com Tiffany Dang Key: 255ce3af4128a3a50bd1b4b009bc5bbc Tiffany Dang, Finance	05-07-2026 Date	Comments:
eSigned via GovOS.com Jarad L. Hildenbrand Key: d3b9b88f-da90-4693-bd42-b7973c0a7d37 Jarad Hildenbrand, City Manager	05-07-2026 Date	Comments:
eSigned via GovOS.com Pamela Coleman Key: 52f7c7947ed47a25c77b48742be39aca Pam Coleman, City Clerk	05-07-2026 Date	Comments:

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
5615	05/06/2026	WIRE	001117	PUBLIC EMPLOYEES RETIREME	886,008.21			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18041	CalPERS 202605	100-0000-20414-				836,176.22		
18041	CalPERS 202605	760-0000-52001-				49,831.99		
50526	05/05/2026	WIRE	000384	SOUTHERN CALIF EDISON CO-	154,632.00			
18217	05/05/26	100-0000-56205-				110,666.00		
18217	05/05/26	601-5301-56205-				203.02		
18217	05/05/26	291-5501-56205-				1,036.35		
18217	05/05/26	291-5902-56205-				16.76		
18217	05/05/26	293-5501-56205-				16.85		
18217	05/05/26	600-5802-56205-				42,693.02		
8005571	05/07/2026	PRINTED	013658	ABBA TERMITE AND PEST CON	110.00			
17960	035317	100-7203-56999-				110.00		
8005572	05/07/2026	PRINTED	011584	ACE 5ON5 LLC	700.00			
18125	0000324	100-7101-55000-				700.00		
8005573	05/07/2026	PRINTED	019738	ADVANCED SECURITY SYSTEMS	359.55			
18083	037704	100-5601-56101-				119.85		
18085	037706	100-5601-56101-				119.85		
18087	037721	100-5601-56101-				119.85		
8005574	05/07/2026	PRINTED	020277	AGUINAGA GREEN INC	977.51			
18043	85846	263-5201-53201-				977.51		
8005575	05/07/2026	PRINTED	000539	AIR SOURCE INDUSTRIES	1,456.85			
18182	00983511	225-3122-53101-				245.05		
18182	00983511	225-3215-53101-				245.05		
18184	00983593	225-3122-53101-				254.37		
18184	00983593	225-3215-53101-				254.38		
18185	00983231	225-3122-53101-				77.20		
18185	00983231	225-3215-53101-				77.20		
18186	00983588	225-3122-53101-				151.80		
18186	00983588	225-3215-53101-				151.80		
8005576	05/07/2026	PRINTED	001029	ALLSTAR FIRE EQUIPMENT IN	17,626.48			
18118	271917	100-3121-53201-				6,284.43		
18119	272115	225-3216-54101-				2,857.58		
18179	272119	100-3121-53201-				200.00		
18204	271436	720-5401-80301-				8,284.47		
8005577	05/07/2026	PRINTED	025406	BEAR COMMUNICATIONS INC	376.05			
18136	5941998	400-3121-80101-				376.05		
8005578	05/07/2026	PRINTED	020741	ARLEN BECK	1,161.30			
17964	APRIL2026	100-6102-57101-				436.30		
18028	PROFDEV25/26	100-1401-57102-				725.00		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005579	05/07/2026	PRINTED	018258	BENDER READY MIX INC	1,532.21			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18044	203602	263-5201-53201-				1,532.21		
8005580	05/07/2026	PRINTED	014984	JULIAN BERNAL	189.00			
18099	RB 4/28/26 - 5/1/26	100-5401-57101-				189.00		
8005581	05/07/2026	PRINTED	000006	BLUE RIBBON TROPHY CO	614.71			
18101	B-3645	100-5201-53201-				614.71		
8005582	05/07/2026	PRINTED	002089	BOUND TREE MEDICAL	1,899.90			
18193	86179869	100-3122-53101-				1,899.90		
8005583	05/07/2026	PRINTED	004614	JARED C BREWER	150.00			
18103	4-28 CLASS E RB	100-3011-53102-				150.00		
8005584	05/07/2026	PRINTED	019362	BSN SPORTS LLC	898.87			
18241	932823530	100-4011-53102-				898.87		
8005585	05/07/2026	PRINTED	002313	BURRO CANYON SHOOTING PAR	100.00			
18152	3816	100-4011-57101-				100.00		
8005586	05/07/2026	PRINTED	016378	C3 OFFICE SOLUTIONS LLC	7,032.43			
18255	INV218830	100-1601-56999-				7,032.43		
8005587	05/07/2026	PRINTED	017952	CAL-STATE AUTO PARTS INC	1,145.56			
16876	CM573201	100-0000-15203-				-403.99		
17959	581146	100-0000-15203-				312.91		
17963	581170	100-0000-15203-				71.12		
18030	581806	100-0000-15203-				78.94		
18031	581966	100-0000-15203-				65.80		
18032	582507	100-0000-15203-				625.65		
18033	582529	100-0000-15203-				48.92		
18081	583408	100-0000-15203-				349.81		
18206	584561	100-0000-15203-				42.07		
18207	584591	100-0000-15203-				35.04		
18260	CM575209	100-0000-15203-				-19.40		
18261	CM574901	100-0000-15203-				-19.40		
18265	CM575797	100-0000-15203-				-41.91		
8005588	05/07/2026	PRINTED	000069	CALIFORNIA FORENSIC PHLEB	5,904.00			
18166	3212	100-4011-55000-				5,904.00		
8005589	05/07/2026	PRINTED	019138	CALIFORNIA WATERS DEVELOP	625.00			
18174	26568	100-5601-56101-				625.00		
8005590	05/07/2026	PRINTED	006583	CAM SERVICES	757.00			
17857	126819	100-7203-56999-				367.00		
17858	126822	100-7203-56999-				390.00		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005591	05/07/2026	PRINTED	000082	CHAMP SHOE REPAIR	130.00			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18194	0452329	100-3121-56101-				130.00		
8005592	05/07/2026	PRINTED	018974	CHARTER COMMUNICATIONS HO	316.75			
18210	189065501050126	100-3011-56201-				46.03		
18212	188991501050126	100-3011-56201-				270.72		
8005593	05/07/2026	PRINTED	018974	CHARTER COMMUNICATIONS	960.72			
18211	189065401050126	100-3011-56201-				270.72		
18213	189065601050126	100-3011-56201-				690.00		
8005594	05/07/2026	PRINTED	003595	CINTAS CORPORATION NO 2	280.63			
17860	4266858220	100-7203-56107-				280.63		
8005595	05/07/2026	PRINTED	019162	CINTAS	135.72			
18074	4267649272	100-5401-56107-				135.72		
8005596	05/07/2026	PRINTED	015236	ENRIQUE CORREA	100.00			
18027	PROFDEV25/26	100-1401-57102-				100.00		
8005597	05/07/2026	PRINTED	001749	CORRPRO COMPANIES INC	700.00			
18257	826547	600-5803-85106-				700.00		
8005598	05/07/2026	PRINTED	005556	CPAC INC	71,599.88			
16335	SI-1302739	100-2102-80101-				19,689.97		
16335	SI-1302739	100-2102-80101-				51,909.91		
8005599	05/07/2026	PRINTED	000101	CULLIGAN	7.50			
18013	2047644	600-5802-53199-				7.50		
8005600	05/07/2026	PRINTED	025412	TIFFANY DANG	1,097.28			
17967	04/07-09/2026RB	100-1801-57101-				1,097.28		
8005601	05/07/2026	PRINTED	012114	DANIELS TIRE SERVICE	904.90			
18069	200569518	100-0000-15203-				904.90		
8005602	05/07/2026	PRINTED	002513	DELTACARE USA	6,977.42			
18037	BE007021656	100-0000-20415-				6,977.42		
8005603	05/07/2026	PRINTED	000974	DELTA DENTAL OF CALIFORNI	46,323.42			
18052	BE007049340A	100-1401-55999-				6,897.52		
18053	BE007049340C	100-1401-52001-				39,425.90		
8005604	05/07/2026	PRINTED	014203	DIVERSIFIED THERMAL SERVI	4,922.70			
17680	S414231	100-7203-56999-				450.00		
17681	S414151	100-7203-56999-				457.70		
17683	S413324	100-7203-56999-				450.00		
17684	S412572	100-7203-56999-				3,565.00		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005605	05/07/2026	PRINTED	011271	DOERSCHEL AND ASSOCIATES	12,420.00			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18117	111009	100-1201-55999-				2,700.00		
18120	2026001	100-1201-55999-				9,720.00		
8005606	05/07/2026	PRINTED	017762	DAVID WILSON'S VILLA FORD	311.03			
18072	039983	100-0000-15203-				62.31		
18208	094588	100-0000-15203-				248.72		
8005607	05/07/2026	PRINTED	000646	EAST ORANGE COUNTY WATER	10,661.07			
17854	2/11-4/8 1409000	100-7203-56204-				9,386.27		
17855	2/11-4/8 1409100	100-7203-56204-				1,274.80		
8005608	05/07/2026	PRINTED	002741	EMERGENCY RESPONSE CRIME	750.00			
18151	OP2026-310	100-4011-55000-				750.00		
8005609	05/07/2026	PRINTED	000127	EMPLOYMENT DEVELOPMENT DE	15,660.00			
18090	L0909714992	760-1401-50205-				15,660.00		
8005610	05/07/2026	PRINTED	016858	ENCORP ENVIRONMENTAL NETW	880.00			
18014	P26019.023	100-5601-56101-				880.00		
8005611	05/07/2026	PRINTED	001990	EYEMED	1,168.46			
18040	167327264	100-0000-20416-				1,168.46		
8005612	05/07/2026	PRINTED	001639	FACTORY MOTOR PARTS CO	16.23			
18062	12-7135708	100-0000-15203-				16.23		
8005613	05/07/2026	PRINTED	002291	FARRELL & ASSOCIATES	889.11			
18156	59132	100-4011-55104-				889.11		
8005614	05/07/2026	PRINTED	015628	FIRE APPARATUS SOLUTIONS	12,265.38			
18019	0102W21675	100-5401-56999-				12,265.38		
8005615	05/07/2026	PRINTED	000002	FLEET SERVICES INC	35.71			
18061	01P177980	100-0000-15203-				35.71		
8005616	05/07/2026	PRINTED	012434	FORENSIC NURSE SPECIALIST	1,700.00			
18154	6608	100-4131-55101-				1,700.00		
8005617	05/07/2026	PRINTED	002198	GALLS LLC	55.39			
16792	034375220	100-4011-53102-				-280.14		
18157	034868692	100-4011-53102-				79.02		
18158	034868709	100-4011-53102-				3.65		
18159	034910647	100-4011-53102-				10.78		
18160	034910653	100-4011-53102-				10.78		
18161	034910654	100-4011-53102-				10.78		
18162	034910656	100-4011-53102-				10.78		
18163	034924224	100-4011-53102-				61.74		
18164	034931172	100-4011-53102-				138.10		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18165		034895732	100-4121-59999-				9.90
8005618	05/07/2026	PRINTED	008759	GEVORK CONSULTING ENGINEE	6,020.00			
	DOC	INVOICE NO		ACCOUNT				AMOUNT
	18036	250825-2		600-5802-80101-				6,020.00
8005619	05/07/2026	PRINTED	013456	GMC ELECTRICAL INC	4,750.00			
	17987	6535-E		600-5802-56101-				4,750.00
8005620	05/07/2026	PRINTED	025343	GOLD 'N' KOI INC	230.00			
	18105	25387		600-5803-56103-				230.00
8005621	05/07/2026	PRINTED	005369	JEFFREY D GRAY	324.00			
	18167	04/06-10/2026RB		100-4011-57101-				324.00
8005622	05/07/2026	PRINTED	011795	TYLER HAGIE	59.32			
	18104	4-27 CLASS E RB		100-3011-53102-				59.32
8005623	05/07/2026	PRINTED	014632	JAMES HAMMORTREE	150.00			
	18106	4-30 CLASS E RB		100-3011-53102-				150.00
8005624	05/07/2026	PRINTED	004358	HILLTOP ALARMS INC	425.00			
	18199	51812		100-7203-56999-				425.00
8005625	05/07/2026	PRINTED	025408	DALE HOLDEN	4,002.25			
	18078	DRC25-0028		100-0000-20106-				4,002.25
8005626	05/07/2026	PRINTED	000454	HOTSY OF SOUTHERN CALIFOR	44.64			
	18077	10024702		100-0000-15203-				44.64
8005627	05/07/2026	PRINTED	006309	HUNTINGTON SECURITY SYSTE	71.26			
	18091	0022024-IN		100-5601-56101-				35.63
	18093	0022025-IN		100-5601-56101-				35.63
8005628	05/07/2026	PRINTED	025396	HYDROBLAST	1,290.00			
	18065	14963		100-5301-56999-				1,290.00
8005629	05/07/2026	PRINTED	009030	ICON SIGNS / RKSK GROUP I	369.01			
	17861	9320		510-7201-84101-				369.01
8005630	05/07/2026	PRINTED	009564	INFOSEND INC	2,214.78			
	18250	307379		100-1842-53104-				943.22
	18250	307379		100-1842-55104-				1,271.56
8005631	05/07/2026	PRINTED	001828	IRV SEAVER MOTORCYCLES	892.70			
	18190	20260842		100-5401-56999-				892.70
8005632	05/07/2026	PRINTED	020689	JMDIAZ INC	5,926.80			
	18173	007 (26-038)		500-5704-87101-				592.68
	18173	007 (26-038)		550-5704-87101-				5,334.12

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005633	05/07/2026	PRINTED	020475	JOE MAR POLYGRAPH	750.00			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18153	26-010-OPD	100-4011-55000-				750.00		
8005634	05/07/2026	PRINTED	001592	JTB SUPPLY CO INC	6,055.55			
16972	116548	100-5702-53201-				6,055.55		
8005635	05/07/2026	PRINTED	016668	KILGORE FITNESS SERVICES	1,324.68			
18216	9038	100-3121-56101-				578.29		
18218	9034	100-3121-56101-				145.00		
18219	9056	100-3121-56101-				601.39		
8005636	05/07/2026	PRINTED	016844	KILTER TERMITE AND PEST C	660.00			
18016	665428	100-5601-56101-				160.00		
18018	665628	100-5601-56101-				250.00		
18088	665621	100-5601-56101-				250.00		
8005637	05/07/2026	PRINTED	010008	KRONOS INC	45.16			
18189	I10010070953	100-3011-55999-				45.16		
8005638	05/07/2026	PRINTED	000222	LIFE-ASSIST INC	10,352.77			
18122	2108982	100-3122-53101-				2,670.46		
18122	2108982	225-3122-53101-				5,934.37		
18122	2108982	225-3215-53101-				1,631.96		
18124	2105982	100-3122-53101-				15.13		
18124	2105982	225-3122-53101-				33.62		
18124	2105982	225-3215-53101-				9.24		
18180	2109316	100-3122-53101-				15.13		
18180	2109316	225-3122-53101-				33.62		
18180	2109316	225-3215-53101-				9.24		
8005639	05/07/2026	PRINTED	000250	MC MASTER-CARR SUPPLY CO	35.97			
18079	64118220	100-0000-15203-				35.97		
8005640	05/07/2026	PRINTED	002539	PHIL McMULLIN	243.00			
18007	03/15-18/2026RB	360-4011-57101-				243.00		
8005641	05/07/2026	PRINTED	025238	MATTHEW MENCHACA	255.00			
18009	PROFDEV25/26	100-1401-57102-				255.00		
8005642	05/07/2026	PRINTED	017136	GABRIELA MENENDEZ	1,130.00			
18012	PROFDEV25/26	100-1401-57102-				1,130.00		
8005643	05/07/2026	PRINTED	020065	MERIDIAN RAPID DEFENSE GR	8,081.25			
18092	INV-R-6639	100-5201-55999-				8,081.25		
8005644	05/07/2026	PRINTED	001867	MISSION LINEN SUPPLY	3,346.42			
18005	525940576	100-4011-55999-				265.79		
18108	04/30/26 STMT 134334	100-3121-56107-				442.99		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18109	04/30/26	STMT 134351	100-3121-56107-			297.50	
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	18110	04/30/26	STMT 134315	100-3121-56107-			378.22	
	18112	04/30/26	STMT 134168	100-3121-56107-			268.80	
	18113	04/30/26	STMT 134329	100-3121-56107-			328.23	
	18114	04/30/26	STMT 217880	100-3121-56107-			579.60	
	18115	04/30/26	STMT 134170	100-3121-56107-			262.40	
	18116	04/30/26	STMT 134988	100-3121-56107-			257.10	
	18240	525982752		100-4011-55999-			265.79	
8005645	05/07/2026	PRINTED	020688	SOUTHERN CALIFORNIA NEWS	944.78			
	18026	0011774319		400-5601-80101-			944.78	
8005646	05/07/2026	PRINTED	019010	MOTOPORT USA	368.00			
	18149	3541		100-4011-53102-			368.00	
8005647	05/07/2026	PRINTED	000261	MUNICIPAL WATER DISTRICT	1,547.78			
	18038	18020		600-5802-53105-			896.78	
	18042	18024		600-5802-53105-			651.00	
8005648	05/07/2026	PRINTED	020446	JESUS MURILLO	126.00			
	18107	RB 4/26/26 - 4/28/26		100-5401-57101-			126.00	
8005649	05/07/2026	PRINTED	001987	NIEVES LANDSCAPE LLC	35,011.30			
	18175	84647		100-5501-56103-			14,661.14	
	18176	84649		263-5201-56103-			7,040.87	
	18178	84540		293-5501-56103-			1,548.39	
	18181	84515		294-5501-56103-			4,364.63	
	18183	84648		100-5501-56103-			1,939.76	
	18187	84650		600-5501-56103-			5,456.51	
8005650	05/07/2026	PRINTED	099997	ARRAY	69.00			
	18232	18232		100-0000-20105-			69.00	
8005651	05/07/2026	PRINTED	099997	CHAPMAN UNIVERSITY	100.00			
	18235	18235		100-0000-20105-			100.00	
8005652	05/07/2026	PRINTED	099997	CHAPMAN UNIVERSITY	100.00			
	18239	18239		100-0000-20105-			100.00	
8005653	05/07/2026	PRINTED	099997	CHAPMAN UNIVERSITY	100.00			
	18237	18237		100-0000-20105-			100.00	
8005654	05/07/2026	PRINTED	099997	CHAPMAN UNIVERSITY	100.00			
	18236	18236		100-0000-20105-			100.00	
8005655	05/07/2026	PRINTED	099997	CHAPMAN UNIVERSITY	100.00			
	18238	18238		100-0000-20105-			100.00	
8005656	05/07/2026	PRINTED	099997	CHAPMAN, PAUL & EMILY	975.86			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18230	18230		100-0000-20111-			975.86	
8005657	05/07/2026	PRINTED	099997	INNOVATIVE CONSTRUCTION S	565.25			
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	18229	18229		100-0000-20105-			565.25	
8005658	05/07/2026	PRINTED	099997	INNOVATIVE CONSTRUCTION S	824.18			
	18228	18228		100-0000-20105-			824.18	
8005659	05/07/2026	PRINTED	099997	LEGAL SUPPORT NETWORK LLC	69.00			
	18233	18233		100-0000-20105-			69.00	
8005660	05/07/2026	PRINTED	099997	LEGAL SUPPORT NETWORK LLC	120.50			
	18234	18234		100-0000-20105-			120.50	
8005661	05/07/2026	PRINTED	099997	MAGNOLIA RESIDENCES LLC	7,362.90			
	18227	18227		100-0000-20111-			7,362.90	
8005662	05/07/2026	PRINTED	099997	ROSEN, ALAN & CHERYL	1,100.90			
	18226	18226		100-0000-20111-			1,100.90	
8005663	05/07/2026	PRINTED	099997	THE RICCI FAMILY REVOCABL	121.12			
	18231	18231		100-0000-20111-			121.12	
8005664	05/07/2026	PRINTED	099994	ANTONIA CAUDILL	123.99			
	17993	00012124-03		600-0000-11106-			123.99	
8005665	05/07/2026	PRINTED	099994	ASHLEY JENNINGS	20.05			
	17995	00053517-02		600-0000-11106-			20.05	
8005666	05/07/2026	PRINTED	099994	CESAR TOYOFUKU	120.00			
	17992	00044238-07		600-0000-11106-			120.00	
8005667	05/07/2026	PRINTED	099994	DANIEL FLORES	79.43			
	17997	00055738-05		600-0000-11106-			79.43	
8005668	05/07/2026	PRINTED	099994	DANIELLE PELKE	122.84			
	17998	00009482-02		600-0000-11106-			122.84	
8005669	05/07/2026	PRINTED	099994	DEVON KOSTER	35.09			
	17991	00049674-03		600-0000-11106-			35.09	
8005670	05/07/2026	PRINTED	099994	H A BOEHNER	208.87			
	18004	00034619-00		600-0000-11106-			208.87	
8005671	05/07/2026	PRINTED	099994	JUNE TDTRAN PROPERTIES, L	36.03			
	17994	00020481-07		600-0000-11106-			36.03	
8005672	05/07/2026	PRINTED	099994	KIRSTEN PALM	199.70			
	18001	00027480-05		600-0000-11106-			199.70	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005673	05/07/2026	PRINTED	099994	LUKE STIEBEL	375.99			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
17999	00055726-03	600-0000-11106-				375.99		
8005674	05/07/2026	PRINTED	099994	MICHAEL A OLDENBURG	93.53			
17996	00028255-00	600-0000-11106-				93.53		
8005675	05/07/2026	PRINTED	099994	RUBANA ALI	400.60			
18002	00012548-00	600-0000-11106-				400.60		
8005676	05/07/2026	PRINTED	099994	SANDRA CHONG	72.97			
18000	00025089-10	600-0000-11106-				72.97		
8005677	05/07/2026	PRINTED	099994	TERRY BLAKEMAN	182.26			
17990	00003522-00	600-0000-11106-				182.26		
8005678	05/07/2026	PRINTED	000096	COUNTY OF ORANGE	91.00			
18222	Z2665693	600-5803-56102-				91.00		
8005679	05/07/2026	PRINTED	000300	ORANGE ELDERLY SERVICES I	31,344.63			
18034	March 2026 SMP	263-7104-55000-				31,344.63		
8005680	05/07/2026	PRINTED	000570	P J PRINTERS INC	1,718.47			
17972	235935	100-1801-55104-				1,503.11		
18225	234828	100-1201-53101-				107.68		
18225	234828	100-1801-53101-				107.68		
8005681	05/07/2026	PRINTED	012869	LARA PAGLINAWAN	125.00			
18010	PROFDEV25/26	100-1401-57102-				125.00		
8005682	05/07/2026	PRINTED	019060	PARTS AUTHORITY LLC	3,791.59			
18051	April Stmt 2026	100-0000-15203-				3,791.59		
8005683	05/07/2026	PRINTED	019401	PENN CARE INC	198.79			
18054	A163465	100-0000-15203-				198.79		
8005684	05/07/2026	PRINTED	002883	PLUMBERS DEPOT INC	17,650.49			
17789	PD-60967	601-5301-80101-				17,650.49		
8005685	05/07/2026	PRINTED	001876	PRADO FAMILY SHOOTING RAN	900.00			
18148	7835	100-4011-55000-				900.00		
8005686	05/07/2026	PRINTED	018185	PREMIER FIRST RESPONDER	150.00			
18172	2010	100-4011-55101-				150.00		
8005687	05/07/2026	PRINTED	007130	PTI SAND & GRAVEL INC	923.24			
18102	162408	600-5803-81999-				923.24		
8005688	05/07/2026	PRINTED	020287	RYAN QUIJADA	90.08			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18008	03/23-24/2026RB		100-4011-57101-			90.08	
8005689	05/07/2026	PRINTED	025016	RCR TRAFFIC SPECIALIST	312.48			
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	18063	14278		100-5201-53201-			312.48	
8005690	05/07/2026	PRINTED	004788	RCS INVESTIGATIONS AND CO	9,900.00			
	17989	7297		100-1401-55101-			9,900.00	
8005691	05/07/2026	PRINTED	020543	RENEWELL FLEET SERVICE LL	140.00			
	18082	10904		100-5401-56999-			140.00	
8005692	05/07/2026	PRINTED	020080	REPUBLIC EVS	3,696.90			
	18096	13163 - 1		720-5401-80301-			3,696.90	
8005693	05/07/2026	PRINTED	016068	CRISANTO ROSALES	315.00			
	18098	RB 4/26/26 - 5/1/26		100-5401-57101-			315.00	
8005694	05/07/2026	PRINTED	012750	S & J SUPPLY COMPANY INC	5,689.20			
	18220	S100269627.002		600-5803-81999-			5,689.20	
8005695	05/07/2026	PRINTED	000937	SEAGRAVE FIRE APPARATUS	2,523.27			
	18058	000156555		100-0000-15203-			2,523.27	
8005696	05/07/2026	PRINTED	015842	LOGAN SHRYOCK	324.00			
	18168	04/06-10/2026RB		100-4011-57101-			324.00	
8005697	05/07/2026	PRINTED	001077	SNAP-ON TOOL INDUSTRIAL D	848.68			
	18055	ARV/67700426		100-5401-53101-			848.68	
8005698	05/07/2026	PRINTED	000718	SOUTH COAST AQMD	517.47			
	18121	4713472		600-5802-56101-			172.49	
	18127	4712804		600-5802-56101-			172.49	
	18130	4712803		600-5802-56101-			172.49	
8005699	05/07/2026	PRINTED	016802	SOUTHERN CALIFORNIA SHRED	130.00			
	18155	305476		100-4011-55999-			130.00	
8005700	05/07/2026	PRINTED	000386	SOUTHERN COUNTIES OIL CO	41,362.18			
	18060	IN-0000875249		100-0000-15204-			41,362.18	
8005701	05/07/2026	PRINTED	000386	SC FUELS	1,088.69			
	18191	1226523		100-0000-15204-			1,088.69	
8005702	05/07/2026	PRINTED	000386	SOUTHERN COUNTIES OIL CO	3,289.46			
	18059	IN-0000344154		100-0000-15205-			3,289.46	
8005703	05/07/2026	PRINTED	002219	SPECTRUM GAS PRODUCTS	70.00			
	18188	0000686616		100-3121-56101-			70.00	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005704	05/07/2026	PRINTED	000396	STATE OF CALIF DEPT OF JU	1,093.00			
	DOC	INVOICE NO	ACCOUNT				AMOUNT	
	18006	035101	100-4011-55999-				1,093.00	
8005705	05/07/2026	PRINTED	005937	STATE OF CALIFORNIA	1,189.80			
	18171	Cal Green - Q1 2026	100-0000-20302-				1,189.80	
8005706	05/07/2026	PRINTED	014665	KATEY SULLIVAN	650.00			
	18011	PROFDEV25/26	100-1401-57102-				650.00	
8005707	05/07/2026	PRINTED	001303	SUNRISE MULTISPECIALIST M	3,804.00			
	18126	00207417-00	100-3011-55101-				797.00	
	18129	00207468-00	100-3011-55101-				1,093.00	
	18214	00207698-00	100-3011-55101-				431.00	
	18215	00207873-00	100-3011-55101-				1,483.00	
8005708	05/07/2026	PRINTED	000402	SUSAN SAXE-CLIFFORD PHD	450.00			
	18003	26-0423-8	100-1401-55101-				450.00	
8005709	05/07/2026	PRINTED	019329	TESS ELECTRIC INC	800.00			
	18111	1775	600-5802-56102-				800.00	
8005710	05/07/2026	PRINTED	018234	THE HUB OC	12,179.72			
	18076	104 2026	412-6431-55999-				12,179.72	
8005711	05/07/2026	PRINTED	000233	THE PEAVEY CORP	201.79			
	18242	426789	100-4134-53199-				201.79	
8005712	05/07/2026	PRINTED	001183	TITAN AUTOMOTIVE	207.93			
	18243	85432	100-4133-53299-				109.66	
	18244	85492	100-4133-53299-				98.27	
8005713	05/07/2026	PRINTED	002753	TOWNSEND PUBLIC AFFAIRS I	9,000.00			
	18137	25325	100-0000-50999-				9,000.00	
8005714	05/07/2026	PRINTED	003155	TRI-AD	745.75			
	17988	96070723	100-1401-55999-				745.75	
8005715	05/07/2026	PRINTED	017152	TRIPEPI SMITH AND ASSOCIA	4,559.25			
	18070	17071	100-5001-55999-				3,533.00	
	18071	17065	100-5001-55999-				1,026.25	
8005716	05/07/2026	PRINTED	000001	U S ARMOR CORP	1,189.50			
	18170	52462	100-4011-54101-				1,189.50	
8005717	05/07/2026	PRINTED	001480	U S BANK	3,025.00			
	18253	8122829	100-0000-50301-				3,025.00	
8005718	05/07/2026	PRINTED	013781	ULTIMATE MAINTENANCE SERV	23,516.00			
	18089	36489	100-5601-56104-				23,516.00	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005719	05/07/2026	PRINTED	000419	UNDERGROUND SERVICE ALERT	564.70			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18050	420260527	600-5803-56102-				564.70		
8005720	05/07/2026	PRINTED	000419	DIG SAFE BOARD	198.09			
18049	25-263670	600-5803-56102-				198.09		
8005721	05/07/2026	PRINTED	000944	UNITED PARCEL SERVICE	346.22			
18056	00005733W1176 2026	100-3011-53104-				50.82		
18056	00005733W1176 2026	100-1401-53104-				49.42		
18056	00005733W1176 2026	100-0000-53104-				100.36		
18057	00005733W1186 2026	100-1401-53104-				58.24		
18057	00005733W1186 2026	100-0000-53104-				87.38		
8005722	05/07/2026	PRINTED	019230	UNITED RENTALS INC	958.32			
18094	261245331-001	263-5201-53201-				315.38		
18095	261242777-001	263-5201-53201-				642.94		
8005723	05/07/2026	PRINTED	020753	UNITED SAFETY SERVICES	172.18			
16958	229789	730-1306-54101-				172.18		
8005724	05/07/2026	PRINTED	017322	FRANCISCO VASQUEZ	294.00			
18015	PROFDEV25/26	100-1401-57102-				294.00		
8005725	05/07/2026	PRINTED	001845	VERIZON WIRELESS	116.43			
18259	6142208081	731-1306-56201-				116.43		
8005726	05/07/2026	PRINTED	020244	VICTORY LOCK CONTROL INC	922.60			
18029	i7826	600-5802-53199-				922.60		
8005727	05/07/2026	PRINTED	002304	VISION SERVICE PLAN - (CA	6,128.20			
18039	VSP 202605	100-0000-20416-				6,128.20		
8005728	05/07/2026	PRINTED	000431	W W GRAINGER INC	3,353.87			
17954	9862455897	100-5702-53299-				254.74		
17955	9862455889	100-5702-53299-				1,962.76		
18035	9897391802	600-5802-56102-				430.83		
18080	9898125738	100-0000-15203-				460.12		
18169	9716539235	100-3121-53201-				245.42		
8005729	05/07/2026	PRINTED	002319	WATERLINE TECHNOLOGIES	4,012.19			
18020	5791200	600-5802-53201-				956.82		
18021	5791198	600-5802-53201-				478.41		
18022	5791203	600-5802-53201-				1,007.85		
18023	5791197	600-5802-53201-				516.68		
18024	5791201	600-5802-53201-				682.53		
18025	5791202	600-5802-53201-				1,052.50		
18269	CM5790246	600-5802-53201-				-682.60		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005730	05/07/2026	PRINTED	000439	WEST COAST ARBORISTS INC	86,638.00			

DOC	INVOICE NO	ACCOUNT	AMOUNT
18045	241764	601-5501-56999-	57,565.00
18046	242491	601-5501-56999-	28,413.00
18066	243145	100-5501-56103-	660.00

8005731	05/07/2026	PRINTED	000448	WILLDAN ENGINEERING	34,842.50			
	18048		00423904	600-5803-85103-				16,400.00
	18245		00237813	100-6201-55999-				18,375.00
	18246		002-37814	100-6201-55999-				67.50
8005732	05/07/2026	PRINTED	025265	ALISHA WUN	409.45			
	17677		0543	100-3121-55101-				409.45
8005733	05/07/2026	PRINTED	002275	STEVEN WYNN	69.00			
	18202		04/08-10/2026RB	100-4011-57101-				69.00
8005734	05/07/2026	PRINTED	002801	YO FIRE SUPPLIES	723.27			
	18017		1038665	600-5803-81999-				723.27
8005735	05/07/2026	PRINTED	000452	ZUMAR INDUSTRIES INC	2,275.68			
	18068		11795	100-5201-53201-				2,275.68

167 CHECKS CASH ACCOUNT TOTAL 1,718,180.47 .00

AP CHECK RECONCILIATION REGISTER

		UNCLEARED	CLEARED
167 CHECKS	FINAL TOTAL	1,718,180.47	.00

** END OF REPORT - Generated by Jocelin Mendez **

City of Orange

Finance Department - Accounts Payable

WW # 0365

WEEKLY WARRANT WRITING CHECK REGISTER

Warrant Writing	Warrant Writing Confirmation Date: 05/14/26 2 of 4 reports for 06/09/26 Council Meeting
Notes:	
Requester Signature: eSigned via GovOS.com Holli Kittleson Key: c75eb71bc2d138050ea61da6a02e3123	Date: 05-15-2026

AGENDA ITEM NO. 3.2

I certify that the attached register of demands has been prepared and audited under my direction and supervision. I also certify that each demand is accurately set forth and correctly stated, that each is a legal obligation of the City, and that there are sufficient funds available for the payment of each demand.

Please review and approve before:

eSigned via GovOS.com Tiffany Dang Key: 255ce3af4128a3a50bd1b4b009bc5bbc Tiffany Dang, Finance — 05-15-2026 Date	Comments:
eSigned via GovOS.com Jarad L. Hildenbrand Key: d3b9b88f-da90-4693-bd42-b7973c0a7d37 Jarad Hildenbrand, City Manager — 05-18-2026 Date	Comments:
eSigned via GovOS.com Pamela Coleman Key: 52f7c7947ed47a25c77b48742be39aca Pam Coleman, City Clerk — 05-18-2026 Date	Comments:

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All Except Voids

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
5612	05/13/2026	WIRE	000261	MUNICIPAL WATER DISTRICT	542,958.94			
	DOC	INVOICE NO	ACCOUNT				AMOUNT	
	16930	12078	600-5802-53105-				542,958.94	
51326	05/13/2026	WIRE	000385	SOUTHERN CALIFORNIA GAS C	839.19			
	18446	05/13/2026	100-0000-56203-				839.19	
514262	05/14/2026	WIRE	004255	US BANK NATIONAL ASSOC ND	20,681.37			
	17810	2026/3-4000	100-4001-53199-				36.95	
	17810	2026/3-4000	100-4011-53101-				80.12	
	17810	2026/3-4000	100-4011-53199-				233.00	
	17810	2026/3-4000	100-4011-55104-				184.26	
	17810	2026/3-4000	100-4011-55999-				347.20	
	17810	2026/3-4000	100-4011-56201-				169.99	
	17810	2026/3-4000	100-4011-57101-				5,212.40	
	17810	2026/3-4000	100-4011-57101-				804.50	
	17810	2026/3-4000	100-4011-57101-				241.80	
	17810	2026/3-4000	100-4011-57101-				4,029.40	
	17810	2026/3-4000	100-4121-53199-				385.35	
	17810	2026/3-4000	100-4131-53199-				15.07	
	17810	2026/3-4000	100-4134-53199-				144.57	
	17810	2026/3-4000	100-4141-53199-				335.38	
	17810	2026/3-4000	360-4011-57101-				8,338.98	
	17810	2026/3-4000	570-4134-80101-				122.40	
12172026	05/14/2026	PRINTED	025416	ACTION DUCT CLEANING OF O	275.00			
	18200	1570	100-7203-56101-				275.00	
12172027	05/14/2026	PRINTED	019738	ADVANCED SECURITY SYSTEMS	119.85			
	18316	037750	100-5601-56101-				119.85	
12172028	05/14/2026	PRINTED	025392	AGRISERVE PEST CONTROL IN	11,440.00			
	18284	121612	601-5301-56999-				11,440.00	
12172029	05/14/2026	PRINTED	020629	ALERT 360	68.50			
	18315	17262852	100-5601-56999-				68.50	
12172030	05/14/2026	PRINTED	020698	ALL CITY MANAGEMENT SERVI	22,977.20			
	18847	PS-INV105792	100-4141-55999-				22,977.20	
12172031	05/14/2026	PRINTED	001510	ANAHEIM FULLERTON TOWING	750.00			
	18361	25-0926-53066	100-5401-56999-				750.00	
12172032	05/14/2026	PRINTED	011254	ARC DOCUMENT SOLUTIONS LL	128.57			
	18368	13100757	263-5101-87102-				89.41	
	18404	13108879	263-5101-87102-				39.16	
12172033	05/14/2026	PRINTED	001014	B & M LAWN & GARDEN CENTE	4,172.15			
	18292	719695	601-5301-53299-				61.19	
	18294	719979	601-5301-53299-				524.54	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All Except Voids

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18295		720186	270-5201-53299-		603.39		
	DOC	INVOICE NO		ACCOUNT		AMOUNT		
	18297	720931		263-5201-53201-		19.92		
	18299	719982		601-5301-80101-		2,963.11		
12172034	05/14/2026	PRINTED	020690	BIO AQUATICS LAKE MANAGEM	3,033.00			
	18131	41623		100-7203-56999-		3,033.00		
12172035	05/14/2026	PRINTED	020943	BORDIN SEMMER LLP	34,903.80			
	18311	Statement No. 2		731-1301-55102-		7,003.00		
	18318	Statement No. 3		731-1301-55102-		27,900.80		
12172036	05/14/2026	PRINTED	006583	CAM SERVICES	1,524.00			
	18285	125397		100-5301-56999-		385.00		
	18380	129468		100-5301-56999-		1,139.00		
12172037	05/14/2026	PRINTED	018974	CHARTER COMMUNICATIONS	1,044.99			
	18423	114973901041426		100-1601-56201-		144.99		
	18424	189064601041426		100-1601-56201-		900.00		
12172038	05/14/2026	PRINTED	001011	WEX BANK	665.19			
	18270	112427356		100-4133-53299-		665.19		
12172039	05/14/2026	PRINTED	003595	CINTAS CORPORATION NO 2	177.73			
	18132	4267643990		100-7203-56107-		177.73		
12172040	05/14/2026	PRINTED	025424	WILLIAM P CLARK	950.00			
	18428	121525 - CLARK		731-1306-50203-		950.00		
12172041	05/14/2026	PRINTED	025411	COUNTY OF ORANGE	10,000.00			
	18359	SART Segment 1 Rent		510-7201-84101-		10,000.00		
12172042	05/14/2026	PRINTED	002870	CROSSTOWN ELECTRICAL & DA	8,803.60			
	18047	5085-004		100-5702-56999-		8,803.60		
12172043	05/14/2026	PRINTED	016793	CROWN CASTLE FIBER LLC	4,800.00			
	18354	2125792		100-1601-56201-		2,400.00		
	18356	2140444		100-1601-56201-		2,400.00		
12172044	05/14/2026	PRINTED	000101	CULLIGAN	60.87			
	18309	2050014		100-1201-53101-		60.87		
12172045	05/14/2026	PRINTED	001004	DEPT OF CONSERVATION	4,676.98			
	18365	SMIP FEES, Q1 2026		100-0000-20302-		4,676.98		
12172046	05/14/2026	PRINTED	000112	DEPT OF TRANSPORTATION	15,518.31			
	18362	SL260663		100-5702-56999-		10,286.57		
	18362	SL260663		100-5702-56205-		5,231.74		
12172047	05/14/2026	PRINTED	014203	DIVERSIFIED THERMAL SERVI	34,870.63			

AP CHECK RECONCILIATION REGISTER

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18135		S407563	100-7203-56999-		3,516.00		
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	18196	S414678	100-7203-56999-			3,830.00		
	18197	S414690	100-7203-56999-			3,565.00		
	18198	S415163	100-7203-56999-			2,581.36		
	18415	S411109	100-5601-56101-			1,885.00		
	18417	C260637-1	100-5601-56101-			16,926.00		
	18418	S414044	100-5601-56101-			2,567.27		
12172048	05/14/2026	PRINTED	001120	DOOLEY ENTERPRISES INC	29,163.08			
	18854	71761	100-4011-53199-			29,163.08		
12172049	05/14/2026	PRINTED	017762	DAVID WILSON'S VILLA FORD	1,655.58			
	18376	036882	720-5401-80301-			1,655.58		
12172050	05/14/2026	PRINTED	002198	GALLS LLC	1,323.90			
	16795	034443838	100-4011-53102-			-79.02		
	16861	034311925	100-4011-53102-			-258.96		
	18848	034958816	100-4011-53102-			224.11		
	18849	034971502	100-4011-53102-			94.80		
	18850	034983769	100-4011-53102-			115.22		
	18851	034983772	100-4011-53102-			6.44		
	18852	034983813	100-4011-53102-			243.48		
	18854	034995794	100-4011-53102-			704.96		
	18855	034995795	100-4011-53102-			25.15		
	18856	034995911	100-4011-53102-			247.72		
12172051	05/14/2026	PRINTED	025343	GOLD 'N' KOI INC	230.00			
	18377	25140	600-5803-56103-			230.00		
12172052	05/14/2026	PRINTED	019436	HASA INC	1,359.64			
	18133	1118063	100-7203-53201-			1,084.11		
	18134	1118597	100-7203-56999-			275.53		
12172053	05/14/2026	PRINTED	000454	HOTSY OF SOUTHERN CALIFOR	308.65			
	18393	10024752	100-0000-15203-			308.65		
12172054	05/14/2026	PRINTED	009030	ICON SIGNS / RKSK GROUP I	662.40			
	18139	9336	510-7201-84101-			662.40		
12172055	05/14/2026	PRINTED	009564	INFOSEND INC	3,462.41			
	18416	301838	100-1842-53104-			2,845.18		
	18416	301838	100-1842-55104-			617.23		
12172056	05/14/2026	PRINTED	025421	MATTHEW INGLE	2,824.00			
	18364	021826 - INGLE	731-1306-50203-			2,824.00		
12172057	05/14/2026	PRINTED	025402	THE JACMAN GROUP	6,500.00			
	18850	263361-1560A	600-5802-57101-			6,500.00		

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
12172058	05/14/2026	PRINTED	000199	KENNEDY EQUIPMENT CO INC	199.11			
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	18221	77800	600-5802-53199-			199.11		
12172059	05/14/2026	PRINTED	016844	KILTER TERMITE AND PEST C	660.00			
	18317	666193	100-5601-56101-			250.00		
	18319	666188	100-5601-56101-			250.00		
	18320	666294	100-5601-56101-			160.00		
12172060	05/14/2026	PRINTED	025422	KOSMONT REAL ESTATE SERVI	11,723.40			
	18304	2602.8-001	100-1201-55999-			2,662.40		
	18305	2602.8-002	100-1201-55999-			9,061.00		
12172061	05/14/2026	PRINTED	025418	KREATE STRATEGIES INC	35,000.00			
	18302	BCBECQU1-0001	100-1201-55999-			17,500.00		
	18307	BCBECQU1-0002	100-1201-55999-			17,500.00		
12172062	05/14/2026	PRINTED	025352	LAURA LEY	66.65			
	18335	03/25/2026RB	100-4011-57101-			66.65		
12172063	05/14/2026	PRINTED	000223	LIFECOM INC	445.09			
	18419	2109269-IN	600-5802-56101-			365.09		
	18420	2109267-IN	600-5802-56101-			80.00		
12172064	05/14/2026	PRINTED	021021	LINEGEAR INC	4,998.13			
	18858	62693	720-5401-80301-			4,998.13		
12172065	05/14/2026	PRINTED	014850	LYONS SECURITY SERVICE IN	15,286.92			
	18338	40881	100-7203-56999-			15,286.92		
12172066	05/14/2026	PRINTED	000239	MAJOR LEAGUE SPFTBALL INC	4,665.00			
	18140	2050-26	100-7203-56999-			3,580.00		
	18140	2050-26	105-7203-56999-			1,085.00		
12172067	05/14/2026	PRINTED	000239	MAJOR LEAGUE CONSTRUCTION	4,150.00			
	18141	2064-26	100-7203-56999-			3,200.00		
	18141	2064-26	105-7203-56999-			950.00		
12172068	05/14/2026	PRINTED	002731	JOHN MANCINI	243.00			
	18303	03/30-02/2026RB	360-4011-57101-			243.00		
12172069	05/14/2026	PRINTED	000250	MC MASTER-CARR SUPPLY CO	433.92			
	18378	64354370	100-0000-15203-			328.98		
	18379	64527043	100-0000-15203-			60.75		
	18386	64532586	100-0000-15203-			44.19		
12172070	05/14/2026	PRINTED	020752	BOSCO LEGAL SERVICES	334.10			
	17838	15241505	731-1301-55102-			334.10		
12172071	05/14/2026	PRINTED	002880	MOORE IACOFANO GOLTSMAN	11,586.25			

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18142		0096275	510-7201-84101-			11,586.25	
12172072	05/14/2026	PRINTED	000261	MUNICIPAL WATER DISTRICT	536.93			
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	18385	3313		600-5802-53101-			536.93	
12172073	05/14/2026	PRINTED	016294	TREVOR NELSON	35.76			
	18301	04/15/2026RB		100-4011-57101-			35.76	
12172074	05/14/2026	PRINTED	001987	NIEVES LANDSCAPE LLC	30,163.01			
	18177	84599		291-5501-56103-			30,163.01	
12172075	05/14/2026	PRINTED	020056	NIKKIS FLAGS	2,405.00			
	18263	8210		100-0000-15201-			2,405.00	
12172076	05/14/2026	PRINTED	000052	OFFICE DEPOT INC	6,360.30			
	18254	22989031		100-2101-53101-			57.99	
	18254	22989031		100-3011-53101-			107.70	
	18254	22989031		100-4141-53101-			102.75	
	18254	22989031		100-7001-53101-			42.43	
	18254	22989031		600-5802-53101-			327.90	
	18427	463028867001		100-0000-15201-			5,721.53	
12172077	05/14/2026	PRINTED	000096	ORANGE CNTY TREASURER-TAX	6,680.20			
	18293	STTM003889		100-4011-53299-			6,545.00	
	18851	SH74160		100-4011-55104-			135.20	
12172078	05/14/2026	PRINTED	000952	ORANGE COUNTY OVERHEAD DO	425.00			
	18314	78468		100-5601-56101-			425.00	
12172079	05/14/2026	PRINTED	012836	ORANGE COUNTY WINWATER WO	4,373.93			
	18279	189790 01		600-5803-53201-			4,373.93	
12172080	05/14/2026	PRINTED	000300	ORANGE ELDERLY SERVICES I	18,675.00			
	18143	OES May Operations		100-7104-55999-			18,675.00	
12172081	05/14/2026	PRINTED	013213	O'REILLY AUTO ENTERPRISES	3,384.13			
	18352	April Stmt 2026		100-0000-15203-			3,384.13	
12172082	05/14/2026	PRINTED	001325	PEST OPTIONS, INC	1,110.00			
	18144	476939		100-7203-56999-			230.00	
	18145	477512		100-7203-56999-			370.00	
	18146	477464		100-7203-56999-			285.00	
	18147	477523		100-7203-56999-			225.00	
12172083	05/14/2026	PRINTED	025312	PREMIER AQUATIC SERVICES	18,000.00			
	18195	3621		100-7103-55000-			18,000.00	
12172084	05/14/2026	PRINTED	000016	ADAMSON POLICE PRODUCTS	2,395.11			
	18849	INV451333		355-4121-53199-			2,395.11	

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
12172085	05/14/2026	PRINTED	003779	PROMODAG	1,698.75			
	DOC	INVOICE NO		ACCOUNT				AMOUNT
	18425	14925/0426		100-1601-56999-				1,698.75
12172086	05/14/2026	PRINTED	025401	REGAL COURT REPORTING INC	1,549.40			
	17836	49073		731-1301-55102-				818.70
	17837	49215		731-1301-55102-				730.70
12172087	05/14/2026	PRINTED	017584	LEXISNEXIS	1,566.00			
	18431	3096430006		100-1301-55105-				1,566.00
12172088	05/14/2026	PRINTED	012784	S C SIGNS & SUPPLIES LLC	2,272.45			
	18287	269079		100-5201-53201-				2,272.45
12172089	05/14/2026	PRINTED	007144	SAFARILAND LLC	696.55			
	18852	I010-682353		100-4134-53199-				696.55
12172090	05/14/2026	PRINTED	004604	SHRED-WISE INC	55.00			
	18369	5757042826		100-5001-53101-				55.00
12172091	05/14/2026	PRINTED	020300	SIGNAL HILL AUTO ENTERPRI	4,009.38			
	18201	165958-01		100-0000-15201-				124.99
	18203	165958		100-0000-15201-				3,884.39
12172092	05/14/2026	PRINTED	000376	SMART & FINAL IRIS CO #38	4,164.89			
	18402	469244		100-0000-15201-				417.78
	18402	469244		100-0000-15201-				1,032.68
	18402	469244		100-0000-15201-				36.58
	18402	469244		100-0000-15201-				1,192.79
	18402	469244		100-0000-15201-				207.18
	18402	469244		100-7203-53299-				750.06
	18402	469244		600-5803-53199-				527.82
12172093	05/14/2026	PRINTED	000635	SMITH-EMERY LABORATORIES	5,591.82			
	18288	495521-5		100-5601-56999-				4,408.40
	18289	495521-4		100-5601-56999-				1,183.42
12172094	05/14/2026	PRINTED	001077	SNAP-ON TOOL INDUSTRIAL D	290.00			
	18375	ARV/67820256		100-5401-53101-				290.00
12172095	05/14/2026	PRINTED	007786	METROLINK	300.00			
	18372	220926		100-0000-20442-				300.00
12172096	05/14/2026	PRINTED	016994	SOCAL AUTO & TRUCK PARTS	8,003.48			
	18360	April Stmt 2026		100-0000-15203-				8,003.48
12172097	05/14/2026	PRINTED	020443	SOCAL SCADA SOLUTIONS LLC	3,198.00			
	18429	2026010-A		600-5802-55101-				3,198.00

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
12172098	05/14/2026	PRINTED	020443	SOCAL SCADA SOLUTIONS LLC	8,390.00			
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	18430	2026010-B	600-5802-55101-			8,390.00		
12172099	05/14/2026	PRINTED	000718	SOUTH COAST AQMD	2,069.88			
	18313	4711855	600-5802-56101-			172.49		
	18321	4711521	100-5601-56101-			172.49		
	18322	4711818	100-5601-56101-			172.49		
	18323	4711827	100-5601-56101-			172.49		
	18325	4711868	100-5601-56101-			172.49		
	18329	4711869	100-5601-56101-			172.49		
	18336	4711870	100-5601-56101-			172.49		
	18337	4712227	100-5601-56101-			172.49		
	18339	4712515	100-5601-56101-			172.49		
	18340	4712932	100-5601-56101-			172.49		
	18343	4714824	100-5601-56101-			172.49		
	18346	4714838	100-5601-56101-			172.49		
12172100	05/14/2026	PRINTED	000386	SOUTHERN COUNTIES OIL CO	21,995.45			
	18399	IN-0000349526	100-0000-15205-			3,091.38		
	18401	IN-0000349269	100-0000-15204-			8,417.58		
	18401	IN-0000349269	100-0000-15205-			7,262.22		
	18405	IN-0000352137	100-0000-15205-			3,224.27		
12172101	05/14/2026	PRINTED	000877	INMARK	108.82			
	18326	IV00588574	100-7001-53101-			26.79		
	18328	IV00588692	100-2101-53101-			82.03		
12172102	05/14/2026	PRINTED	000396	STATE OF CALIF DEPT OF JU	2,267.00			
	18370	037140	100-1401-55101-			1,385.00		
	18371	037954	100-1401-55101-			882.00		
12172103	05/14/2026	PRINTED	020665	STENO AGENCY INC	668.60			
	17839	2618404	731-1301-55102-			668.60		
12172104	05/14/2026	PRINTED	000520	STRYKER MEDICAL	1,447.09			
	18252	9212189532	100-3122-53101-			114.01		
	18252	9212189532	225-3122-53101-			919.59		
	18252	9212189532	225-3215-53101-			413.49		
12172105	05/14/2026	PRINTED	001303	SUNRISE MULTISPECIALIST M	375.00			
	18248	00207882-00	100-3011-55101-			255.00		
	18271	00201882-00	100-4011-55101-			15.00		
	18272	00201569-00	100-4011-55101-			15.00		
	18273	00201557-00	100-4011-55101-			30.00		
	18274	00201273-00	100-4011-55101-			15.00		
	18275	00201271-00	100-4011-55101-			15.00		
	18276	00201231-00	100-4011-55101-			15.00		
	18277	00202759-00	100-4011-55101-			15.00		

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
12172106	05/14/2026	PRINTED	017583	SYNC WRAPS	45.00			
	DOC	INVOICE NO	ACCOUNT					AMOUNT
	18278	1240	245-4121-53199-					45.00
12172107	05/14/2026	PRINTED	025035	MATTHEW TAYLOR	327.15			
	18351	04/20-01/2026RB	100-4011-57101-					327.15
12172108	05/14/2026	PRINTED	002977	TYLER TECHNOLOGIES INC	11,210.00			
	18408	CI100-00266415	600-1843-80201-					1,385.85
	18408	CI100-00266415	790-1601-80299-					4,224.15
	18412	045-561549	600-1843-80201-					1,383.76
	18412	045-561549	790-1601-80299-					4,216.24
12172109	05/14/2026	PRINTED	001563	ULINE	994.60			
	18296	207338584	570-4134-80101-					994.60
12172110	05/14/2026	PRINTED	000944	UNITED PARCEL SERVICE	95.72			
	18447	00005733W1196 2026	100-1401-53104-					17.16
	18447	00005733W1196 2026	100-4011-53104-					17.16
	18447	00005733W1196 2026	100-0000-53104-					61.40
12172111	05/14/2026	PRINTED	002319	WATERLINE TECHNOLOGIES	6,637.14			
	18209	5791882	600-5802-53201-					478.41
	18341	5792563	600-5802-53201-					491.17
	18342	5792564	600-5802-53201-					516.68
	18344	5792558	600-5802-53201-					1,116.29
	18345	5792560	600-5802-53201-					478.41
	18347	5792561	600-5802-53201-					701.67
	18348	5792565	600-5802-53201-					940.87
	18349	5792559	600-5802-53201-					956.82
	18350	5792562	600-5802-53201-					956.82
12172112	05/14/2026	PRINTED	025414	WATSON AMY AND CASEY	1,712.50			
	18363	121525-WATSON	731-1306-50203-					1,712.50
12172113	05/14/2026	PRINTED	025337	WELLS FARGO BANK N.A.	1,165.95			
	18422	5038379827	100-1601-56301-					585.22
	18422	5038379827	100-2101-56301-					580.73
12172114	05/14/2026	PRINTED	000439	WEST COAST ARBORISTS INC	43,111.00			
	18306	243240	601-5501-56999-					43,111.00
12172115	05/14/2026	PRINTED	016092	WINZER CORPORATION	289.09			
	18374	3815683	100-0000-15203-					289.09
		93 CHECKS		CASH ACCOUNT TOTAL	1,093,571.18	.00		

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
32326	04/17/2026	WIRE	099999	P-CARD -TRANSACTIONS	83,818.26			

DOC	INVOICE NO	ACCOUNT	AMOUNT
18448	2026/03-0201-1	100-1101-53101-	182.70
18449	2026/03-0201-2	100-0000-50999-	20.00
18450	2026/03-0201-3	100-0000-50999-	20.00
18451	2026/03-0201-4	100-0000-50999-	20.00
18452	2026/03-0201-5	100-1201-53199-	16.15
18453	2026/03-0201-6	100-1201-53199-	53.86
18454	2026/03-0201-7	100-1201-53199-	26.00
18455	2026/03-0201-8	100-1101-53101-	79.73
18456	2026/03-0201-9	100-1201-53199-	8.56
18457	2026/03-0201-10	100-1201-53199-	5.29
18458	2026/03-0301-1	100-1301-53101-	3,000.00
18459	2026/03-0301-2	100-1301-53101-	89.70
18460	2026/03-0301-3	731-1301-55102-	18.58
18461	2026/03-0301-4	100-1301-55105-	19.99
18462	2026/03-0301-5	100-1301-53101-	16.14
18463	2026/03-0401-1	100-1502-53101-	12.27
18464	2026/03-0401-2	100-1502-57104-	16.15
18465	2026/03-0401-3	100-1201-55999-	155.92
18466	2026/03-0401-4	100-1501-50999-	658.38
18467	2026/03-0401-5	100-1502-57104-	14.00
18468	2026/03-0401-6	100-0000-53104-	32.58
18469	2026/03-0401-7	100-1502-57104-	75.00
18470	2026/03-0401-8	100-1502-57101-	500.00
18471	2026/03-1200-1	100-1801-55105-	1.00
18472	2026/03-1200-2	100-1822-57104-	125.00
18473	2026/03-1401-1	100-1401-55101-	31.95
18474	2026/03-1401-2	100-1401-55101-	19.95
18475	2026/03-1401-3	100-1401-57101-	122.05
18476	2026/03-1401-4	100-1401-55101-	54.95
18477	2026/03-1401-5	100-1401-57101-	108.99
18478	2026/03-1401-6	100-1401-55101-	24.95
18479	2026/03-1401-7	100-1401-57101-	68.25
18480	2026/03-1401-8	100-1401-57101-	5.00
18481	2026/03-1401-9	100-1401-57101-	31.28
18482	2026/03-1401-10	100-1822-57101-	75.00
18483	2026/03-1401-11	100-1401-57101-	89.54
18484	2026/03-1401-12	100-1401-57101-	1,047.00
18485	2026/03-1401-13	100-1401-57101-	146.91
18486	2026/03-1401-14	100-1201-55999-	25.00
18487	2026/03-1401-15	100-1201-55999-	25.00
18488	2026/03-1401-16	100-1201-55999-	25.00
18489	2026/03-1401-17	100-1201-55999-	25.00
18490	2026/03-1410-1	730-1306-57101-	865.23
18491	2026/03-1410-2	731-1306-57104-	100.00
18492	2026/03-1601-1	100-1601-55999-	92.98
18493	2026/03-1601-2	100-1601-56999-	89.95
18494	2026/03-1601-3	100-1601-53101-	295.54
18495	2026/03-1601-4	100-1601-55999-	241.89

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18496		2026/03-1601-5	100-1601-56999-			611.72	

DOC	INVOICE NO	ACCOUNT	AMOUNT
18497	2026/03-1601-6	100-1601-56999-	1,164.00
18498	2026/03-1601-7	100-1601-56999-	104.14
18499	2026/03-2000-1	100-2101-57104-	542.00
18500	2026/03-2000-2	100-2101-53101-	31.27
18501	2026/03-2000-3	100-2101-55104-	58.94
18502	2026/03-2000-4	100-2101-53101-	280.12
18503	2026/03-2000-5	100-2101-53101-	24.77
18504	2026/03-2000-6	100-2101-53101-	116.30
18505	2026/03-2000-7	100-2101-53101-	139.91
18506	2026/03-2000-8	100-2101-53101-	22.40
18507	2026/03-2000-9	100-2101-53101-	21.54
18508	2026/03-2000-10	100-2101-53101-	132.96
18509	2026/03-2000-11	100-2101-53101-	137.75
18510	2026/03-2000-12	100-2316-53101-	26.88
18511	2026/03-2000-13	100-2316-53101-	57.47
18512	2026/03-2000-14	100-7001-53101-	42.84
18513	2026/03-2000-15	100-7001-53101-	73.53
18514	2026/03-2000-16	100-7203-53201-	34.46
18515	2026/03-2000-17	100-2101-53101-	614.92
18516	2026/03-2000-18	100-7001-53104-	9.65
18517	2026/03-2000-19	100-2101-53101-	38.66
18518	2026/03-2000-20	100-7001-57101-	200.00
18519	2026/03-2000-21	100-2101-53101-	1,305.68
18520	2026/03-2000-22	100-2101-53101-	20.46
18521	2026/03-2000-23	100-2101-53101-	20.46
18522	2026/03-2000-24	100-2101-53101-	35.42
18523	2026/03-2000-25	100-7001-57101-	60.00
18524	2026/03-2000-26	100-2101-53101-	129.85
18525	2026/03-2000-27	100-2101-53101-	846.01
18526	2026/03-2000-28	100-2101-53101-	188.34
18527	2026/03-2000-29	100-2101-53101-	59.24
18528	2026/03-2000-30	100-2102-53101-	21.38
18529	2026/03-2000-31	100-2101-53101-	687.23
18530	2026/03-2000-32	100-2101-53101-	56.57
18531	2026/03-2000-33	100-2101-53101-	149.55
18532	2026/03-2000-34	100-2101-53101-	60.00
18533	2026/03-2000-35	100-2101-53101-	314.88
18534	2026/03-2000-36	100-2101-53101-	168.09
18535	2026/03-2000-37	100-2101-53101-	77.50
18536	2026/03-2000-38	100-2101-53101-	20.37
18537	2026/03-2000-39	100-2102-56201-	120.00
18538	2026/03-2000-40	100-2101-53101-	-96.50
18539	2026/03-2000-41	100-2101-53101-	89.35
18540	2026/03-2000-42	100-2101-53101-	5.38
18541	2026/03-2000-43	100-2101-53201-	301.69
18542	2026/03-2000-44	100-2101-53101-	21.54
18543	2026/03-2000-45	100-2101-53101-	49.58
18544	2026/03-2000-46	100-2101-53101-	43.60

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18545		2026/03-2000-47	100-2101-53101-			133.97		

DOC	INVOICE NO	ACCOUNT	AMOUNT
18546	2026/03-2000-48	100-1201-48001-	163.29
18547	2026/03-2000-49	100-2101-53101-	28.46
18548	2026/03-2000-50	100-2101-53101-	1,250.36
18549	2026/03-2000-51	100-2101-53101-	4,114.27
18550	2026/03-3000-1	100-3121-53299-	6.72
18551	2026/03-3000-2	100-3121-53299-	85.60
18552	2026/03-3000-3	100-3121-53299-	34.37
18553	2026/03-3000-4	100-3121-53299-	175.60
18554	2026/03-3000-5	100-3121-53299-	8.61
18555	2026/03-3000-6	100-3011-53101-	170.26
18556	2026/03-3000-7	100-3121-57101-	20.00
18557	2026/03-3000-8	100-3112-53101-	21.98
18558	2026/03-3000-9	100-3112-53101-	26.86
18559	2026/03-3000-10	100-3112-53101-	2,639.00
18560	2026/03-3000-11	100-3112-53199-	53.86
18561	2026/03-3000-12	100-3112-53101-	175.76
18562	2026/03-3000-13	100-3121-53101-	182.45
18563	2026/03-3000-14	100-3121-57101-	755.04
18564	2026/03-3000-15	100-3121-53199-	43.20
18565	2026/03-3000-16	100-3121-53199-	22.56
18566	2026/03-3000-17	100-3112-57101-	768.60
18567	2026/03-3000-18	100-3112-55105-	.99
18568	2026/03-3000-19	100-3123-53101-	90.71
18569	2026/03-3000-20	100-3123-53101-	192.03
18570	2026/03-3000-21	100-3121-53299-	8.98
18571	2026/03-3000-22	100-3011-55105-	9.99
18572	2026/03-3000-23	100-3123-57101-	120.00
18573	2026/03-3000-24	100-3011-53101-	96.92
18574	2026/03-3000-25	100-3121-53199-	31.40
18575	2026/03-3000-26	100-3011-53102-	189.95
18576	2026/03-3000-27	100-3121-53199-	40.87
18577	2026/03-3000-28	100-3121-53299-	12.34
18578	2026/03-3000-29	100-3121-53201-	407.07
18579	2026/03-3000-30	100-3121-53101-	17.39
18580	2026/03-3000-31	100-3011-53101-	219.33
18581	2026/03-3000-32	100-3121-53299-	15.07
18582	2026/03-3000-33	100-3011-53101-	17.39
18583	2026/03-3000-34	100-3121-53201-	16.88
18584	2026/03-3000-35	100-3011-55999-	299.98
18585	2026/03-3000-36	100-3122-53101-	99.10
18586	2026/03-3000-37	225-3216-53199-	94.01
18587	2026/03-3000-38	100-3011-53101-	30.36
18588	2026/03-3000-39	100-3121-53299-	22.61
18589	2026/03-3000-40	100-3011-53101-	32.69
18590	2026/03-3000-41	100-3011-53101-	20.46
18591	2026/03-3000-42	100-3122-53101-	848.48
18592	2026/03-3000-43	100-3122-53101-	157.27
18593	2026/03-3000-44	100-3011-53101-	20.46

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18594		2026/03-3000-45	100-3122-55999-		3,287.00		

DOC	INVOICE NO	ACCOUNT	AMOUNT
18595	2026/03-3000-46	100-3121-53101-	589.44
18596	2026/03-3000-47	100-3011-53101-	96.96
18597	2026/03-3000-48	100-3121-53101-	160.63
18598	2026/03-3000-49	100-3011-55105-	48.00
18599	2026/03-3000-50	100-3121-53101-	17.16
18600	2026/03-3000-51	100-3011-55999-	60.00
18601	2026/03-3000-52	100-3011-53101-	16.37
18602	2026/03-3000-53	100-3121-53299-	69.96
18603	2026/03-3000-54	100-3121-53199-	21.80
18604	2026/03-3000-55	100-3121-57101-	6.72
18605	2026/03-3000-56	100-3122-57101-	232.00
18606	2026/03-3000-57	100-3122-57101-	232.00
18607	2026/03-3000-58	100-3122-57101-	232.00
18608	2026/03-3000-59	100-3122-57101-	298.89
18609	2026/03-3000-60	100-3122-57101-	298.89
18610	2026/03-3000-61	100-3122-57101-	298.89
18611	2026/03-3000-62	100-3122-57101-	77.49
18612	2026/03-3000-63	100-3121-53299-	149.09
18613	2026/03-3000-64	100-3123-57101-	71.70
18614	2026/03-3000-65	100-3121-53299-	32.61
18615	2026/03-3000-66	100-3121-56101-	1,075.55
18616	2026/03-3000-67	100-3011-55105-	779.88
18617	2026/03-3000-68	100-3112-57101-	768.60
18618	2026/03-3000-69	100-3112-57101-	150.00
18619	2026/03-3000-70	100-3123-57101-	75.45
18620	2026/03-3000-71	100-3121-53199-	69.46
18621	2026/03-3000-72	100-3011-55999-	255.00
18622	2026/03-3000-73	100-3011-55999-	235.00
18623	2026/03-3000-74	225-3215-55999-	108.76
18624	2026/03-3000-75	100-3123-53199-	32.07
18625	2026/03-3000-76	100-3123-53199-	46.62
18626	2026/03-3000-77	100-3123-53199-	80.06
18627	2026/03-3000-78	100-3121-57101-	50.20
18628	2026/03-3000-79	100-3121-53299-	69.78
18629	2026/03-3000-80	100-3121-54101-	296.29
18630	2026/03-3000-81	100-3121-53299-	173.57
18631	2026/03-3000-82	100-3121-53299-	38.34
18632	2026/03-3000-83	100-3121-55101-	70.00
18633	2026/03-3000-84	100-3121-53199-	86.06
18634	2026/03-3000-85	100-3123-57101-	52.74
18635	2026/03-3000-86	100-3112-53199-	36.61
18636	2026/03-3000-87	100-3112-57101-	191.10
18637	2026/03-3000-88	100-3112-53199-	223.82
18638	2026/03-3000-89	100-3123-57101-	86.22
18639	2026/03-3000-90	100-3123-57101-	67.51
18640	2026/03-3000-91	100-3123-53101-	702.43
18641	2026/03-3000-92	100-3123-57101-	119.51
18642	2026/03-3000-93	100-3123-57101-	126.00

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18643		2026/03-3000-94		100-3123-57101-			145.98	

DOC	INVOICE NO	ACCOUNT	AMOUNT
18644	2026/03-3000-95	100-3123-57101-	157.97
18645	2026/03-3000-96	100-3123-57101-	141.61
18646	2026/03-3000-97	100-3123-57101-	261.78
18647	2026/03-3000-98	100-3123-57101-	105.16
18648	2026/03-3000-99	100-3123-53101-	120.52
18649	2026/03-3000-100	100-3123-57101-	122.03
18650	2026/03-3000-101	100-3123-57101-	44.55
18651	2026/03-3000-102	100-3123-57101-	99.68
18652	2026/03-3000-103	100-3123-57101-	100.00
18653	2026/03-3000-104	100-3123-57101-	301.92
18654	2026/03-3000-105	100-3123-57101-	228.97
18655	2026/03-3000-106	100-3123-57101-	229.57
18656	2026/03-3000-107	100-3011-55105-	20.00
18657	2026/03-3000-108	100-3123-57101-	100.21
18658	2026/03-3000-109	100-3123-57101-	17.94
18659	2026/03-3000-110	100-3123-57101-	18.45
18660	2026/03-3000-111	100-3001-57101-	31.05
18661	2026/03-3000-112	100-3123-57101-	431.00
18662	2026/03-3000-113	100-3011-53101-	75.41
18663	2026/03-3000-114	100-3011-55105-	9.99
18664	2026/03-3000-115	100-3011-53101-	284.07
18665	2026/03-3000-116	100-3001-57101-	49.00
18666	2026/03-3000-117	100-3121-56101-	815.29
18667	2026/03-3000-118	100-4011-56101-	815.28
18668	2026/03-5000-1	100-5001-53101-	83.38
18669	2026/03-5000-2	100-1201-55999-	27.99
18670	2026/03-5000-3	100-5001-53101-	83.37
18671	2026/03-5000-4	100-5001-53101-	26.51
18672	2026/03-5000-5	100-1201-55999-	80.97
18673	2026/03-5000-6	100-5001-53101-	45.72
18674	2026/03-5000-7	100-5001-53101-	329.00
18675	2026/03-5000-8	100-5001-53101-	12.95
18676	2026/03-5000-9	100-5001-53101-	29.61
18677	2026/03-5000-10	100-5001-53101-	39.19
18678	2026/03-5000-11	100-5703-57101-	395.00
18679	2026/03-5000-12	100-5703-57101-	44.52
18680	2026/03-5000-13	100-1201-55999-	128.65
18681	2026/03-5000-14	100-5001-53101-	94.14
18682	2026/03-5000-15	600-5802-57101-	56.60
18683	2026/03-5000-16	600-5802-57101-	856.19
18684	2026/03-5000-17	600-5802-57101-	56.71
18685	2026/03-5000-18	263-5101-87102-	4,004.90
18686	2026/03-5000-19	100-5601-56101-	70.07
18687	2026/03-5000-20	100-5601-56101-	-119.43
18688	2026/03-5000-21	100-5601-56101-	24.69
18689	2026/03-5000-22	100-5601-56101-	36.07
18690	2026/03-5000-23	100-5601-56101-	70.07
18691	2026/03-5000-24	100-5601-56101-	34.43

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18692		2026/03-5000-25	100-5601-56101-		21.51		

DOC	INVOICE NO	ACCOUNT	AMOUNT
18693	2026/03-5000-26	100-5601-56101-	11.49
18694	2026/03-5000-27	100-5601-56101-	32.26
18695	2026/03-5000-28	100-5601-56101-	-10.76
18696	2026/03-5000-29	100-5601-56101-	32.00
18697	2026/03-5000-30	100-5601-56101-	122.78
18698	2026/03-5000-31	100-5601-56101-	32.26
18699	2026/03-5000-32	100-5601-56101-	186.37
18700	2026/03-5000-33	100-5601-56101-	154.56
18701	2026/03-5000-34	100-5601-56101-	17.22
18702	2026/03-5000-35	100-5601-56101-	29.89
18703	2026/03-5000-36	100-5601-56101-	49.95
18704	2026/03-5000-37	601-5501-57104-	185.00
18705	2026/03-5000-38	100-5501-56103-	8.48
18706	2026/03-5000-39	100-5601-56101-	1,917.94
18707	2026/03-5000-40	100-5601-56999-	67.84
18708	2026/03-5000-41	100-5601-56999-	-106.67
18709	2026/03-5000-42	100-5601-56999-	106.67
18710	2026/03-5000-43	100-5601-56999-	106.67
18711	2026/03-5000-44	100-5601-56101-	32.01
18712	2026/03-5000-45	100-5601-56101-	98.24
18713	2026/03-5000-46	100-5601-56101-	315.43
18714	2026/03-5000-47	100-5601-56101-	45.07
18715	2026/03-5000-48	100-5601-56101-	7.53
18716	2026/03-5000-49	100-5601-56101-	207.84
18717	2026/03-5000-50	100-5601-56101-	295.22
18718	2026/03-5000-51	100-5601-56101-	12.90
18719	2026/03-5000-52	100-5601-56101-	96.78
18720	2026/03-5000-53	100-5601-56101-	15.74
18721	2026/03-5000-54	100-5601-56101-	34.22
18722	2026/03-5000-55	100-5601-56101-	61.95
18723	2026/03-5000-56	100-5601-56101-	66.78
18724	2026/03-5000-57	100-5601-56101-	32.87
18725	2026/03-5000-58	100-5601-56101-	59.90
18726	2026/03-5000-59	100-5601-56101-	60.84
18727	2026/03-5000-60	100-5601-56101-	103.12
18728	2026/03-5000-61	100-5601-56101-	103.12
18729	2026/03-5000-62	100-5601-56101-	105.33
18730	2026/03-5000-63	100-5601-56101-	36.57
18731	2026/03-5000-64	100-5601-56101-	65.33
18732	2026/03-5000-65	100-5601-56101-	132.48
18733	2026/03-5000-66	100-5601-56101-	20.41
18734	2026/03-5000-67	100-5601-56101-	9.72
18735	2026/03-5000-68	100-5601-56101-	53.26
18736	2026/03-5000-69	100-5601-56101-	48.23
18737	2026/03-5000-70	100-5601-56101-	2.56
18738	2026/03-5000-71	100-5601-56101-	53.49
18739	2026/03-5000-72	100-5601-56101-	15.05
18740	2026/03-5000-73	100-0000-15203-	6.00

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18741		2026/03-5000-74	100-5401-57101-		26.58		

DOC	INVOICE NO	ACCOUNT	AMOUNT
18742	2026/03-5000-75	100-5401-53203-	91.28
18743	2026/03-5000-76	100-5401-53203-	100.58
18744	2026/03-5000-77	100-5401-53203-	71.92
18745	2026/03-5000-78	100-5601-56999-	-24.02
18746	2026/03-5000-79	100-5601-56999-	124.53
18747	2026/03-5000-80	270-5201-53102-	27.55
18748	2026/03-5000-81	100-5601-56999-	49.04
18749	2026/03-5000-82	270-5201-53299-	172.90
18750	2026/03-5000-83	100-5601-56999-	55.33
18751	2026/03-5000-84	270-5201-53201-	100.48
18752	2026/03-5000-85	270-5201-54101-	75.41
18753	2026/03-5000-86	601-5301-53102-	1,164.46
18754	2026/03-5000-87	601-5301-53102-	560.30
18755	2026/03-5000-88	270-5201-54101-	53.86
18756	2026/03-5000-89	100-5201-53201-	227.54
18757	2026/03-5000-90	601-5301-53299-	54.89
18758	2026/03-5000-91	601-5301-53299-	268.27
18759	2026/03-5000-92	601-5301-53299-	-107.72
18760	2026/03-5000-93	601-5301-53299-	114.15
18761	2026/03-5000-94	100-5201-53201-	249.90
18762	2026/03-5000-95	100-5201-53201-	87.11
18763	2026/03-5000-96	263-5201-53201-	19.68
18764	2026/03-5000-97	263-5201-53201-	98.66
18765	2026/03-5000-98	100-5401-53203-	102.11
18766	2026/03-5000-99	100-5401-53203-	89.94
18767	2026/03-5000-100	270-5201-54101-	21.54
18768	2026/03-5000-101	263-5201-53201-	45.59
18769	2026/03-5000-102	270-5201-53299-	107.77
18770	2026/03-5000-103	270-5201-53299-	31.22
18771	2026/03-5000-104	270-5201-53299-	96.59
18772	2026/03-5000-105	270-5201-53299-	296.01
18773	2026/03-5000-106	270-5201-53299-	103.31
18774	2026/03-5000-107	270-5201-53299-	67.02
18775	2026/03-5000-108	263-5201-56999-	45.16
18776	2026/03-5000-109	270-5201-53299-	97.16
18777	2026/03-5000-110	270-5201-53299-	96.88
18778	2026/03-5000-111	100-5702-53299-	79.12
18779	2026/03-5000-112	100-5702-53299-	23.68
18780	2026/03-5000-113	100-5702-53299-	100.69
18781	2026/03-5023-1	100-0000-15203-	19.29
18782	2026/03-5023-2	100-0000-15203-	23.02
18783	2026/03-5023-3	100-0000-15203-	596.15
18784	2026/03-5023-4	100-0000-15203-	7.05
18785	2026/03-5023-5	100-0000-15203-	145.54
18786	2026/03-5023-6	100-0000-15203-	8.50
18787	2026/03-5023-7	100-0000-15203-	478.41
18788	2026/03-5023-8	100-0000-15203-	230.93
18789	2026/03-5023-9	100-0000-15203-	39.20

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18790		2026/03-5023-10	100-5401-56999-		1.92		

DOC	INVOICE NO	ACCOUNT	AMOUNT
18791	2026/03-5023-11	100-5401-56999-	64.26
18792	2026/03-5023-12	100-5501-56999-	84.15
18793	2026/03-5023-13	100-5501-56999-	122.26
18794	2026/03-5023-14	100-5501-56999-	353.39
18795	2026/03-5023-15	100-5501-56999-	69.28
18796	2026/03-5023-16	100-5501-56999-	324.87
18797	2026/03-6000-1	100-6001-57104-	175.00
18798	2026/03-6000-2	100-6102-57101-	202.40
18799	2026/03-6000-3	100-6001-57104-	845.80
18800	2026/03-6000-4	100-6301-57101-	65.00
18801	2026/03-6000-5	100-6301-57101-	153.54
18802	2026/03-6000-6	310-6410-57101-	50.00
18803	2026/03-6000-7	232-6401-80201-	31.00
18804	2026/03-6000-8	100-6001-54101-	69.99
18805	2026/03-6000-9	100-6102-55103-	1,030.06
18806	2026/03-6000-10	310-6410-55103-	346.91
18807	2026/03-6000-11	310-6411-88101-	560.97
18808	2026/03-6000-12	100-6001-54101-	74.39
18809	2026/03-6000-13	100-6103-53101-	981.21
18810	2026/03-6000-14	100-6102-55103-	689.24
18811	2026/03-6000-15	310-6410-55103-	324.77
18812	2026/03-6000-16	100-6205-57101-	520.00
18813	2026/03-6000-17	100-6001-55105-	26.00
18814	2026/03-6000-18	100-6102-57101-	71.36
18815	2026/03-6000-19	100-6102-57101-	46.62
18816	2026/03-7000-1	100-1401-55103-	545.00
18817	2026/03-7000-2	100-1401-57101-	162.88
18818	2026/03-7000-3	510-7201-84101-	1,272.23
18819	2026/03-7000-4	510-7201-84101-	1,037.50
18820	2026/03-7000-5	100-7203-53201-	222.54
18821	2026/03-7000-6	100-7203-53201-	518.00
18822	2026/03-7000-7	100-7203-53201-	449.80
18823	2026/03-7000-8	100-7203-53201-	1,506.35
18824	2026/03-7000-9	510-7201-84101-	211.19
18825	2026/03-7000-10	100-7203-53201-	28.45
18826	2026/03-7000-11	100-7203-53201-	1,035.99
18827	2026/03-7000-12	100-7203-53201-	73.10
18828	2026/03-7000-13	100-7203-53201-	53.83
18829	2026/03-7000-14	100-7203-53201-	-805.85
18830	2026/03-7000-15	100-7203-53201-	18.13
18831	2026/03-7000-16	100-7203-53201-	269.64
18832	2026/03-7000-17	100-7203-53201-	32.92
18833	2026/03-7000-18	100-7203-53201-	124.90
18834	2026/03-7000-19	100-7203-53201-	37.56
18835	2026/03-7000-20	100-7203-53201-	87.20
18836	2026/03-7000-21	100-7203-53201-	34.20
18837	2026/03-7000-22	100-7203-53201-	72.14
18838	2026/03-7000-23	100-7203-53201-	122.22

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
18839	2026/03	-7000-24	100-7203-53201-				32.13	

DOC	INVOICE NO	ACCOUNT	AMOUNT
18840	2026/03-7000-25	100-7203-53201-	177.90
18841	2026/03-7000-26	100-7203-53201-	43.06
18842	2026/03-8000-1	600-5802-53101-	412.12
18843	2026/03-8000-2	600-5802-53101-	174.06
18844	2026/03-8000-3	600-5802-53101-	65.67
18845	2026/03-8000-4	100-5401-53201-	100.80
18846	2026/03-8000-5	100-5401-53201-	100.23
18847	2026/03-8000-6	600-5803-53101-	97.44
18848	2026/03-8000-7	600-5802-53101-	150.84
18849	2026/03-8000-8	600-5802-53101-	176.37
18850	2026/03-8000-9	600-5802-53101-	110.44
18851	2026/03-8000-10	600-5802-57101-	135.00
18852	2026/03-8000-11	600-5803-53101-	45.00
18853	2026/03-8000-12	600-5803-53101-	39.39
18854	2026/03-8000-13	600-5802-53101-	168.67

1 CHECKS CASH ACCOUNT TOTAL 83,818.26 .00

AP CHECK RECONCILIATION REGISTER

		UNCLEARED	CLEARED
94 CHECKS	FINAL TOTAL	1,177,389.44	.00

** END OF REPORT - Generated by Jocelin Mendez **

City of Orange

Finance Department - Accounts Payable

WW # 0366

WEEKLY WARRANT WRITING CHECK REGISTER

Warrant Writing	Warrant Writing Confirmation Date: 05/21/26 3 of 4 reports for 06/09/26 Council Meeting
Notes:	
Requester Signature:	eSigned via GovOS.com Jocelin Mendez Key: c75eb71bc2d138050ea61da6a02e3123 — Date: 05-21-2026

AGENDA ITEM NO. 3.2

I certify that the attached register of demands has been prepared and audited under my direction and supervision. I also certify that each demand is accurately set forth and correctly stated, that each is a legal obligation of the City, and that there are sufficient funds available for the payment of each demand.

Please review and approve before:

eSigned via GovOS.com Tiffany Dang Key: 255ce3af4128a3a50bd1b4b009bc5bbc Tiffany Dang, Finance — Date: 05-21-2026	Comments:
eSigned via GovOS.com Jarad L. Hildenbrand Key: d3b9b88f-da90-4693-bd42-b7973c0a7d37 Jarad Hildenbrand, City Manager — Date: 05-26-2026	Comments:
eSigned via GovOS.com Pamela Coleman Key: 52f7c7947ed47a25c77b48742be39aca Pam Coleman, City Clerk — Date: 05-26-2026	Comments:

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
51926	05/19/2026	WIRE	000384	SOUTHERN CALIF EDISON CO-	333,463.20			

DOC	INVOICE NO	ACCOUNT	AMOUNT
19082	05/19/26	100-0000-56205-	121,521.45
19082	05/19/26	600-5802-56205-	211,941.75
8005826 05/21/2026 PRINTED	020484	1903 SOLUTIONS LLC	47,010.55
18985	COO04260402CHE1	100-1601-56999-	47,010.55
8005827 05/21/2026 PRINTED	020723	ALEXANDRA ABIERTAS	333.60
19025	Spr2026 Payment 1	100-7101-55999-	333.60
8005828 05/21/2026 PRINTED	004981	ACADEMY ELECTRIC INC	3,100.00
18324	1375-70	100-7203-56999-	3,100.00
8005829 05/21/2026 PRINTED	025212	AIMTD LLC	2,551.00
19130	i6934	287-5704-87101-	2,551.00
8005830 05/21/2026 PRINTED	000539	AIR SOURCE INDUSTRIES	359.55
19102	00982719	225-3122-53101-	179.78
19102	00982719	225-3215-53101-	179.77
8005831 05/21/2026 PRINTED	002689	ANDY GUMP INC	186.37
18926	INV1330612	600-5802-53199-	186.37
8005832 05/21/2026 PRINTED	010063	ANIMAL FRIENDS PET HOTEL	180.00
18439	818619459	100-4121-55999-	180.00
8005833 05/21/2026 PRINTED	019520	ANSWER CALIFORNIA	733.21
18192	000040-040-571	600-5802-55999-	733.21
8005834 05/21/2026 PRINTED	001147	ARCHIE'S TOWING	440.00
18394	269075	100-5401-56999-	180.00
18395	269080	100-5401-56999-	130.00
18397	269083	100-5401-56999-	130.00
8005835 05/21/2026 PRINTED	002388	AT & T MOBILITY	87.48
18870	287303893584051720260	600-5802-56101-	87.48
8005836 05/21/2026 PRINTED	002217	AT&T	2,637.53
19101	05/04/2026	100-1502-55999-	31.91
19101	05/04/2026	100-3011-56201-	31.91
19101	05/04/2026	100-5601-56101-	31.91
19101	05/04/2026	100-5601-56999-	504.46
19101	05/04/2026	100-1601-56201-	2,037.34
8005837 05/21/2026 PRINTED	005378	AUTO ZONE	107.53
18390	05942694780	100-0000-15203-	25.58
18391	05942695873	100-0000-15203-	17.36
18392	05942700596	100-0000-15203-	64.59

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005838	05/21/2026	PRINTED	013600	BIG BEN INC	128,435.81			

DOC	INVOICE NO	ACCOUNT	AMOUNT
19005	2606-01	600-5803-56102-	38,488.25
19006	2606-02	600-5803-56102-	7,636.98
19007	2606-03	600-5803-56102-	7,603.09
19008	2606-04	600-5803-56102-	9,631.58
19009	2606-05	600-5803-56102-	10,225.40
19010	2606-06	600-5803-56102-	16,382.93
19011	2606-08	600-5803-56102-	16,303.54
19013	2606-09	600-5803-56102-	22,164.04

8005839	05/21/2026	PRINTED	017580	BLUEBEAM INC	586.66			
19012	2831025	100-5101-53101-						586.66
8005840	05/21/2026	PRINTED	018332	BPS SUPPLY GROUP	3,068.27			
18921	S3298680.001	600-5802-53199-						2,060.85
18991	S3299834.001	600-5802-53199-						195.75
18992	S3299834.002	600-5802-53199-						641.25
18993	S3299834.003	600-5802-53199-						170.42
8005841	05/21/2026	PRINTED	017415	BUCKNAM INFRASTRUCTURE GR	11,987.95			
19003	363-02.03	287-5704-87101-						11,987.95
8005842	05/21/2026	PRINTED	019927	RUSSELL BUNIM	1,472.76			
18862	04/24-27/2026RB	100-6001-57101-						1,472.76
8005843	05/21/2026	PRINTED	002223	BURLINGTON SAFETY LABORAT	175.09			
19075	107966	100-3121-53299-						175.09
8005844	05/21/2026	PRINTED	001624	C WELLS PIPELINE MATERIAL	11,394.57			
19057	SINV26-2807	600-5803-81999-						2,747.63
19059	SINV26-2821	600-5803-81999-						8,646.94
8005845	05/21/2026	PRINTED	016378	C3 OFFICE SOLUTIONS LLC	450.00			
18435	INV217495	100-2101-56301-						450.00
8005846	05/21/2026	PRINTED	001788	CALIFORNIA GYMNASTICS	1,050.00			
19021	Spr2026 Payment 1	100-7101-55999-						1,050.00
8005847	05/21/2026	PRINTED	013164	GALE	9,967.00			
18928	20034886	100-2101-53101-						9,967.00
8005848	05/21/2026	PRINTED	025427	ARMANDO CERVANTES	100.00			
19119	PRODEV25/26	100-1401-57102-						100.00
8005849	05/21/2026	PRINTED	003595	CINTAS CORPORATION NO 2	177.73			
18327	4268386744	100-7203-56107-						177.73
8005850	05/21/2026	PRINTED	019162	CINTAS	135.72			
18406	4268395162	100-5401-56107-						135.72

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005851	05/21/2026	PRINTED	001367	CITY OF ANAHEIM	3,000.00			
	DOC	INVOICE NO		ACCOUNT				AMOUNT
	19074	MN2605120		100-3121-55000-				3,000.00
8005852	05/21/2026	PRINTED	014873	CIVICPLUS LLC	558.36			
	18933	369010		100-7101-55999-				558.36
8005853	05/21/2026	PRINTED	002810	CLINICAL LABORATORY OF SA	3,450.00			
	18868	2600865-		600-5802-55999-				3,450.00
8005854	05/21/2026	PRINTED	004588	CODE CONSULTING GROUP LLC	581.00			
	19100	04-26-0190		100-3112-55000-				581.00
8005855	05/21/2026	PRINTED	005556	CPAC INC	28,542.98			
	19122	SI-1302979		790-1601-80299-				28,542.98
8005856	05/21/2026	PRINTED	000101	CULLIGAN	116.25			
	18995	2050417		600-5802-53199-				116.25
8005857	05/21/2026	PRINTED	014203	DIVERSIFIED THERMAL SERVI	147.36			
	18330	S414269		100-7203-56999-				147.36
8005858	05/21/2026	PRINTED	011271	DOERSCHEL AND ASSOCIATES	10,395.00			
	18946	128109		100-1601-55999-				5,130.00
	18947	162173		100-1601-55999-				5,265.00
8005859	05/21/2026	PRINTED	017762	DAVID WILSON'S VILLA FORD	295.18			
	18388	040322		100-0000-15203-				190.63
	18389	040348		100-0000-15203-				104.55
8005860	05/21/2026	PRINTED	020488	ECONOMICS INC	116.25			
	18383	2025.3		100-5001-55999-				116.25
8005861	05/21/2026	PRINTED	000846	EMERGENCY MEDICAL SERVICE	37.00			
	19078	27682-2510		225-3122-57104-				37.00
8005862	05/21/2026	PRINTED	002741	EMERGENCY RESPONSE CRIME	375.00			
	19052	OP2026-340		100-4011-55000-				375.00
8005863	05/21/2026	PRINTED	017077	FABRIC WALLCRAFT OF CA IN	3,250.00			
	18396	55135		100-7203-56101-				3,250.00
8005864	05/21/2026	PRINTED	019451	CJ FIORE	82.40			
	19081	5-10 CLASS E RB		100-3011-53102-				82.40
8005865	05/21/2026	PRINTED	025313	FOSTER AND FREEMAN USA IN	54,831.94			
	18887	IN008010		550-4134-80101-				54,831.94
8005866	05/21/2026	PRINTED	002198	GALLS LLC	30.70			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
		18954	035027166	100-4011-53102-			26.40	
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
		18955	035065581	100-4011-53102-			4.30	
8005867	05/21/2026	PRINTED	004835	H F AND H CONSULTANTS LLC	13,518.00			
		18907	9722992	100-5001-55999-			3,157.00	
		18908	9723092	100-5001-55999-			4,878.50	
		18910	9722907	100-5001-55999-			5,482.50	
8005868	05/21/2026	PRINTED	007956	AMERICAN HONDA FINANCE CO	599.79			
		18956	483245332 6/13/26	100-4133-56301-			599.79	
8005869	05/21/2026	PRINTED	007956	AMERICAN HONDA FINANCE CO	585.79			
		18957	487763993 6/24/26	100-4133-56301-			585.79	
8005870	05/21/2026	PRINTED	007956	AMERICAN HONDA FINANCE CO	589.79			
		18958	491544049 6/16/26	100-4133-56301-			589.79	
8005871	05/21/2026	PRINTED	007956	AMERICAN HONDA FINANCE CO	550.75			
		18959	493269318 6/28/26	100-4121-56301-			550.75	
8005872	05/21/2026	PRINTED	000169	HARRINGTON INDUSTRIAL PLA	.92			
		19045	002T6528	600-5802-56102-			.92	
8005873	05/21/2026	PRINTED	025426	SHANE HARRIS	100.00			
		19121	PRODEV25/26	100-1401-57102-			100.00	
8005874	05/21/2026	PRINTED	019436	HASA INC	1,025.00			
		18865	1122078	100-7203-56999-			1,025.00	
8005875	05/21/2026	PRINTED	025417	HERITAGE LANDSCAPE SUPPLY	11,308.65			
		18912	0024999195-001	100-7203-53201-			4,555.23	
		18913	0025772595-001	100-7203-53201-			759.27	
		18914	0025777531-001	100-7203-53201-			1,327.90	
		18915	0026385836-002	100-7203-53201-			29.18	
		18916	0026385836-001	100-7203-53201-			396.37	
		18917	0026345952-001	100-7203-53201-			1,244.48	
		18931	0025304464-001	100-7203-53201-			2,572.90	
		18932	0026258096-001	100-7203-53201-			423.32	
8005876	05/21/2026	PRINTED	025428	CESAR HERRERA	100.00			
		19118	PRODEV25/26	100-1401-57102-			100.00	
8005877	05/21/2026	PRINTED	017567	HORIZONS CONSTRUCTION CO	37,636.14			
		1111	RETRELAGR7647X	500-0000-20103-			2,392.86	
		1111	RETRELAGR7647X	580-0000-20103-			3,855.53	
		1111	RETRELAGR7647X	500-0000-20103-			969.21	
		1111	RETRELAGR7647X	580-0000-20103-			2,860.93	
		1111	RETRELAGR7647X	100-0000-20103-			375.01	
		1111	RETRELAGR7647X	580-0000-20103-			625.99	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
		1111	RETRELAGR7647X	500-0000-20103-			3,499.54	

DOC	INVOICE NO	ACCOUNT	AMOUNT
1111	RETRELAGR7647X	500-0000-20103-	2,348.81
1111	RETRELAGR7647X	580-0000-20103-	296.42
1111	RETRELAGR7647X	580-0000-20103-	162.97
1111	RETRELAGR7647X	500-0000-20103-	1,872.95
1111	RETRELAGR7647X	580-0000-20103-	3,628.92
1111	RETRELAGR7647X	580-0000-20103-	1,954.95
1111	RETRELAGR7647X	580-0000-20103-	4,208.95
1111	RETRELAGR7647X	500-0000-20103-	2,585.61
1111	RETRELAGR7647X	580-0000-20103-	3,732.96
1111	RETRELAGR7647X	580-0000-20103-	830.04
1111	RETRELAGR7647X	580-0000-20103-	458.21
1111	RETRELAGR7647X	580-0000-20103-	562.01
1111	RETRELAGR7647X	500-0000-20103-	370.65
1111	RETRELAGR7647X	580-0000-20103-	43.62

8005878	05/21/2026	PRINTED	004272	KAREN HUTCHINSON	50.26			
	18353	04/16/2026RB		100-4011-57101-			50.26	
8005879	05/21/2026	PRINTED	025396	HYDROBLAST	580.00			
	18436	14965		100-2101-56101-			580.00	
8005880	05/21/2026	PRINTED	009564	INFOSEND INC	11,801.29			
	18247	301836		600-1843-53104-			2,553.66	
	18247	301836		600-1843-55104-			9,247.63	
8005881	05/21/2026	PRINTED	017338	INTRATEK COMPUTER INC	20,693.66			
	18987	20260145		100-1601-55999-			20,693.66	
8005882	05/21/2026	PRINTED	016970	GEORGE JEDINY	1,030.00			
	19116	PRODEV25/26		100-1401-57102-			1,030.00	
8005883	05/21/2026	PRINTED	003161	ADAM JEVEC	372.50			
	18366	05/02-05/2026RB		360-4011-57101-			372.50	
8005884	05/21/2026	PRINTED	000209	L N CURTIS & SONS	606.90			
	19099	INV1067436		100-3011-53102-			319.35	
	19114	INV1069928		100-3011-53102-			287.55	
8005885	05/21/2026	PRINTED	015771	KIM LAMOS	108.00			
	19023	Spr2026 Payment 1		100-7101-55999-			108.00	
8005886	05/21/2026	PRINTED	020411	CREATE OC	420.00			
	19020	Spr2026 Payment 1		100-7101-55999-			420.00	
8005887	05/21/2026	PRINTED	000223	LIFECOM INC	80.00			
	18990	2109326-IN		600-5802-56101-			80.00	
8005888	05/21/2026	PRINTED	002661	PANTHER TENNIS	2,230.20			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
		19022	Spr2026 Payment 1	100-7101-55999-			2,230.20	
8005889	05/21/2026	PRINTED	000250	MC MASTER-CARR SUPPLY CO	967.48			
	DOC	INVOICE NO	ACCOUNT				AMOUNT	
	19049	65172222	600-5802-53201-				399.26	
	19115	64201332	100-3122-53101-				568.22	
8005890	05/21/2026	PRINTED	025407	MGG TECHNOLOGIES INC	12,208.00			
	18989	US2825	100-1601-56999-				12,208.00	
8005891	05/21/2026	PRINTED	001867	MISSION LINEN SUPPLY	265.79			
	18847	526024686	100-4011-55999-				265.79	
8005892	05/21/2026	PRINTED	020688	SOUTHERN CALIFORNIA NEWS	2,609.86			
	18925	0000641376	100-1502-55103-				2,609.86	
8005893	05/21/2026	PRINTED	020472	ELLEN MULVIHILL	72.96			
	18945	OCT25MILEAGE-EM	100-2101-57103-				72.96	
8005894	05/21/2026	PRINTED	019219	NEW DYNASTY CONSTRUCTION	191,460.74			
	111	RETREL AGR7348	902-0000-20103-				25,193.72	
	111	RETREL AGR7348	902-0000-20103-				10,810.16	
	111	RETREL AGR7348	902-0000-20103-				20,532.68	
	111	RETREL AGR7348	902-0000-20103-				5,848.31	
	111	RETREL AGR7348	902-0000-20103-				35,826.16	
	111	RETREL AGR7348	902-0000-20103-				11,141.13	
	111	RETREL AGR7348	902-0000-20103-				14,756.16	
	111	RETREL AGR7348	902-0000-20103-				5,653.65	
	111	RETREL AGR7348	902-0000-20103-				11,022.31	
	111	RETREL AGR7348	902-0000-20103-				47,742.29	
	111	RETREL AGR7348	902-0000-20103-				2,934.17	
8005895	05/21/2026	PRINTED	000052	OFFICE DEPOT INC	1,169.17			
	19030	23008924	100-1401-53101-				181.97	
	19030	23008924	100-2101-53101-				158.29	
	19030	23008924	100-3011-53101-				164.67	
	19030	23008924	100-4121-53101-				40.51	
	19030	23008924	100-4141-53101-				144.13	
	19030	23008924	100-5001-53101-				55.59	
	19030	23008924	600-5802-53101-				150.13	
	19030	23008924	731-1306-54101-				273.88	
8005896	05/21/2026	PRINTED	000096	ORANGE CNTY TREASURER-TAX	18,810.84			
	18953	SH74179	100-4011-56301-				1,104.51	
	19054	SH74198	100-4134-55000-				17,706.33	
8005897	05/21/2026	PRINTED	006609	ORANGE CO SANITATION DIST	1,011.27			
	19061	66093	601-5805-55999-				1,011.27	
8005898	05/21/2026	PRINTED	002367	GUS ORTIZ	180.00			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18438	35510		100-4011-55999-			180.00	
8005899	05/21/2026	PRINTED	018035	YASH PATEL	115.00			
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	18300	02/09-13/2026RB		100-4011-57101-			115.00	
8005900	05/21/2026	PRINTED	001801	ANNA PEHOUSHEK	187.47			
	19113	MAY2026		100-6102-57101-			187.47	
8005901	05/21/2026	PRINTED	001876	PRADO FAMILY SHOOTING RAN	450.00			
	18437	7848		100-4011-55000-			450.00	
8005902	05/21/2026	PRINTED	017564	PROTELESIS CORP	3,950.84			
	19124	I-102084		100-1601-56201-			3,950.84	
8005903	05/21/2026	PRINTED	020903	QUADIENT FINANCE USA INC	5,053.40			
	18924	QUAD4/6THRU4/24/26		100-0000-53104-			5,053.40	
8005904	05/21/2026	PRINTED	016972	RC EMPIRE ALIGNMENT & AUT	2,579.29			
	19072	5212		731-1306-50290-			2,579.29	
8005905	05/21/2026	PRINTED	019651	RC EMPIRE CORP INC	70.00			
	18407	5219		100-5401-56999-			70.00	
8005906	05/21/2026	PRINTED	025016	RCR TRAFFIC SPECIALIST	2,622.65			
	18286	14380		100-5201-53201-			84.05	
	18381	14329		100-5201-53201-			1,191.72	
	18382	14342		100-5201-53201-			1,346.88	
8005907	05/21/2026	PRINTED	016639	JUSTIN RODRIGUEZ	150.00			
	19088	5-11 CLASS E RB		100-3011-53102-			150.00	
8005908	05/21/2026	PRINTED	012784	S C SIGNS & SUPPLIES LLC	8,108.21			
	18906	269295		100-5001-55999-			6,975.00	
	19002	269362		100-5002-53101-			1,133.21	
8005909	05/21/2026	PRINTED	004604	SHRED-WISE INC	50.00			
	18864	4612040226		100-1401-53101-			50.00	
8005910	05/21/2026	PRINTED	007856	SIDEPATH INC	6,509.55			
	18950	26493		100-1601-56999-			6,509.55	
8005911	05/21/2026	PRINTED	025071	SIERRA ANALYTICAL LABS IN	7,067.50			
	18966	6E05025-		600-5803-55999-			457.50	
	18967	6E05020-		600-5803-55999-			457.50	
	18968	6E05026-		600-5803-55999-			157.50	
	18969	6E03044-		600-5803-55999-			382.50	
	18970	6E05021-		600-5803-55999-			232.50	
	18972	6E03031-		600-5803-55999-			307.50	
	18973	6E03008-		600-5803-55999-			457.50	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
		18974	6E03014-	600-5803-55999-			307.50	
	DOC	INVOICE NO	ACCOUNT				AMOUNT	
	18975	6D29045-	600-5803-55999-				907.50	
	18976	6D29005-	600-5803-55999-				232.50	
	18977	6D29015-	600-5803-55999-				532.50	
	18978	6D29024-	600-5803-55999-				532.50	
	18979	6E14001-	600-5803-55999-				57.50	
	18980	6E15014-	600-5803-55999-				232.50	
	18981	6E15030-	600-5803-55999-				457.50	
	18982	6E14016-	600-5803-55999-				307.50	
	18983	6E15051-	600-5803-55999-				157.50	
	18984	6E15007-	600-5803-55999-				507.50	
	18986	6E14003-	600-5803-55999-				382.50	
8005912	05/21/2026	PRINTED	009672	SMITH PIPE & SUPPLY INC	2,258.11			
	19053	4364626	100-7203-53201-				676.41	
	19058	4355669	100-7203-53201-				1,581.70	
8005913	05/21/2026	PRINTED	000386	SOUTHERN COUNTIES OIL CO	2,362.82			
	19083	IN-0000356674	100-0000-15205-				2,362.82	
8005914	05/21/2026	PRINTED	020829	SP PLUS CORPORATION	36,394.04			
	18883	83559-I1-0426F	100-4141-55999-				36,394.04	
8005915	05/21/2026	PRINTED	000396	STATE OF CALIF DEPT OF JU	896.00			
	18884	042128	100-4011-55999-				896.00	
8005916	05/21/2026	PRINTED	019830	JACOB STEINBRECHER	156.20			
	18355	04/02-03/2026RB	100-4011-57101-				156.20	
8005917	05/21/2026	PRINTED	018802	STREAMLINE AUTOMATION SYS	15,757.00			
	19091	2026-41	100-3112-55999-				15,757.00	
8005918	05/21/2026	PRINTED	025409	SUE MINER APPAREL	1,104.44			
	19066	51216	225-3216-53102-				1,104.44	
8005919	05/21/2026	PRINTED	001303	SUNRISE MULTISPECIALIST M	3,993.00			
	19092	00207926-00	100-3011-55101-				1,123.00	
	19093	00208093-00	100-3011-55101-				582.00	
	19094	00208107-00	100-3011-55101-				547.00	
	19096	00208196-00	100-3011-55101-				878.00	
	19097	00208271-00	100-3011-55101-				863.00	
8005920	05/21/2026	PRINTED	001619	TERMINIX PROCESSING CENTE	928.00			
	19103	471537069	100-3121-56101-				121.00	
	19105	471537070	100-3121-56101-				114.00	
	19106	471537071	100-3121-56101-				101.00	
	19107	471537072	100-3121-56101-				104.00	
	19108	471537073	100-3121-56101-				100.00	
	19109	471537074	100-3121-56101-				145.00	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	19110		471537075	100-3121-56101-			119.00	
	DOC		INVOICE NO	ACCOUNT			AMOUNT	
	19111		471537076	100-3121-56101-			124.00	
8005921	05/21/2026	PRINTED	019329	TESS ELECTRIC INC	3,415.50			
	19026		1778	600-5802-56102-			3,415.50	
8005922	05/21/2026	PRINTED	001919	TETRA TECH INC	962.50			
	19027		52564854	600-5802-85107-			962.50	
8005923	05/21/2026	PRINTED	015776	THE COUNSELING TEAM INTER	2,081.25			
	19068		INV109409	100-3121-55101-			1,181.25	
	19073		INV109410	100-3121-55101-			900.00	
8005924	05/21/2026	PRINTED	015818	WESTRIN DANCE LLC	416.50			
	19024		Spr2026 Payment 1	100-7101-55999-			416.50	
8005925	05/21/2026	PRINTED	018234	THE HUB OC	17,092.88			
	18951		474	412-6431-55999-			17,092.88	
8005926	05/21/2026	PRINTED	012364	THE JUNGLE NURSERY INC	6,433.00			
	19098		00003205	100-3112-56105-			6,433.00	
8005927	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	498.35			
	18961		010272E8364 6/8/26	100-4121-56301-			498.35	
8005928	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	498.54			
	18963		010272C5688 6/18/26	100-4132-56301-			498.54	
8005929	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	499.36			
	18960		010272H1042 6/24/26	100-4133-56301-			499.36	
8005930	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	533.78			
	18962		010272E6125 6/3/26	100-4133-56301-			533.78	
8005931	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	498.74			
	18964		010272B3581 6/21/26	100-4133-56301-			498.74	
8005932	05/21/2026	PRINTED	000413	TOYOTA FINANCIAL SERVICES	498.76			
	18965		010272C4596 6/3/26	100-4132-56301-			498.76	
8005933	05/21/2026	PRINTED	001353	TOM MALLOY CORP	1,714.30			
	18988		SI20009158	600-5803-56301-			1,714.30	
8005934	05/21/2026	PRINTED	000001	U S ARMOR CORP	3,292.43			
	18882		52555	100-4011-54101-			712.66	
	18952		52617	100-4011-54101-			2,579.77	
8005935	05/21/2026	PRINTED	001480	U S BANK	2,400.00			
	19000		8159585	878-1844-55101-			2,400.00	

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005936	05/21/2026	PRINTED	000944	UNITED PARCEL SERVICE	226.60			
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	19028	00005733W1206 2026	100-3011-53104-			17.58		
	19028	00005733W1206 2026	100-0000-53104-			209.02		
8005937	05/21/2026	PRINTED	019230	UNITED RENTALS INC	1,582.30			
	18291	261661897-001	263-5201-53201-			605.23		
	18432	262218114-002	600-5803-56301-			343.67		
	18444	262278610-001	263-5201-53201-			586.05		
	18445	262278610-002	263-5201-53201-			47.35		
8005938	05/21/2026	PRINTED	016163	VERITIV OPERATING COMP	4,354.54			
	18934	069-50285860	100-0000-15201-			2,050.83		
	18934	069-50285860	100-3121-53101-			676.11		
	18934	069-50285860	100-3121-53201-			951.49		
	18934	069-50285860	270-5201-53101-			676.11		
8005939	05/21/2026	PRINTED	025433	VERIZON COMMUNICATIONS IN	300.00			
	18886	9022432426	100-4131-55999-			300.00		
8005940	05/21/2026	PRINTED	017931	VIZCOMM SIGNAGE GROUP	7,677.90			
	18434	INV-3638	100-2102-56101-			7,677.90		
8005941	05/21/2026	PRINTED	002319	WATERLINE TECHNOLOGIES	6,770.45			
	18927	5793449	600-5802-53201-			2,911.28		
	19032	5793535	600-5802-53201-			318.94		
	19033	5793538	600-5802-53201-			446.52		
	19035	5793539	600-5802-53201-			561.33		
	19036	5793542	600-5802-53201-			893.03		
	19034	5793540	600-5802-53201-			701.67		
	19037	5793541	600-5802-53201-			937.68		
8005942	05/21/2026	PRINTED	018856	BRANDEN WEATHERHOLT	133.60			
	19087	5-18 CLASS E RB	100-3011-53102-			133.60		
8005943	05/21/2026	PRINTED	018943	WELLABLE LLC	520.00			
	18863	47462	100-1401-59997-			520.00		
8005944	05/21/2026	PRINTED	015587	WESTERN A/V	16,544.00			
	18280	23872	454-4011-53202-			16,544.00		
8005945	05/21/2026	PRINTED	025052	WHITE CAP LP	214.59			
	18384	10023344366	263-5201-53201-			214.59		
8005946	05/21/2026	PRINTED	002111	WILLDAN FINANCIAL SERVICE	5,880.00			
	18413	010-65584	100-0000-55999-			1,437.34		
	18413	010-65584	541-8001-55999-			3,000.00		
	18413	010-65584	877-1844-55999-			625.44		
	18413	010-65584	878-1844-55999-			817.22		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: All

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005947	05/21/2026	PRINTED	002801	YO FIRE SUPPLIES	463.36			

DOC	INVOICE NO	ACCOUNT	AMOUNT
18421	1039251	600-5803-81999-	463.36

8005948	05/21/2026	PRINTED	003881	MIGUEL A ZAMORA	59.92			
	18358		04/20-21/2026RB	100-4011-57101-				59.92

124 CHECKS CASH ACCOUNT TOTAL 1,185,071.42 .00

AP CHECK RECONCILIATION REGISTER

		UNCLEARED	CLEARED
124 CHECKS	FINAL TOTAL	1,185,071.42	.00

** END OF REPORT - Generated by Jocelin Mendez **

City of Orange

Finance Department - Accounts Payable

WW # 0367

WEEKLY WARRANT WRITING CHECK REGISTER

Warrant Writing	Warrant Writing Confirmation Date: 05/28/26 4 of 4 reports for 06/09/26 Council Meeting
Notes:	
Requester Signature: eSigned via GovOS.com Holli Kittleson Key: c75eb71bc2d138050ea61da6a02e3123	Date: 05-28-2026

AGENDA ITEM NO. 3.2

I certify that the attached register of demands has been prepared and audited under my direction and supervision. I also certify that each demand is accurately set forth and correctly stated, that each is a legal obligation of the City, and that there are sufficient funds available for the payment of each demand.

Please review and approve before:

eSigned via GovOS.com Tiffany Dang Key: 255ce3af4128a3a50bd1b4b009bc5bbc Tiffany Dang, Finance — Date: 05-28-2026	Comments:
eSigned via GovOS.com Jarad L. Hildenbrand Key: d3b9b88f-da90-4693-bd42-b7973c0a7d37 Jarad Hildenbrand, City Manager — Date: 05-28-2026	Comments:
eSigned via GovOS.com Pamela Coleman Key: 52f7c7947ed47a25c77b48742be39aca Pam Coleman, City Clerk — Date: 05-29-2026	Comments:

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: Uncleared

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
5611	05/26/2026	WIRE	001480	U S BANK	14,527,672.50			

DOC	INVOICE NO	ACCOUNT	AMOUNT
18971	3205402	100-1201-58103-	124,335.18
18971	3205402	100-1301-58103-	90,290.20
18971	3205402	100-1502-58103-	59,126.13
18971	3205402	100-1801-58103-	338,752.48
18971	3205402	100-1401-58103-	154,799.70
18971	3205402	100-2101-58103-	383,030.93
18971	3205402	100-3001-58103-	3,379,825.75
18971	3205402	100-4001-58103-	6,557,809.58
18971	3205402	100-5001-58103-	600,079.31
18971	3205402	100-6001-58103-	492,656.04
18971	3205402	100-7001-58103-	524,413.99
18971	3205402	100-8001-58103-	24,464.35
18971	3205402	210-6205-58103-	3,528.02
18971	3205402	400-4121-58103-	47,762.24
18971	3205402	225-3215-58103-	271,185.14
18971	3205402	225-3122-58103-	10,497.24
18971	3205402	601-0000-26208-	249,228.24
18971	3205402	601-0000-70201-	70,621.84
18971	3205402	270-5703-58103-	191,950.84
18971	3205402	291-5501-58103-	4,941.85
18971	3205402	293-5501-58103-	822.41
18971	3205402	294-5501-58103-	822.41
18971	3205402	600-0000-26208-	581,532.59
18971	3205402	600-0000-70201-	164,784.80
18971	3205402	100-0000-26208-	166,152.17
18971	3205402	100-0000-70201-	47,083.13
18971	3205402	100-1801-58103-	-12,824.06

52726	05/27/2026	WIRE	000385	SOUTHERN CALIFORNIA GAS C	7,444.46			
	19316	05/27/2026		100-0000-56203-		7,397.08		
	19316	05/27/2026		600-5802-56203-		47.38		
8005949	05/28/2026	PRINTED	013658	ABBA TERMITE AND PEST CON	95.00			
	19132	035822		601-5301-56999-		95.00		
8005950	05/28/2026	PRINTED	011584	ACE 5ON5 LLC	598.00			
	19209	0000330		100-7101-55000-		598.00		
8005951	05/28/2026	PRINTED	005317	ADMINSURE INC	24,396.00			
	19172	18865		730-1306-50202-		22,244.00		
	19173	18864		730-1306-50203-		2,152.00		
8005952	05/28/2026	PRINTED	000539	AIR SOURCE INDUSTRIES	206.00			
	19147	00984195		225-3122-53101-		103.00		
	19147	00984195		225-3215-53101-		103.00		
8005953	05/28/2026	PRINTED	001272	ALCORN FENCE CO	345.65			
	18897	20251		100-5201-53201-		345.65		

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: Uncleared

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005954	05/28/2026	PRINTED	025219	ARMOR FENCE CONCEPTS	788.84			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
18949	1440-1696CM new PO	100-7203-56101-				788.84		
8005955	05/28/2026	PRINTED	007191	AT & T	660.94			
19156	000025255242	100-4011-56201-				611.72		
19157	000024956727	100-4011-56201-				-562.50		
19321	000025106393	100-4011-56201-				611.72		
8005956	05/28/2026	PRINTED	002217	AT&T	10,820.10			
19318	05/15/2026	100-1301-56201-				32.49		
19318	05/15/2026	100-1801-56201-				97.14		
19318	05/15/2026	100-2101-56201-				130.46		
19318	05/15/2026	100-2316-56201-				160.34		
19318	05/15/2026	100-3011-56201-				3,243.96		
19318	05/15/2026	100-4011-56201-				2,252.94		
19318	05/15/2026	100-5601-56101-				63.44		
19318	05/15/2026	100-7001-56201-				4,648.17		
19318	05/15/2026	600-5802-56201-				158.78		
19318	05/15/2026	100-5401-56201-				32.38		
8005957	05/28/2026	PRINTED	005378	AUTO ZONE	566.39			
18875	05942701892	100-0000-15203-				329.36		
19079	05942703239	100-0000-15203-				237.03		
8005958	05/28/2026	PRINTED	001014	B & M LAWN & GARDEN CENTE	609.00			
18898	721042	601-5301-53299-				136.53		
18901	720940	270-5201-53299-				54.98		
18901	720940	601-5301-53299-				417.49		
8005959	05/28/2026	PRINTED	021010	MEGAN BERUMEN	501.05			
19076	05/04-08/2026RB	100-3112-57101-				501.05		
8005960	05/28/2026	PRINTED	000053	BOOT BARN INC	539.58			
19200	INV00603992	731-1306-54101-				512.86		
19202	INV00603991	731-1306-54101-				26.72		
8005961	05/28/2026	PRINTED	014959	BPS TACTICAL INC	964.36			
19223	26010130	454-4011-53102-				964.36		
8005962	05/28/2026	PRINTED	017230	BRAVO ROOFING INC	9,240.00			
19191	25975	100-5601-56101-				9,240.00		
8005963	05/28/2026	PRINTED	002011	BURTONS FIRE INC	4,512.42			
18900	S70905	100-0000-15203-				3,506.47		
18905	S71568	100-0000-15203-				385.72		
18909	S71219	100-0000-15203-				199.84		
19046	S71715	100-0000-15203-				158.75		
19048	S71729	100-0000-15203-				261.64		

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005964	05/28/2026	PRINTED	001624	C WELLS PIPELINE MATERIAL	646.50			
	DOC	INVOICE NO	ACCOUNT				AMOUNT	
	19205	SINV26-2900	600-5803-81999-				646.50	
8005965	05/28/2026	PRINTED	017952	CAL-STATE AUTO PARTS INC	2,398.46			
	18866	586580	100-0000-15203-				281.68	
	18867	587107	100-0000-15203-				131.99	
	18869	587874	100-0000-15203-				77.58	
	18871	588079	100-0000-15203-				68.01	
	18872	588993	100-0000-15203-				361.74	
	18873	589186	100-0000-15203-				412.68	
	19084	590793	100-0000-15203-				61.92	
	19085	591076	100-0000-15203-				222.91	
	19086	591289	100-0000-15203-				253.66	
	19264	591759	100-0000-15203-				121.48	
	19268	593350	100-0000-15203-				404.81	
8005966	05/28/2026	PRINTED	019138	CALIFORNIA WATERS DEVELOP	1,500.00			
	19040	26754	100-5501-56999-				1,500.00	
8005967	05/28/2026	PRINTED	018974	CHARTER COMMUNICATIONS	1,410.33			
	19220	189067401052126	100-4011-56201-				950.00	
	19221	187909301052126	100-4011-56201-				460.33	
8005968	05/28/2026	PRINTED	003595	CINTAS CORPORATION NO 2	178.24			
	18994	4269146234	100-7203-56107-				178.24	
8005969	05/28/2026	PRINTED	019162	CINTAS	135.72			
	19042	4269152447	100-5401-56107-				135.72	
8005970	05/28/2026	PRINTED	020526	CSM IN TRUST FOR GARRISON	10,858.04			
	19174	071725-USAA.Felician	731-1306-50203-				10,858.04	
8005971	05/28/2026	PRINTED	012114	DANIELS TIRE SERVICE	7,399.68			
	19055	200570347	100-0000-15203-				2,085.54	
	19056	200570874	100-0000-15203-				5,314.14	
8005972	05/28/2026	PRINTED	025360	DATA TICKET INC	5,610.47			
	19160	0426Printer	100-5002-53101-				5,610.47	
8005973	05/28/2026	PRINTED	014203	DIVERSIFIED THERMAL SERVI	2,647.03			
	18922	S415164	100-5601-56101-				1,657.03	
	18923	S415866	100-5601-56101-				450.00	
	19208	A416235	100-5601-56101-				540.00	
8005974	05/28/2026	PRINTED	017762	DAVID WILSON'S VILLA FORD	1,718.64			
	18876	040573	100-0000-15203-				279.64	
	18877	040618	100-0000-15203-				48.60	
	18879	040623	100-0000-15203-				26.94	

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	19065	040805		100-0000-15203-			69.38	

DOC	INVOICE NO	ACCOUNT	AMOUNT
19067	040928	100-0000-15203-	133.16
19232	040970	100-0000-15203-	56.21
19240	041137	100-0000-15203-	27.76
19249	095174	100-0000-15203-	1,076.95

8005975	05/28/2026	PRINTED	020653	EXCEL BACKFLOW SERVICE IN	6,677.50			
	19158		1215404	100-5803-56101-			6,677.50	
8005976	05/28/2026	PRINTED	001639	FACTORY MOTOR PARTS CO	181.85			
	18890		11-2072599	100-0000-15203-			76.71	
	18892		11-2082313	100-0000-15203-			77.15	
	18893		12-7161204	100-0000-15203-			9.59	
	18894		12-7159983	100-0000-15203-			6.18	
	18895		11-2082235	100-0000-15203-			12.22	
8005977	05/28/2026	PRINTED	025420	BRETT FINNEL	534.70			
	18889		03/08-13/2026RB	100-4011-57101-			534.70	
8005978	05/28/2026	PRINTED	000002	FLEET SERVICES INC	107.64			
	19095		01P178918	100-0000-15203-			107.64	
8005979	05/28/2026	PRINTED	001657	FLEETPRIDE INC	270.44			
	19222		134657928	100-0000-15203-			270.44	
8005980	05/28/2026	PRINTED	019984	BNY MELLON - CLIENT FINAN	2,983.40			
	19335		EFTC FEES-APRIL/2026	100-0000-20302-			2,983.40	
8005981	05/28/2026	PRINTED	002509	GLOBALSTAR USA	544.80			
	19148		000000113214226	100-4011-56201-			544.80	
8005982	05/28/2026	PRINTED	012658	HANNA, BROPHY, MACLEAN,	4,041.50			
	19175		2385380	730-1306-50299-			333.00	
	19176		2385334	730-1306-50299-			55.50	
	19177		2385273	730-1306-50299-			111.00	
	19178		2385384	730-1306-50299-			1,265.00	
	19302		2392744	730-1306-50299-			55.50	
	19303		2392764	730-1306-50299-			678.50	
	19304		2392757	730-1306-50299-			753.50	
	19305		2392707	730-1306-50299-			721.50	
	19306		2392625	730-1306-50299-			68.00	
8005983	05/28/2026	PRINTED	000169	HARRINGTON INDUSTRIAL PLA	46.52			
	19198		002T6904	600-5802-56102-			46.52	
8005984	05/28/2026	PRINTED	019436	HASA INC	9,462.98			
	18997		1121916	100-7203-56999-			2,537.20	
	19004		1122855	100-7203-56999-			6,925.78	

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8005985	05/28/2026	PRINTED	000175	HI-STANDARD AUTOMOTIVE	411.61			
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	19043	30666	720-5401-80301-			327.56		
	19044	30676	100-0000-15203-			84.05		
8005986	05/28/2026	PRINTED	019620	NATIONAL SIGNAL LLC	580.70			
	19050	0057588-IN	100-0000-15203-			580.70		
8005987	05/28/2026	PRINTED	025396	HYDROBLAST	1,030.00			
	19168	14964	100-7203-56999-			1,030.00		
8005988	05/28/2026	PRINTED	002307	ICC ORANGE EMPIRE CHAPTER	350.00			
	19265	2026	100-6205-57104-			350.00		
8005989	05/28/2026	PRINTED	018475	IMPERIAL BAG AND PAPER CO	4,444.96			
	19164	41283123	100-0000-15201-			4,444.96		
8005990	05/28/2026	PRINTED	012820	INLAND KENWORTH US INC	72.24			
	19041	XA532009374.01	100-0000-15203-			72.24		
8005991	05/28/2026	PRINTED	003842	ITERIS INC	22,284.08			
	19297	187810	287-5703-87101-			1,198.82		
	19297	187810	550-5703-87101-			10,876.70		
	19297	187810	550-5703-87102-			1,520.36		
	19298	188468	287-5703-87101-			463.65		
	19298	188468	550-5703-87101-			4,005.95		
	19298	188468	550-5703-87102-			537.84		
	19301	189203	287-5703-87101-			340.81		
	19301	189203	550-5703-87101-			2,944.61		
	19301	189203	550-5703-87102-			395.34		
8005992	05/28/2026	PRINTED	000891	J J KELLER & ASSOCIATES I	198.00			
	19179	9111147409	731-1306-55999-			99.00		
	19231	9111233178	731-1306-55999-			99.00		
8005993	05/28/2026	PRINTED	002099	JADTEC SECURITY SERVICES	350.55			
	19031	1932132	100-5601-56101-			116.85		
	19034	1932133	100-5601-56101-			116.85		
	19033	1932134	100-5601-56101-			116.85		
8005994	05/28/2026	PRINTED	019789	JASPER ENGINES & TRANSMIS	4,486.71			
	19064	15826745	100-0000-15203-			4,486.71		
8005995	05/28/2026	PRINTED	002731	JOHN MANCINI	262.50			
	18891	04/20-23/2026RB	360-4011-57101-			262.50		
8005996	05/28/2026	PRINTED	000250	MC MASTER-CARR SUPPLY CO	45.56			
	18880	64674542	100-0000-15203-			45.56		
8005997	05/28/2026	PRINTED	016948	VERIZON BUSINESS SERVICES	2,068.57			

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	19149		73698508	355-4011-56201-			1,903.08	
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	19149	73698508		450-4141-56201-			165.49	
8005998	05/28/2026	PRINTED	001533	MERCHANTS BUILDING MAINTE	1,220.00			
	18998	971968		100-7203-56999-			1,220.00	
8005999	05/28/2026	PRINTED	001867	MISSION LINEN SUPPLY	265.79			
	19153	526066510		100-4011-55999-			265.79	
8006000	05/28/2026	PRINTED	000793	MITSUBISHI ELECTRIC US IN	674.54			
	19201	566516		100-5601-56999-			674.54	
8006001	05/28/2026	PRINTED	000909	NATIONAL CONSTRUCTION REN	321.55			
	19019	8197531		100-7203-56301-			321.55	
8006002	05/28/2026	PRINTED	001987	NIEVES LANDSCAPE LLC	83,412.14			
	18357	84598		100-7203-56999-			80,314.85	
	18920	84124		600-5501-56103-			3,097.29	
8006003	05/28/2026	PRINTED	019237	EDINGER URGENT CARE MEDIC	5,735.00			
	19141	00089068-00		100-1401-55101-			891.00	
	19159	00089123-00		100-1401-55101-			4,844.00	
8006004	05/28/2026	PRINTED	017842	OMEGA INDUSTRIAL SUPPLY I	527.04			
	19136	169070		100-5601-56999-			527.04	
8006005	05/28/2026	PRINTED	099994	1342 E CHAPMAN LLC	141.78			
	19248	00011395-04		600-0000-11106-			141.78	
8006006	05/28/2026	PRINTED	099994	ANDY DANG	147.09			
	19252	00000704-01		600-0000-11106-			147.09	
8006007	05/28/2026	PRINTED	099994	BRITTENY BETHENCOURT	225.70			
	19242	00040763-03		600-0000-11106-			225.70	
8006008	05/28/2026	PRINTED	099994	CORA BARRAS	66.77			
	19253	00048033-11		600-0000-11106-			66.77	
8006009	05/28/2026	PRINTED	099994	CRAIG DRAGESET	115.47			
	19243	00010927-01		600-0000-11106-			115.47	
8006010	05/28/2026	PRINTED	099994	DUONG VU	118.02			
	19257	00062441-03		600-0000-11106-			118.02	
8006011	05/28/2026	PRINTED	099994	H A BOEHNER	286.25			
	19261	00034619-000		600-0000-11106-			286.25	
8006012	05/28/2026	PRINTED	099994	JAMES CORK	64.00			
	19256	00003239-00		600-0000-11106-			64.00	

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8006013	05/28/2026	PRINTED	099994	JOE LINARES	206.52			
DOC	INVOICE NO	ACCOUNT				AMOUNT		
19246	00008827-12	600-0000-11106-				206.52		
8006014	05/28/2026	PRINTED	099994	JOEY KEANE	42.41			
19263	00032041-01	600-0000-11106-				42.41		
8006015	05/28/2026	PRINTED	099994	KAFFA ORANGE INC	31.04			
19254	00053332-03	600-0000-11106-				31.04		
8006016	05/28/2026	PRINTED	099994	KENNY DO	140.04			
19258	00063984-02	600-0000-11106-				140.04		
8006017	05/28/2026	PRINTED	099994	LISA PUCKETT	222.48			
19244	00008130-03	600-0000-11106-				222.48		
8006018	05/28/2026	PRINTED	099994	MOHAMMED SALIM	234.58			
19262	00064240-20	600-0000-11106-				234.58		
8006019	05/28/2026	PRINTED	099994	PAULA E CLELAND	77.79			
19250	00104485-00	600-0000-11106-				77.79		
8006020	05/28/2026	PRINTED	099994	ROBERT MURRAY UDELL	12.45			
19247	00054257-02	600-0000-11106-				12.45		
8006021	05/28/2026	PRINTED	099994	SIMPLY PROPERTIES	161.59			
19260	00036151-01	600-0000-11106-				161.59		
8006022	05/28/2026	PRINTED	099994	SUZANNE VOAS	98.88			
19255	00059335-09	600-0000-11106-				98.88		
8006023	05/28/2026	PRINTED	019593	ORANGE CAR WASH INC	218.00			
18874	042026	100-5401-56999-				218.00		
8006024	05/28/2026	PRINTED	000952	ORANGE COUNTY OVERHEAD DO	577.26			
19193	78736	100-5601-56101-				577.26		
8006025	05/28/2026	PRINTED	001406	ORANGE COUNTY TREASURER	218.85			
19315	PS524	600-1843-55104-				218.85		
8006026	05/28/2026	PRINTED	018645	PACIFIC EH & S SERVICES I	2,980.00			
19194	26-1318A	731-1306-55999-				1,700.00		
19195	26-1318B	731-1306-55999-				1,280.00		
8006027	05/28/2026	PRINTED	000314	PETE'S ROAD SERVICE INC	2,202.46			
19272	26-0919541-00	100-0000-15203-				1,666.56		
19275	26-0920191-00	100-5401-56999-				535.90		
8006028	05/28/2026	PRINTED	000326	R J NOBLE COMPANY	441.78			

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18902	272617		263-5201-53201-			441.78	
8006029	05/28/2026	PRINTED	020742	RAPID FIRE SAFETY AND SEC	52.00			
	DOC	INVOICE NO		ACCOUNT			AMOUNT	
	19204	706477807		100-5601-56101-			52.00	
8006030	05/28/2026	PRINTED	016080	RAPIDS EXPRESS ORANGE, LP	876.00			
	19063	222		100-5401-56999-			876.00	
8006031	05/28/2026	PRINTED	025016	RCR TRAFFIC SPECIALIST	1,700.30			
	18903	14427		100-5201-53201-			1,616.25	
	19135	14396		100-5201-53201-			84.05	
8006032	05/28/2026	PRINTED	000331	RED WING BUSINESS ADVANTA	1,432.05			
	19203	855ST1-4417712		730-1306-54101-			192.94	
	19224	855ST1-4728083		730-1306-54101-			310.30	
	19226	855ST1-4685376		730-1306-54101-			232.73	
	19238	855ST1-4799715		730-1306-54101-			220.86	
	19239	855ST1-4770787		730-1306-54101-			173.54	
	19241	855ST1-4769899		730-1306-54101-			301.68	
8006033	05/28/2026	PRINTED	020543	RENEWELL FLEET SERVICE LL	251.77			
	19225	11128		100-0000-15203-			251.77	
8006034	05/28/2026	PRINTED	001651	RPW SERVICES INC	1,680.00			
	19137	50587		100-5501-56999-			1,680.00	
8006035	05/28/2026	PRINTED	012347	SCOTT EQUIPMENT INC	408.35			
	19217	P13461		100-0000-15203-			408.35	
8006036	05/28/2026	PRINTED	018730	KIRSTEN SHEA	641.00			
	18433	AUG. 2025 - APRIL 20		100-1301-57103-			641.00	
8006037	05/28/2026	PRINTED	004604	SHRED-WISE INC	100.00			
	19143	17620033126		100-1201-53101-			50.00	
	19145	17620042826		100-1201-53101-			50.00	
8006038	05/28/2026	PRINTED	007856	SIDEPATH INC	108,062.17			
	18948	26357		100-1601-56999-			108,062.17	
8006039	05/28/2026	PRINTED	014719	SITEONE LANDSCAPE SUPPLY	4,788.38			
	18999	165761815-001		100-7203-53201-			908.84	
	19014	166062433-001		100-7203-53201-			751.03	
	19015	166069691-001		100-7203-53201-			1,411.78	
	19016	166121302-001		100-7203-53201-			1,350.50	
	19017	166188524-001		100-7203-53201-			366.23	
8006040	05/28/2026	PRINTED	019649	SMITH POWERHOUSE INC	3,003.01			
	19090	20557		100-5401-56999-			3,003.01	

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8006041	05/28/2026	PRINTED	002990	SOUTHERN COUNTIES LUBRICA	2,783.94			
	DOC	INVOICE NO	ACCOUNT			AMOUNT		
	19060	117052	100-0000-15203-			2,783.94		
8006042	05/28/2026	PRINTED	000386	SOUTHERN COUNTIES OIL CO	42,686.50			
	19080	IN-0000881834	100-0000-15204-			42,686.50		
8006043	05/28/2026	PRINTED	020235	SOUTHERN TIRE MART LLC	526.75			
	19089	7090067265	100-0000-15203-			526.75		
8006044	05/28/2026	PRINTED	000396	STATE OF CALIF DEPT OF JU	865.00			
	19144	044138	100-1401-55101-			865.00		
8006045	05/28/2026	PRINTED	000396	STATE OF CALIF DEPT OF JU	735.00			
	19146	044923	100-1401-55101-			735.00		
8006046	05/28/2026	PRINTED	001303	SUNRISE MULTISPECIALIST M	827.51			
	18853	00207138-00	731-1306-55999-			55.00		
	19181	00207299-00	731-1306-55999-			155.00		
	19182	00207517-00	731-1306-55999-			55.00		
	19183	00208094-00	731-1306-55999-			55.00		
	19184	00208272-00	731-1306-55999-			55.00		
	19245	00208591-00	730-1306-50203-			238.67		
	19317	00208647-00	730-1306-50203-			213.84		
8006047	05/28/2026	PRINTED	019329	TESS ELECTRIC INC	4,474.23			
	19140	1777	600-5802-56102-			4,474.23		
8006048	05/28/2026	PRINTED	001919	TETRA TECH INC	1,595.63			
	19128	52562259	600-5802-85107-			1,595.63		
8006049	05/28/2026	PRINTED	015776	THE COUNSELING TEAM INTER	250.00			
	19199	INV109819	731-1306-55999-			250.00		
8006050	05/28/2026	PRINTED	018234	THE HUB OC	15,074.99			
	19134	105-2026	412-6431-55999-			12,060.55		
	19170	475	412-6431-55999-			3,014.44		
8006051	05/28/2026	PRINTED	012364	THE JUNGLE NURSERY INC	7,623.00			
	19290	00003184	100-3112-56105-			5,119.00		
	19291	00003210	100-3112-56105-			2,504.00		
8006052	05/28/2026	PRINTED	025437	GABRIELLA THORNTON	7.98			
	19171	OPL20260420REFUND-GT	100-2314-44004-			7.98		
8006053	05/28/2026	PRINTED	013781	ULTIMATE MAINTENANCE SERV	1,035.00			
	19029	36463	100-5601-56104-			1,035.00		
8006054	05/28/2026	PRINTED	025362	UNITED INTERIORS	7,744.18			
	19197	7598	731-1306-80101-			7,744.18		

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CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
8006055	05/28/2026	PRINTED	020753	UNITED SAFETY SERVICES	1,307.68			

DOC	INVOICE NO	ACCOUNT	AMOUNT
18855	230854	730-1306-54101-	86.09
18856	230853	731-1306-54101-	172.18
18857	230855	730-1306-54101-	86.09
18859	231265	730-1306-54101-	43.05
18860	231268	730-1306-54101-	71.66
18861	231267	731-1306-54101-	73.21
19185	231266	730-1306-54101-	72.44
19186	231264	730-1306-54101-	71.99
19187	231263	730-1306-54101-	71.38
19188	231262	730-1306-54101-	215.23
19189	232181	730-1306-54101-	172.18
19190	232182	730-1306-54101-	86.09
19192	232183	730-1306-54101-	86.09

8006056	05/28/2026	PRINTED	001845	VERIZON WIRELESS	25,386.01			
	19150		6143324866	355-4011-56201-		3,849.25		
	19151		6143798260	100-4011-56201-		180.10		
	19151		6143798260	100-4121-56201-		443.48		
	19151		6143798260	100-4134-56201-		20.02		
	19152		6143735045	100-4011-56201-		2,240.93		
	19152		6143735045	100-4121-56201-		116.46		
	19152		6143735045	450-4141-56201-		481.32		
	19283		6143755730	100-3011-56201-		4,390.02		
	19283		6143755730	100-3121-56201-		665.16		
	19283		6143755730	400-3011-56201-		183.18		
	19308		6143224996	100-5001-56201-		2,732.24		
	19308		6143224996	601-5301-56201-		1,627.72		
	19308		6143224996	270-5201-56201-		1,104.52		
	19308		6143224996	100-5401-56201-		232.53		
	19308		6143224996	100-5101-56201-		58.13		
	19308		6143224996	601-1601-80299-		58.13		
	19310		6143326017	600-5802-56201-		2,504.83		
	19311		6143326015	100-6301-56201-		1,305.66		
	19311		6143326015	100-6201-56201-		482.77		
	19311		6143326015	210-6301-55105-		219.00		
	19311		6143326015	100-6001-56201-		38.82		
	19312		6143292370	100-1201-56201-		38.82		
	19312		6143292370	100-1601-56201-		357.62		
	19313		6143224995	100-1822-56201-		310.52		
	19314		6143241698	100-7001-56201-		1,744.78		

8006057	05/28/2026	PRINTED	000431	W W GRAINGER INC	388.78			
	19062		9914660403	100-0000-15203-		29.12		
	19117		9920696326	600-5802-56102-		74.12		
	19120		9920696334	600-5802-56102-		285.54		

8006058	05/28/2026	PRINTED	025419	SAMUEL WADA	574.79			

AP CHECK RECONCILIATION REGISTER

FOR CASH ACCOUNT: 998-0000-10000- FOR: Uncleared

CHECK #	CHECK DATE	TYPE	VENDOR	NAME	UNCLEARED	CLEARED	BATCH	CLEAR DATE
	18888	03/08-13/2026RB		100-4011-57101-			574.79	
8006059	05/28/2026	PRINTED	000204	WAXIE SANITARY SUPPLY	6,033.21			
	DOC	INVOICE NO		ACCOUNT				AMOUNT
	19165	83892338		100-0000-15201-				3,660.81
	19166	83883252		100-0000-15201-				2,372.40
8006060	05/28/2026	PRINTED	000439	WEST COAST ARBORISTS INC	22,896.00			
	19018	243779		100-7203-56999-				14,596.00
	19138	243773		600-5501-56103-				8,300.00
8006061	05/28/2026	PRINTED	000440	WEST COAST SAND & GRAVEL	865.12			
	19207	960722		600-5803-81999-				865.12
8006062	05/28/2026	PRINTED	000448	WILLDAN ENGINEERING	21,784.00			
	19180	00424079		600-5803-85103-				9,184.00
	19196	0238161		100-6201-55999-				12,600.00
8006063	05/28/2026	PRINTED	002801	YO FIRE SUPPLIES	500.37			
	19300	1039251-01		600-5803-81999-				500.37
8006064	05/28/2026	PRINTED	003881	MIGUEL A ZAMORA	339.37			
	18878	05/03-05/2026RB		360-4011-57101-				339.37
	118 CHECKS			CASH ACCOUNT TOTAL	15,076,387.55	.00		

AP CHECK RECONCILIATION REGISTER

		UNCLEARED	CLEARED
118 CHECKS	FINAL TOTAL	15,076,387.55	.00

** END OF REPORT - Generated by Holli Kittleson **

City of Orange
Finance Department - PAYROLL

PAYROLL WARRANT INFORMATION

PAY PERIOD:	4/19/26 to 5/2/26		
PAYCHECK DATE:	May 8, 2026		
TOTAL AMOUNT (CHECKS & DIRECT DEPOSIT) :	$ 3,845,730.61		
Total Employees Paid:	*676*	***Total Vendors Paid :***	*25*

Requestor Signature:

In accordance with Government Code Section 37202, I hereby certify and attest that the referenced demand conforms with the approved budget. I also certify and attest to the accuracy of the demands and the availability of funds for payment thereof.

Please review and approve before: _____

Date: 5/29/26 Digitally signed by Pamela Coleman DN: cn=Pamela Coleman, ou=Civic Users Date: 2026.06.03 15:49:15 -07'00' *Trang Nguyen,* *Finance Director*	**Comments:**
Date: 6/3/26 Digitally signed by Pamela Coleman DN: cn=Pamela Coleman, ou=Civic Users Date: 2026.06.03 15:49:15 -07'00' *Pamela Coleman,* *City Clerk*	**Comments:**

City of Orange
Finance Department - PAYROLL

PAYROLL WARRANT INFORMATION

PAY PERIOD:	5/3/25 to 5/16/26		
PAYCHECK DATE:	May 22, 2026		
TOTAL AMOUNT (CHECKS & DIRECT DEPOSIT) :	$ 3,980,211.48		
Total Employees Paid:	*691*	***Total Vendors Paid :***	*27*

Requestor Signature:

In accordance with Government Code Section 37202, I hereby certify and attest that the referenced demand conforms with the approved budget. I also certify and attest to the accuracy of the demands and the availability of funds for payment thereof.

Please review and approve before: _____

Date: 6/2/26 Digitally signed by Pamela Coleman DN: cn=Pamela Coleman, ou=Civic Users Date: 2026.06.03 15:50:52 -07'00' *Trang Nguyen,* *Finance Director*	**Comments:**
Date: 6/3/26 Digitally signed by Pamela Coleman DN: cn=Pamela Coleman, ou=Civic Users Date: 2026.06.03 15:50:52 -07'00' *Pamela Coleman,* *City Clerk*	**Comments:**

Agenda Item

Orange City Council

Item #: 3.3. 6/9/2026 **File #:** 26-0320

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Approval of minutes of the City of Orange City Council Regular Meeting held on May 12, 2026.

2. SUMMARY

Submitted for your consideration and approval are the minutes of the above meeting.

3. RECOMMENDED ACTION

Approve minutes as presented.

4. ATTACHMENTS

- May 12, 2026, Regular Meeting minutes

Agenda Item

Orange City Council

Item #: 3.3. 6/9/2026 **File #:** 26-0320

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Approval of minutes of the City of Orange City Council Regular Meeting held on May 12, 2026.

2. SUMMARY

Submitted for your consideration and approval are the minutes of the above meeting.

3. RECOMMENDED ACTION

Approve minutes as presented.

4. ATTACHMENTS

- May 12, 2026, Regular Meeting minutes

MINUTES - DRAFT

City of Orange

Orange City Council

May 12, 2026

The City Council of the City of Orange, California convened on Tuesday, May 12, 2026, at 5:00 p.m. in a Regular Meeting in the Council Chamber, 300 E. Chapman Avenue, Orange, California.

5:00 PM CLOSED SESSION

1. CALL TO ORDER

Mayor Slater called Closed Session to order at 5:00 p.m.

1.1 ROLL CALL

Present: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Absent: None

2. PUBLIC COMMENTS ON CLOSED SESSION ITEMS

None

3. RECESS TO CLOSED SESSION

The City Council recessed to Closed Session at 5:01 p.m. with all Members present to discuss the following:

a. Conference with Legal Counsel – Anticipated Litigation

Significant exposure to litigation pursuant to Government Code section 54956.9(d)(2)
(One potential case)
City Attorney Adhourian announced the City Council would meet in Closed Session to discuss potential litigation against the City as set forth in the correspondence dated April 9, 2026, from Erick J. Benink, Esq. on behalf of his clients John Nelson and Christy Futak sent to the City of Orange City Attorney's Office. A copy of the April 9, 2026, correspondence is available for inspection at the City Clerk's Office located at 300 E. Chapman Ave., Orange, California 92866.

4. CLOSED SESSION REPORT

None

5. ADJOURNMENT

Closed Session was adjourned at 5:35 p.m.

Draft

6:00 PM REGULAR SESSION

1. OPENING/CALL TO ORDER

Mayor Slater called the meeting to order at 6:00 p.m.

1.1 INVOCATION

Given by Rabbi Cassi Kail from Fish Interfaith Center, Chapman University.

1.2 PLEDGE OF ALLEGIANCE

Led by Mayor pro tem Denis Bilodeau.

1.3 ROLL CALL

Present: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Absent: None

1.4 PRESENTATIONS/ANNOUNCEMENTS

El Modena High School Student Liaison Dylan Platfoot provided Council with a final update on school happenings. The City Council presented Dylan with a Certificate of Appreciation.

Orange High School Student Liaison Jacob Gonzalez provided Council with a final update and presented a video about the Orange High School Community Service Project. The City Council presented Jacob with a Certificate of Appreciation.

Economic Development Strategy for West Katella Orange Yards presentation by Chapman University Leatherby Center students.

Celebrate Orange Awards were presented to the award winners for the May Parade and Taste of Orange.

1.5 REPORT ON CLOSED SESSION ACTIONS

None

2. PUBLIC COMMENTS

Public Speakers:
Greg Arrowsmith commented on the City's budget status.
Curt Peterson spoke about City expenditures and needed additional budget cuts.
Ric Olsen, Sons of the American Revolution, presented an overview of U.S. History focused on events of the American Revolutionary War during the Spring of 1776.
Chuck Walstead spoke in support of the skate park and inquired about construction schedule.
Christabelle Garcia introduced herself as a contestant for the 2026 Jarupa Valley Pro Rodeo Queen pageant and stated she is seeking community partners and sponsorships from local businesses.
Ethan Duong, Boy Scout Troop 543, spoke about concerns with homelessness at Hart Park.

Draft

Written Comments

Janice Brownfield emailed about the importance of protecting the environment and the promotion of public transportation.

Adrienne Gladson submitted an eComment in support of attracting Costco to Orange.

3. CONSENT CALENDAR

All items on the Consent Calendar are considered routine and are enacted by one motion approving the recommended action listed on the Agenda. Any member of the City Council, staff, or the public may request an item be removed from the Consent Calendar for discussion or separate action. Unless otherwise specified in the request to remove an item from the Consent Calendar, all items removed shall be considered immediately following action on the remaining items on the Consent Calendar.

3.1. Waive reading in full of all ordinances on the Agenda.

ACTION: Approved.

3.2. Confirmation of accounts payable warrant registers dated April 2, 9, 16, 23 and 30, 2026 and payroll check registers dated April 10 and 24, 2026

ACTION: Ratified the accompanying registers.

3.3. Approval of minutes of the City of Orange City Council Regular Meeting held on April 14, 2026

ACTION: Approved minutes as presented.

3.4. Agreement with Willdan Financial Services, Inc. for special district administration services and Community Facilities District No. 06-1 (Del Rio) refunding support

ACTION: Approved the agreement with Willdan Financial Services, Inc. in the amount of $199,385 for special district administration and to support of the Community Facilities District refunding process; and authorized the Mayor and City Clerk to execute on behalf of the City.

3.5. Agreement with California Forensic Phlebotomy, Inc. for evidence collection services through June 30, 2028

ACTION: Approved the two-year agreement with California Forensic Phlebotomy, Inc. in the amount of $164,000 for evidence collection services; and authorized the Mayor and City Clerk to execute on behalf of the City.

3.6. First Amendment to Memorandum of Understanding with Milan REI X, LLC

ACTION: Approved the first amendment to the Memorandum of Understanding with Milan REI X, LLC; and authorized the Mayor and City Clerk to execute on behalf of the City.

Draft

3.7. Second Amendment to Agreement with Liebert Cassidy Whitmore, A Professional Law Corporation to provide legal services relating to labor negotiations

ACTION: Approved the Second Amendment to Agreement with Liebert Cassidy Whitmore, A Professional Law Corporation for finalization of labor negotiations; and authorized the Mayor and the City Clerk to execute on behalf of the City.

3.8. Transfer of $1,860,000 from Water (600) CIP current budget for the construction of a new 16-inch transmission water main along Orangewood Avenue from the Santa Ana River to Eckhoff Street

ACTION: Authorized the following budget transfers in Water (600):

From:	600-5802-85107-265081-20-	Well 29 Construction	$1,600,000
From:	600-5803-85106-265099-20-	Reservoir Recoating	$260,000
To:	600-5803-85103-265085-20-	Pipeline Renewal Projects	$1,860,000

3.9. Award of Contract to Owen Walstead LLC, a California limited liability company, dba U.S. Door, Inc. for Replacement of Rolling Garage Doors at Fire Station 7 and Corp Yard (Continued from April 28, 2026)

A speaker card was submitted for Item 3.9; therefore, the item was removed from the Consent Calendar for separate consideration.

Public Speaker:
Laura Thomas stated that she had written the incorrect item number on her speaker card and intended to speak in opposition to Item No. 3.6, First Amendment to Memorandum of Understanding with Milan REI X, LLC.

Councilmember Barrios stated that she had requested continuation of the item at the April 28 meeting to allow time to inquire about the procurement process and confirmed that her questions had been answered.

ACTION: A motion was made by Councilmember Dumitru, seconded by Councilmember Barrios, to approve the contract with Owen Walstead LLC, a California limited liability company, dba U.S. Door, Inc. in the amount of $394,884 representing the original amount of $358,985, plus a 10% contingency of $35,899 for Replacement of Rolling Garage Doors at Fire Station 7 and Corp Yard; and authorize the Mayor and City Clerk to execute on behalf of the City. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: None
Absent: None

3.10. Second Reading and adoption of Ordinance No. 02-26 amending Chapter 8.13 of the Orange Municipal Code to impose strict liability on social hosts for allowing, facilitating, or failing to prevent the use or discharge of illegal fireworks, and establishing enforcement penalties and administrative fines

ACTION: Adopted Ordinance No. 02-26.

Draft

3.11. Authorization of payment to Big Ben Engineering, Inc. for emergency water main repair and pavement restoration at various locations throughout the City

ACTION: Authorized the payment of $128,435.81 to Big Ben Engineering, Inc. for the repair of water main breaks, service leaks, and pavement restoration at various locations.

3.12. Authorize purchase of Plaza Park Protective Bollards from Marshalls LP USA as a single source vendor

Note: Councilmember Tavoularis registered a no vote.

ACTION: Approved the purchase order of parts from Marshalls LP USA, a single source vendor, for $26,191.38.

3.13. Authorize purchase of Winchester law enforcement ammunition from Dooley Enterprise, Inc. as a sole source vendor

ACTION: Approved the sole source purchase of ammunition from Dooley Enterprise, Inc. in the amount of $153,000.

3.14. 2025 General Plan Annual Progress Report

Item 3.14 was removed from the Consent Calendar for separate consideration by Councilmember Gutierrez.

Staff confirmed the Santiago Creek Strategic Plan was approved in 2026; and therefore, not a part of the 2025 report.

ACTION: A motion was made by Councilmember Gutierrez, seconded by Councilmember Barrios, to receive and file report. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: None
Absent: None

3.15. Investment Portfolio Update for January, February and March 2026

ACTION: Received and filed.

3.16. Annual Military Equipment Report per California Assembly Bill No. 481

Note: Councilmember Tavoularis registered a no vote.

ACTION: 1) Received and filed annual Military Equipment Report; and 2) Adopted Resolution No. 11676 renewing Ordinance No. 03-22 and adopting the newly revised policy in accordance with Government Code § 7071. A Resolution of the City Council of the City of Orange, renewing its military equipment policy.

3.17. Approval of the Landscape Maintenance Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay) Preliminary Engineer's Report for Fiscal Year 2026-2027

Note: Councilmember Gyllenhammer recused himself from Item 3.17 due to a potential conflict with a nearby property interest.

Draft

ACTION: 1) Adopted Resolution No. 11677. A Resolution of the City Council of the City of Orange regarding Landscape Maintenance Assessment Districts 86-2 (Santiago Hills), and 15-1 (Santiago Hills Overlay) declaring its intention to provide for an annual levy and collection of assessments for Fiscal Year 2026-2027; set a time and place for a public hearing to receive public testimony on the foregoing matters; and give preliminary approval of the certified Engineer's Report for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay).
2) Declared the intent to levy an annual assessment, and establish June 9, 2026, at 6:00 p.m. in the Council Chamber, 300 E Chapman Avenue, Orange, CA 92866, as the time and place for the Public Hearing on the assessments.

3.18. Approval of the Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) Preliminary Engineer's Report for Fiscal Year 2026-2027

ACTION: 1) Adopted Resolution No. 11678. A Resolution of the City Council of the City of Orange regarding Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) declaring its intention to provide for an annual levy and collection of assessments for Fiscal Year 2026-2027; set a time and place for a public hearing to receive public testimony on the foregoing matters and give preliminary approval to the certified Engineer's Report for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing).
2) Declared the intent to levy an annual assessment, and establish June 9, 2026, at 6:00 p.m. in the Council Chamber, 300 E Chapman Avenue, Orange, CA 92866, as the time and place for the Public Hearing on the assessment.

3.19. Authorization for the Director of Public Works to sign a grant agreement and related documents with the State Coastal Conservancy for the OC River Walk-Upland Habitat Restoration Design Project

ACTION: Adopted Resolution No. 11679. A Resolution of the City Council of the City of Orange approving the grant of funds from the State Coastal Conservancy for the Upland Habitat Restoration Design Project and authorizing the Director of Public Works to sign a grant agreement and related documents.

3.20. Letters of Understanding between the City of Orange and the Orange City Firefighters, Inc. Local 2384 of the International Union of Fire Fighters AFL-CIO, the Orange City Fire Management Association, the City of Orange Police Association, and the City of Orange Police Management Association

ACTION: 1) Adopted Resolution No. 11680. A Resolution of the City Council of the City of Orange establishing a Letter of Understanding between the City of Orange and the Orange City Firefighters, Inc. Local 2384 of the International Association of Fire Fighters, AFL-CIO effective July 1, 2026 through and including June 30, 2027.
2) Adopted Resolution No. 11681. A Resolution of the City Council of the City of Orange establishing a Letter of Understanding between the City of Orange and the Orange City Fire Management Association effective July 1, 2026 through and including June 30, 2027.
3) Adopted Resolution No. 11682. A Resolution of the City Council of the City of Orange establishing a Letter of Understanding between the City of Orange and the City of Orange Police Association effective July 1, 2026 through and including June 30, 2027.

4) Adopted Resolution No. 11683. A Resolution of the City Council of the City of Orange establishing a Letter of Understanding between the City of Orange and the City of Orange Police Management Association effective July 1, 2026 through and including June 30, 2027.

Approval of the Consent Calendar

Items 3.9 and 3.14 were removed from the Consent Calendar and heard separately. Councilmember Tavoularis registered a no vote on Items 3.12 and 3.16. Councilmember Gyllenhammer recused from Item 3.17. All other items were approved as recommended.

A motion was made by Mayor pro tem Bilodeau, seconded by Councilmember Dumitru, to approve the Consent Calendar as recommended. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: None
Absent: None

END OF CONSENT CALENDAR

* * * * * * * *

4. REPORTS FROM MAYOR SLATER

None

5. REPORTS FROM COUNCILMEMBERS

Other Councilmember Reports

Councilmember Dumitru reported he attended the Southern California Association of Governments (SCAG) annual conference as the Regional Council District 17 Representative. City funds were not used.

5.1. Highlight Local Business (Gutierrez)

Item removed from agenda.

5.2. Budget Analysis (Gyllenhammer)

Councilmember Gyllenhammer reviewed the City's budget for the past 12 years and suggested that a sales tax measure is not necessary.

6. AB 1234 REPORTS

None

RECESS: The City Council recessed at 8:15 p.m. and reconvened at 8:31 p.m. with all Members present.

Draft

7. REPORTS FROM CITY MANAGER

7.1. Historic Preservation Status Update

Michelle Dulia provided an update on the Mills Act Program and Historic Preservation Ordinance.

8. PUBLIC HEARINGS

8.1. Public Hearing to consider the introduction and First Reading of an ordinance to update regulations for Residential Care Facilities and Daycare Homes to ensure consistency with State Law

A motion was made by Councilmember Gutierrez, seconded by Councilmember Gyllenhammer, to continue the Public Hearing to the May 26, 2026, Regular City Council Meeting. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: None
Absent: None

8.2. Public Hearing to consider the Fiscal Year 2026-2027 Annual Action Plan for the Community Development Block Grant and HOME Investment Partnerships Programs

Mayor Slater opened the Public Hearing at 8:45 p.m.; there being no speakers, Mayor Slater closed the Public Hearing at 8:45 p.m.

A motion was made by Councilmember Gutierrez, seconded by Councilmember Tavoularis, to: 1) Approve the draft Fiscal Year 2026-2027 Annual Action Plan and authorize the City Manager or his designee to execute the Fiscal Year 2026-2027 Memorandum of Understanding with City departments, Subrecipient Agreements with non-profit agencies, and all related U.S. Department of Housing and Urban Development documents; and 2) Authorize staff to incorporate comments received at the Public Hearing and make non-material corrections to the Annual Action Plan, if required, before submitting to the Department of Housing and Urban Development. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: None
Absent: None

8.3. Public Hearing to discuss and consider a draft City Charter

Deputy City Manager Jack Morgan provided the staff report utilizing a PowerPoint Presentation and responded to Council questions regarding matters considered "municipal affairs" versus those of "statewide concern."

Mayor Slater opened the Public Hearing at 8:59 p.m.

Public Speaker:
Reggie Mundekis spoke in opposition.

Draft

Written Public Comment
Adrienne Gladson submitted an eComment in support of considering a charter if reviewed by a resident committee.

Mayor Slater closed the Public Hearing at 9:00 p.m.

Council discussed term limits, potential benefits of becoming a Charter City, and the sale of City assets.

A motion was made by Councilmember Tavoularis, seconded by Councilmember Dumitru, to direct staff to move forward with scheduling the second public hearing on June 23, 2026. The motion carried by the following vote:

Ayes: Bilodeau, Barrios, Dumitru, Tavoularis, Gyllenhammer, and Slater
Noes: Gutierrez
Absent: None

9. ADMINISTRATIVE REPORTS

9.1. Consider revenue measures to address ongoing structural General Fund deficits and provide direction for the November 2026 General Municipal Election

Deputy City Manager Morgan reviewed potential revenue options, including a sales tax increase, Transient Occupancy Tax (TOT) increase, utility user tax, vacant property tax, cannabis gross sales tax, parking operator tax, documentary transfer tax, sale of the City's water and sewer utility, and business license tax modernization. Staff reiterated that placing a revenue measure on the ballot requires approval by at least 2/3 of the City Council.

Public Speakers:
Curt Peterson spoke in support of a sales tax and TOT measure and stated residents should be informed how the revenue would be used.
Reggie Mundekis spoke in support of a sales tax and TOT measure, limited number of cannabis shops, and business license tax modernization.
Chip Ahlswede spoke in opposition of a vacant property tax.
Jason Anderson spoke in opposition of a vacant property tax.
Julia Araiza spoke in opposition of a vacant property tax.
Oscar Rodriguez spoke in opposition of a vacant property tax.
Victor Cao spoke in opposition of a vacant property tax.
David Kissinger spoke in opposition of a vacant property tax and documentary transfer tax.
Doug Vogel spoke regarding the pension obligation bond and the need for a plan beyond a sales tax measure.

Written Public Comments
Sarah Ireland submitted a letter opposing a vacant property tax.
Erik Weigand, Orange County Taxpayers Association, submitted a letter opposing a vacant property tax.
David Cordero, Apartment Association of Orange County, submitted a letter opposing a vacant property tax.

During deliberation, Council discussed support for a sales tax measure, TOT measure, business license tax modernization, and allowing cannabis dispensaries.

A motion was made by Councilmember Tavoularis, seconded by Councilmember Dumitru, to direct staff to prepare a resolution adding a potential measure to the November 3, 2026, ballot that would increase the TOT tax rate from 10% to 15%.

During further discussion, Councilmember Dumitru requested to amend the motion to direct staff to prepare a resolution adding a TOT measure potentially increasing the tax rate up to 15%. Councilmember Tavoularis accepted the amendment and further amended the motion to provide that hotels with 10 rooms or fewer would remain at the 10% rate. Councilmember Dumitru accepted the amendment.

An amended motion was made by Councilmember Tavoularis, seconded by Councilmember Dumitru, to direct staff to prepare a resolution adding a potential TOT measure to the November 3, 2026, ballot that would increase the tax rate up to 15% for hotels with 11 or more rooms and hotels with 10 rooms or fewer would remain at the 10% rate. The motion carried by the following vote:

Ayes: Barrios, Dumitru, Gutierrez, Tavoularis, Gyllenhammer, and Slater
Noes: Bilodeau
Absent: None

Council discussed percentage and terms for adding a potential sales tax measure on the November 3, 2026, ballot.

A motion was made by Mayor Slater, seconded by Councilmember Dumitru, to direct staff to prepare a resolution adding a potential 1 cent sales tax measure to the November 3, 2026, ballot ending after 10 years and returning to the voters after 8 years for a 10 year extension and to draft a Contract with Orange for Council consideration.

During further discussion, staff confirmed that the term can be adjusted based on Council direction. Although the motion on the floor was to prepare a resolution with a 10 year term, Council can adjust the term before adopting a resolution adding the measure to the ballot. The Mayor called for the vote on the original motion.

A motion was made by Mayor Slater, seconded by Councilmember Dumitru, to direct staff to prepare a resolution adding a potential 1 cent sales tax measure to the November 3, 2026, ballot ending after 10 years and returning to the voters after 8 years for a 10 year extension and to draft a Contract with Orange for Council consideration. The motion carried by the following vote:

Ayes: Barrios, Dumitru, Gutierrez, Tavoularis, and Slater
Noes: Bilodeau, and Gyllenhammer
Absent: None

Staff was directed to return with a proposal and scope of work from HDL regarding the business license tax modernization process. Staff advised that the item would not be ready for the November 2026 election, but could potentially be considered for the November 2028 election if Council wished to proceed.

Council then discussed the potential allowance of cannabis dispensaries.

A motion was made by Councilmember Dumitru, seconded by Councilmember Gutierrez, to direct staff to prepare and present information at a future council meeting regarding zoning, operations, fee structures, and development agreements related to potential cannabis dispensaries. The motion carried by the following vote:

Ayes: Barrios, Dumitru, Gutierrez, Tavoularis, and Slater
Noes: Bilodeau, and Gyllenhammer
Absent: None

10. ADJOURNMENT

There being no further business, the meeting was adjourned at 11:03 p.m.

The next Regular City Council meeting will be held on Tuesday, May 26, 2026, at 6:00 p.m., in the Council Chamber, with Closed Session beginning at 5:00 p.m., if necessary.

PAMELA COLEMAN
CITY CLERK

DANIEL R. SLATER
MAYOR

Draft

Agenda Item

Orange City Council

Item #: 3.4. 6/9/2026 **File #:** 26-0173

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Adam Jevec, Chief of Police**

1. SUBJECT

Agreement with All City Management Services, Inc. for crossing guard services during Fiscal Year 2026-2027 and 2027-2028

2. SUMMARY

The proposed agreement with All City Management Services, Inc. allows for the continuation of crossing guard services for Fiscal Years ending June 30, 2027, and June 30, 2028, totaling $450,000 and $465,000, respectively. The agreement was procured through a Cooperative Purchasing Agreement with the City of Anaheim.

3. RECOMMENDED ACTION

Approve a two-year agreement with All City Management Services, Inc. in the amount of $915,000, representing the cost of crossing guard services of $884,340, plus a contingency of $30,660; and authorize the Mayor and City Clerk to execute on behalf of the City.

4. FISCAL IMPACT

The expense for this agreement is $915,000 and will be funded through General Fund (100):

100-4141-55000 Contractual Services

The proposed agreement is a two-year agreement totaling $450,000 during year one and $465,000 during year two. Future installments will be requested in conjunction with the annual operating budget.

5. STRATEGIC PLAN GOALS

Goal 1: Maintain Strong Emergency and Safety Services

6. DISCUSSION AND BACKGROUND

In September 2024, the City Council approved reinstating funding for the School Crossing Guard Program (Program) and authorized contracting for services through a private vendor. The program supports pedestrian safety for students at designated elementary crossings throughout the City.

The Police Department recommends continuing crossing guard services with All City Management Services, Inc. (ACMS), a vendor headquartered in Santa Fe Springs, California, that specializes exclusively in providing crossing guard services.

ACMS is uniquely qualified as a single-service provider focused on managing all aspects of crossing guard programs for municipalities, police departments, and school districts. Their comprehensive service model includes recruitment, selection, background checks, training, scheduling, supervision, and payroll administration. Additionally, ACMS maintains a large workforce pool to ensure consistent staffing coverage at all assigned locations.

The proposed agreement is being procured through a Cooperative Purchasing Agreement with the City of Anaheim. Under the agreement, ACMS will provide:

- Staffing at 17 locations
- 4 hours per day, 5 days per week
- Approximately 12,240 service hours annually
- Billing based on actual hours worked

The agreement is for an initial two-year term ending June 30, 2028. Thereafter, the agreement will renew automatically for up to two additional, one-year periods. The hourly rate will increase modestly over the contract term:

- $33.79 per hour for Fiscal Year 2025-2026
- $35.50 per hour for Fiscal Year 2026-2027, increase of 5.06%
- $36.75 per hour for Fiscal Year 2027-2028, increase of 3.52%

Based on ACMS's strong performance history, operational efficiency, and ability to maintain consistent staffing levels, the Police Department is requesting the continuation of crossing guard services in the amount of $915,000 through June 30, 2028.

7. ATTACHMENTS

- Agreement with ACMS

Agenda Item

Orange City Council

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7. ATTACHMENTS

- Agreement with ACMS

Docusign Envelope ID: 2C21DEB0-700F-89D6-8160-1B04EA4F8981

AGREEMENT FOR CROSSING GUARD SERVICES

This AGREEMENT FOR CROSSING GUARD SERVICES (the "Agreement") is dated _____, and is between the CITY OF ORANGE (hereinafter called the "Principal"), and ALL CITY MANAGEMENT SERVICES, INC., a California corporation (hereinafter called the "Contractor").

WITNESSETH

The parties hereto have mutually covenanted and agreed as follows:

1. This Agreement is for an initial term which commences on or about the Contractor's best availability of staffing and ends on June 30, 2028 (the "Initial Term"). Thereafter, the term of this Agreement shall renew automatically on the termination date of this Agreement for up to two (2) additional, successive one (1) year periods (each, a "Renewal Term" and, together with the Initial Term, the "Term") unless either party provides the other party with no less than thirty (30) days' written notice to the other party prior to the end of the Initial Term or the Renewal Term, as applicable, in which case this Agreement shall terminate on the expiration date of the Initial Term, or the then-current Renewal Term, as the case may be.

2. The Contractor will provide personnel equipped and trained in appropriate procedures for crossing pedestrians in marked crosswalks. Such personnel shall be herein referred to as a "Crossing Guard". The Contractor will perform criminal background checks and confirm employment eligibility through E-Verify on all prospective personnel. The Contractor is an independent contractor and the Crossing Guards to be furnished by it shall at all times be its employees and not those of the Principal.

3. The Principal shall designate a representative to serve as its point of contact for dealing with Contractor with respect to this Agreement.

4. The Principal shall determine the locations where Crossing Guards shall be furnished by the Contractor. The Contractor shall provide at each designated location personnel properly trained as herein specified for the performance of duties as a Crossing Guard. The Contractor shall provide supervisory personnel to see that Crossing Guard activities are taking place at the required places and times, and in accordance with the terms of this Agreement.

5. The Contractor shall maintain adequate reserve personnel to be able to furnish alternate Crossing Guards in the event that any person fails to report for work at the assigned time and location and agrees to provide immediate replacement.

6. In the performance of its duties the Contractor and all employees of the Contractor shall conduct themselves in accordance with the conditions of this Agreement and all applicable laws of the state in which the Services are to be performed.

7. Persons provided by the Contractor as Crossing Guards shall be trained in all applicable laws of the state in which the Services are to be performed pertaining to general pedestrian safety in school crossing areas.

8. Crossing Guard Services (the "Services") shall be provided by the Contractor at the designated locations on all days in which school is in session in the area under Principal's jurisdiction. The Contractor also agrees to maintain communication with the designated schools to maintain proper scheduling.

9. The Contractor shall provide all Crossing Guards with apparel by which they are readily visible and easily recognized as Crossing Guards. Such apparel shall be uniform for all persons performing the duties of Crossing Guards and shall be worn at all times while performing said duties. This apparel must be appropriate for weather conditions. The Contractor shall also provide all Crossing Guards with hand held Stop signs and any other safety equipment which may be necessary.

10. The Contractor shall at all times provide workers' compensation insurance covering its employees and shall provide and maintain liability insurance for Crossing Guard activities. The Contractor will provide to the Principal a Certificate of Insurance naming the Principal and its officials, officers and employees as additional insureds. Such insurance shall include commercial general liability with a combined single limit of not less than $1,000,000.00 per occurrence and in aggregate for property damage and bodily injury. Such insurance shall be primary with respect to any insurance maintained by the Principal and shall not call on the Principal's insurance contributions. Such insurance shall be endorsed for contractual liability and personal injury and shall include the Principal, its officers, agents and interest of the Principal. Such insurance shall not be canceled, reduced in coverage or limits or non-renewed except after thirty (30) days written notice has been given to the Principal.

11. Contractor agrees to defend, indemnify and hold harmless the Principal, its officers, employees, agents and representatives, from and against any and all actions, claims for damages to persons or property, penalties, obligations or liabilities (each a "Claim" and collectively, the "Claims") that may be asserted or claimed by any person, firm, entity, corporation, political subdivision or other organization arising out of the sole negligent acts or omissions, or willful misconduct, of Contractor, its agents, employees, subcontractors, representatives or invitees.

    a) Contractor will defend any action or actions filed in connection with any of said claims, damages, penalties, obligations or liabilities and will pay all costs and expenses including attorney's fees incurred in connection herewith.

    b) In the event the Principal, its officers, agents or employees is made a party to any action or proceeding filed or prosecuted against Contractor for such damages or other claims arising out of or in connection with the sole negligence of Contractor hereunder, Contractor agrees to pay Principal, its officers, agents, or employees, any and all costs and expenses incurred by the Principal, its officers agents or employees in such action or proceeding, including, but not limited to, reasonable attorney's fees.

    c) In the event that a court determines that liability for any Claim was caused or contributed to by the negligent act or omission or the willful misconduct of Principal, liability will be apportioned between Contractor and Principal based upon the parties' respective degrees

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of culpability, as determined by the court, and Contractor's duty to indemnify Principal will be limited accordingly.

d) Notwithstanding anything to the contrary contained herein, Contractor's indemnification obligation to Principal for Claims under this Agreement will be limited to the maximum combined aggregate of Contractor's general liability and umbrella insurance policies in the amount of $6,000,000 (Six Million Dollars).

12. Either party shall have the right to terminate this Agreement by giving sixty (60) days written notice to the other party.

13. The Contractor shall not have the right to assign this Agreement to any other person or entity except with the prior written consent of the Principal.

14. The Principal agrees to pay the Contractor for the Services rendered pursuant to this Agreement the sum of thirty-five dollars and fifty cents **($35.50)** per hour, per Crossing Guard during the 2026-2027 school year. It is understood that the cost for providing twelve thousand two hundred forty **(12,240)** hours of service shall not exceed four hundred thirty-four thousand five hundred twenty dollars **($434,520.00)** for the 2026-2027 school year, and for each following year the per hour pricing will follow the agreed upon Client Worksheets.

- 2026 – 2027 → $35.50 per hour, not to exceed $434,520.00
- 2027 – 2028 → $36.75 per hour, not to exceed $449,820.00

For automatic renewals no less than (60) days before the expiration of the Initial Term, or the Renewal Term, as applicable, Contractor will notify Principal of its proposed hourly rate for the following 12-month period, which will be deemed accepted by Principal unless Principal notifies Contractor of its disagreement therewith, or its intent not to renew the Agreement, in writing, no less than thirty (30) days prior to the end of the Initial Term or the Renewal Term, as applicable. If Principal disagrees with Contractor's proposed new hourly rate, but still wishes to renew the Agreement the parties will negotiate in good faith to reach mutual agreement on, and confirm in writing, the new hourly rate for the following 12-month period, prior to the expiration of the Initial Term or the Renewal Term, as the case may be.

15. Payment is due within thirty (30) days of receipt of Contractor's properly prepared invoice.

16. Contractor may request a price increase during the term as a result of any legally-mandated increases in wages or benefits imposed in the state or municipality in which the Services are to be performed and to which Contractor's employees would be subject. Contractor shall provide Principal with 60 days-notice of its request to increase pricing. Principal agrees to review and respond to said notice within 30 days of receipt.

17. This Agreement constitutes the complete and exclusive statement of the agreement among the parties with respect to the subject matter hereof and supersedes all prior written or oral statements among the parties, including any prior statements, warranties, or representations. This Agreement is binding upon and will inure to the benefit of the parties hereto and their respective heirs, administrators, executors, successors, and assigns. Each party hereto agrees that this Agreement will be governed by the law of the state in which the Services are to be performed, without regard to its conflicts of law provisions.

Any amendments, modifications, or alterations to this Agreement must be in writing and signed by all parties. There will be no presumption against any party on the ground that such party was responsible for preparing this Agreement or any part of it. Each provision of this Agreement is severable from the other provisions. If any provision of this Agreement is declared invalid or contrary to existing law, the inoperability of that provision will have no effect on the remaining provisions of the Agreement which will continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year written below.

PRINCIPAL

City of Orange

By:_____

_____
Daniel R. Slater, Mayor

Date_____

CONTRACTOR

All City Management Services, Inc.

Signed by:
Brian Brooks
4495230D04634D1...

By_____

Brian Brooks
Chief Operating Officer
Print Name and Title

Date 5/19/2026

ATTEST:

_____
Pamela Coleman, City Clerk

APPROVED AS TO FORM:

By:_____
Nathalie Adourian, City Attorney √

Agenda Item

Orange City Council

Item #: 3.5. 6/9/2026 **File #:** 26-0319

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Steven Scardina, Information Technology Manager**

1. SUBJECT
Agreement with Western A/V for Council Chamber audio-visual presentation system upgrades

2. SUMMARY
Various audio-visual equipment in the Council Chamber is recommended for replacement and improvement including equipment for Senate Bill 707 two-way meeting audio compliance.

3. RECOMMENDED ACTION
Approve the agreement with Western A/V in the amount of $130,470.82 for Council Chambers audio-visual presentation system upgrades; and authorize the Mayor and City Clerk to execute on behalf of the City.

4. FISCAL IMPACT
The expense for this agreement is $130,470.82 and will be funded through the 1% Peg fund (200).

200-1601-53201 Repair and Maintenance Supplies

5. STRATEGIC PLAN GOALS
Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND
The City possesses three separate audio-visual systems rebuilt between 2015 and 2017 and includes the Council Chamber audio visual system, the broadcast production system, and the City's broadcast channel playback system. Beginning in Fiscal Year 2023-2024 (FY24), a five-year replacement schedule was instituted with annual upgrades to target the most vulnerable and critical systems through an annual assessment and evaluation of the conditions to determine the overall health of the equipment and avoid catastrophic failures. Replacing equipment before its "Mean Time Before Failure" (MTBF) is a strategic decision typically evaluating risk, costs, and operational efficiency. Replacing equipment proactively ensures continuous operations and minimizes disruptions.

For Fiscal Year 2025-2026, the Crestron system, which manages the switching and distribution of audio-visual (A/V) sources and destinations, is recommended for replacement. Aside from the main Crestron control system, the Crestron system replacement includes the control panel at the

recorder's desk, and the controls at each dais position providing the ability to switch between voting and presentation. The Biamp system server and submodules managing digital meeting audio processing is also recommended for replacement including all the microphones at the staff table, lectern, and dais. Lastly, Senate Bill 707 was enacted requiring the ability for members of the public to participate in meetings with 2-way audio beginning July 1, 2026. This agreement provides for improved facilitation for the public's 2-way audio participation in compliance with the new law.

RFP 25-26.14 was issued March 5, 2026, to four vendors with Triton Technologies and Western A/V responding. Staff evaluated the proposals for qualifications, experience, references, scope of work, and pricing. Western A/V scored the highest and provided the lowest cost. The work requires the new A/V systems to be substantially completed after 14 workdays from the first day of installation to minimize the impact of use for the Council Chamber.

7. ATTACHMENTS

- Agreement with Western A/V

Agenda Item

Orange City Council

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7. ATTACHMENTS

- Agreement with Western A/V

Docusign Envelope ID: 78D7623D-9615-8532-8210-70E79BA15606

PROFESSIONAL SERVICES AGREEMENT
[City Council AV Presentation System Upgrades]

THIS PROFESSIONAL SERVICES AGREEMENT (the "Agreement") is made at Orange, California, on this _____ day of _____, 2026 (the "Effective Date") by and between the CITY OF ORANGE, a municipal corporation ("City"), and WESTERN A/V, a California corporation ("Contractor"), who agree as follows:

1. Services. Subject to the terms and conditions set forth in this Agreement, Contractor shall provide to the reasonable satisfaction of City the services set forth in Request for Proposal No. 25-26.14 (the "RFP") incorporated herein by reference, and the Contractor's Final Cost Proposal No. WAV-0573 attached as Exhibit "A," which is attached hereto and incorporated herein by reference. As a material inducement to City to enter into this Agreement, Contractor represents and warrants that it has thoroughly investigated and considered the scope of services and fully understands the difficulties and restrictions in performing the work. The services which are the subject of this Agreement are not in the usual course of City's business and City relies on Contractor's representation that it is independently engaged in the business of providing such services and is experienced in performing the work. Contractor shall perform all services in a manner reasonably satisfactory to City and in a manner in conformance with the standards of quality normally observed by an entity providing such services to a municipal agency. All services provided shall conform to all federal, state and local laws, rules and regulations and to the best professional standards and practices. The terms and conditions set forth in this Agreement shall control over any terms and conditions in the RFP or Exhibit to the contrary.

Mike Dering, Information Technology Manager ("City's Project Manager"), shall be the person to whom Contractor will report for the performance of services hereunder. It is understood that Contractor's performance hereunder shall be under the supervision of City's Project Manager (or his/her designee), that Contractor shall coordinate its services hereunder with City's Project Manager to the extent required by City's Project Manager, and that all performances required hereunder by Contractor shall be performed to the satisfaction of City's Project Manager and the City Manager.

2. Compensation and Fees.

a. Contractor's total compensation for all services performed under this Agreement, shall not exceed ONE HUNDRED THIRTY THOUSAND FOUR HUNDRED SEVENTY DOLLARS and 82/100 ($130,470.82) without the prior written authorization of City.

b. The above compensation shall include all costs, including, but not limited to, all clerical, administrative, overhead, insurance, reproduction, telephone, travel, auto rental, subsistence and all related expenses. Included in the costs is a one (1) year warranty applicable to all work or other deliverables under this Agreement commencing on the date this Agreement is signed.

c. As described in further detail in Exhibit A, the City shall have the option, in the City's sole discretion, to extend the Warranty for up to four (4) additional one (1) year Extension Terms after expiration of the Initial Warranty Period, for a maximum Warranty duration

Docusign Envelope ID: 78D7623D-9615-8532-8210-70E79BA15606

of five (5) years from the signing of this Agreement, unless earlier terminated or otherwise modified by mutual written agreement of the parties. The City may exercise each Extension Term by providing written notice at least 14 days before the expiration of the then current Warranty Period or Extension Term.

3. **Payment**.

a. As scheduled services are completed, Contractor shall submit to City an invoice for the services completed, authorized expenses and authorized extra work actually performed or incurred.

b. All such invoices shall state the basis for the amount invoiced, including services completed, the number of hours spent and any extra work performed.

c. City will pay Contractor the amount invoiced within thirty (30) days of approval of all deliverables.

d. Payment shall constitute payment in full for all services, authorized costs and authorized extra work covered by that invoice.

4. **Change Orders**. No payment for extra services caused by a change in the scope or complexity of work, or for any other reason, shall be made unless and until such extra services and a price therefor have been previously authorized in writing and approved by City as an amendment to this Agreement. City's Project Manager is authorized to approve a reduction in the services to be performed and compensation therefor. All amendments shall set forth the changes of work, extension of time, and/or adjustment of the compensation to be paid by City to Contractor and shall be signed by the City's Project Manager, City Manager or City Council, as applicable.

5. **Licenses**. Contractor represents that it and any subcontractors it may engage, possess any and all licenses which are required under state or federal law to perform the work contemplated by this Agreement and that Contractor and its subcontractors shall maintain all appropriate licenses, including a City of Orange business license, at its cost, during the performance of this Agreement.

6. **Independent Contractor**. At all times during the term of this Agreement, Contractor shall be an independent contractor and not an employee of City. City shall have the right to control Contractor only insofar as the result of Contractor's services rendered pursuant to this Agreement. City shall not have the right to control the means by which Contractor accomplishes services rendered pursuant to this Agreement. Contractor shall, at its sole cost and expense, furnish all facilities, materials and equipment which may be required for furnishing services pursuant to this Agreement. Contractor shall be solely responsible for, and shall indemnify, defend and save City harmless from all matters relating to the payment of its subcontractors, agents and employees, including compliance with social security withholding and all other wages, salaries, benefits, taxes, exactions, and regulations of any nature whatsoever. Contractor acknowledges that it and any subcontractors, agents or employees employed by Contractor shall not, under any circumstances, be considered employees of City, and that they shall not be entitled to any of the benefits or rights afforded employees of City, including, but not limited

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to, sick leave, vacation leave, holiday pay, Public Employees Retirement System benefits, or health, life, dental, long-term disability or workers' compensation insurance benefits.

7. Contractor Not Agent. Except as City may specify in writing, Contractor shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Contractor shall have no authority, express or implied, to bind City to any obligation whatsoever.

8. Designated Persons. Only those qualified persons authorized by City's Project Manager, or as designated in Exhibit "A," shall perform work provided for under this Agreement. It is understood by the parties that clerical and other nonprofessional work may be performed by persons other than those designated.

9. Assignment or Subcontracting. No assignment or subcontracting by Contractor of any part of this Agreement or of funds to be received under this Agreement shall be of any force or effect unless the assignment has the prior written approval of City. City may terminate this Agreement rather than accept any proposed assignment or subcontracting. Such assignment or subcontracting may be approved by the City Manager or his/her designee.

10. Time of Completion. Except as otherwise specified in Exhibit "A," Contractor shall commence the work provided for in this Agreement within five (5) days of the Effective Date of this Agreement and diligently prosecute completion of the work in accordance with the time period set forth in Exhibit "A" hereto or as otherwise agreed to by and between the representatives of the parties.

11. Time Is of the Essence. Time is of the essence in this Agreement. Contractor shall do all things necessary and incidental to the prosecution of Contractor's work.

12. Reserved.

13. Delays and Extensions of Time. Contractor's sole remedy for delays outside its control, other than those delays caused by City, shall be an extension of time. No matter what the cause of the delay, Contractor must document any delay and request an extension of time in writing at the time of the delay to the satisfaction of City. Any extensions granted shall be limited to the length of the delay outside Contractor's control. If Contractor believes that delays caused by City will cause it to incur additional costs, it must specify, in writing, why the delay has caused additional costs to be incurred and the exact amount of such cost at the time the delay occurs. No additional costs can be paid that exceed the not to exceed amount stated in Section 2.a, above, absent a written amendment to this Agreement.

14. Products of Contractor. The documents, studies, evaluations, assessments, reports, plans, citations, materials, manuals, technical data, logs, files, designs and other products produced or provided by Contractor for this Agreement shall become the property of City upon receipt. Contractor shall deliver all such products to City prior to payment for same. City may use, reuse or otherwise utilize such products without restriction.

Docusign Envelope ID: 78D7623D-9615-8532-8210-70E79BA15606

15. Equal Employment Opportunity. During the performance of this Agreement, Contractor agrees as follows:

a. Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law. Contractor shall ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law. Such actions shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, a notice setting forth provisions of this non-discrimination clause.

b. Contractor shall, in all solicitations and advertisements for employees placed by, or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law.

c. Contractor shall cause the foregoing paragraphs (a) and (b) to be inserted in all subcontracts for any work covered by this Agreement, provided that the foregoing provisions shall not apply to subcontracts for standard commercial supplies or raw materials.

16. Conflicts of Interest. Contractor agrees that it shall not make, participate in the making, or in any way attempt to use its position as a consultant to influence any decision of City in which Contractor knows or has reason to know that Contractor, its officers, partners, or employees have a financial interest as defined in Section 87103 of the Government Code.

17. Indemnity.

a. To the fullest extent permitted by law, Contractor agrees to indemnify, defend and hold City, its City Council and each member thereof, and the officers, officials, agents and employees of City (collectively the "Indemnitees") entirely harmless from all liability arising out of:

(1) Any and all claims under workers' compensation acts and other employee benefit acts with respect to Contractor's employees or Contractor's subcontractor's employees arising out of Contractor's work under this Agreement, including any and all claims under any law pertaining to Contractor or its employees' status as an independent contractor and any and all claims under Labor Code section 1720 related to the payment of prevailing wages for public works projects; and

(2) Any claim, loss, injury to or death of persons or damage to property caused by any act, neglect, default, or omission of Contractor, or person, firm or corporation employed by Contractor, either directly or by independent contract, including all damages due to loss or theft sustained by any person, firm or corporation including the Indemnitees, or any of

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them, arising out of, or in any way connected with the work or services which are the subject of this Agreement, including injury or damage either on or off City's property; but not for any loss, injury, death or damage caused by the active negligence or willful misconduct of City. Contractor, at its own expense, cost and risk, shall indemnify any and all claims, actions, suits or other proceedings that may be brought or instituted against the Indemnitees on any such claim or liability covered by this subparagraph, and shall pay or satisfy any judgment that may be rendered against the Indemnitees, or any of them, in any action, suit or other proceedings as a result of coverage under this subparagraph.

b. To the fullest extent permitted by law, and as limited by California Civil Code 2782.8, Contractor agrees to indemnify and hold Indemnitees harmless from all liability arising out of any claim, loss, injury to or death of persons or damage to property to the extent caused by its negligent professional act or omission in the performance of professional services pursuant to this Agreement.

c. Except for the Indemnitees, the indemnifications provided in this Agreement shall not be construed to extend any third party indemnification rights of any kind to any person or entity which is not a signatory to this Agreement.

d. The indemnities set forth in this section shall survive any closing, rescission, or termination of this Agreement, and shall continue to be binding and in full force and effect in perpetuity with respect to Contractor and its successors.

18. Insurance.

a. Contractor shall carry workers' compensation insurance as required by law for the protection of its employees during the progress of the work. Contractor understands that it is an independent contractor and not entitled to any workers' compensation benefits under any City program.

b. Contractor shall maintain during the life of this Agreement the following minimum amount of comprehensive general liability insurance or commercial general liability insurance: the greater of (1) One Million Dollars ($1,000,000) per occurrence; or (2) all the insurance coverage and/or limits carried by or available to Contractor. Said insurance shall cover bodily injury, death and property damage and be written on an occurrence basis.

c. Contractor shall maintain during the life of this Agreement, the following minimum amount of automotive liability insurance: the greater of (1) a combined single limit of One Million Dollars ($1,000,000); or (2) all the insurance coverage and/or limits carried by or available to Contractor. Said insurance shall cover bodily injury, death and property damage for all owned, non-owned and hired vehicles and be written on an occurrence basis.

d. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits which are applicable to a given loss shall be available to City. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of Contractor under this Agreement.

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e. Each policy of general liability and automotive liability shall provide that City, its officers, officials, agents, and employees are declared to be additional insureds under the terms of the policy, but only with respect to the work performed by Contractor under this Agreement. A policy endorsement to that effect shall be provided to City along with the certificate of insurance. In lieu of an endorsement, City will accept a copy of the policy(ies) which evidences that City is an additional insured as a contracting party. The minimum coverage required by Subsection 18.b and c, above, shall apply to City as an additional insured. Any umbrella liability insurance that is provided as part of the general or automobile liability minimums set forth herein shall be maintained for the duration of the Agreement.

f. Contractor shall maintain during the life of this Agreement professional liability insurance covering errors and omissions arising out of the performance of this Agreement with a minimum limit of One Million Dollars ($1,000,000) per claim. Contractor agrees to keep such policy in force and effect for at least five (5) years from the date of completion of this Agreement.

g. The insurance policies maintained by Contractor shall be primary insurance and no insurance held or owned by City shall be called upon to cover any loss under the policy. Contractor will determine its own needs in procurement of insurance to cover liabilities other than as stated above.

h. Before Contractor performs any work or prepares or delivers any materials, Contractor shall furnish certificates of insurance and endorsements, as required by City, evidencing the aforementioned minimum insurance coverages on forms acceptable to City, which shall provide that the insurance in force will not be canceled or allowed to lapse without at least ten (10) days' prior written notice to City.

i. Except for professional liability insurance coverage that may be required by this Agreement, all insurance maintained by Contractor shall be issued by companies admitted to conduct the pertinent line of insurance business in California and having a rating of Grade A or better and Class VII or better by the latest edition of Best Key Rating Guide. In the case of professional liability insurance coverage, such coverage shall be issued by companies either licensed or admitted to conduct business in California so long as such insurer possesses the aforementioned Best rating.

j Contractor shall immediately notify City if any required insurance lapses or is otherwise modified and cease performance of this Agreement unless otherwise directed by City. In such a case, City may procure insurance or self-insure the risk and charge Contractor for such costs and any and all damages resulting therefrom, by way of set-off from any sums owed Contractor.

k. Contractor agrees that in the event of loss due to any of the perils for which it has agreed to provide insurance, Contractor shall look solely to its insurance for recovery. Contractor hereby grants to City, on behalf of any insurer providing insurance to either Contractor or City with respect to the services of Contractor herein, a waiver of any right to subrogation which

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any such insurer may acquire against City by virtue of the payment of any loss under such insurance.

l. Contractor shall include all subcontractors, if any, as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor to City for review and approval. All coverages for subcontractors shall be subject to all of the requirements stated herein.

19. Termination. City may for any reason terminate this Agreement by giving Contractor not less than five (5) days' written notice of intent to terminate. Upon receipt of such notice, Contractor shall immediately cease work, unless the notice from City provides otherwise. Upon the termination of this Agreement, City shall pay Contractor for services satisfactorily provided and all allowable reimbursements incurred to the date of termination in compliance with this Agreement, unless termination by City shall be for cause, in which event City may withhold any disputed compensation. City shall not be liable for any claim of lost profits.

20. Maintenance and Inspection of Records. In accordance with generally accepted accounting principles, Contractor and its subcontractors shall maintain reasonably full and complete books, documents, papers, accounting records, and other information (collectively, the "records") pertaining to the costs of and completion of services performed under this Agreement. City and its authorized representatives shall have access to and the right to audit and reproduce any of Contractor's records regarding the services provided under this Agreement. Contractor shall maintain all such records for a period of at least three (3) years after termination or completion of this Agreement. Contractor agrees to make available all such records for inspection or audit at its offices during normal business hours and upon three (3) days' notice from City, and copies thereof shall be furnished if requested.

21. Compliance with all Laws/Immigration Laws.

a. Contractor shall be knowledgeable of and comply with all local, state and federal laws which may apply to the performance of this Agreement.

b. If the work provided for in this Agreement constitutes a "public works," as that term is defined in Section 1720 of the California Labor Code, for which prevailing wages must be paid, to the extent Contractor's employees will perform any work that falls within any of the classifications for which the Department of Labor Relations of the State of California promulgates prevailing wage determinations, Contractor hereby agrees that it, and any subcontractor under it, shall pay not less than the specified prevailing rates of wages to all such workers. The general prevailing wage determinations for crafts can be located on the website of the Department of Industrial Relations (www.dir.ca.gov/DLSR). Additionally, to perform work under this Contract, Contractor must meet all State registration requirements and criteria, including project compliance monitoring.

c. Contractor represents and warrants that it:

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(1) Has complied and shall at all times during the term of this Agreement comply, in all respects, with all immigration laws, regulations, statutes, rules, codes, and orders, including, without limitation, the Immigration Reform and Control Act of 1986 (IRCA); and

(2) Has not and will not knowingly employ any individual to perform services under this Agreement who is ineligible to work in the United States or under the terms of this Agreement; and

(3) Has properly maintained, and shall at all times during the term of this Agreement properly maintain, all related employment documentation records including, without limitation, the completion and maintenance of the Form I-9 for each of Contractor's employees; and

(4) Has responded, and shall at all times during the term of this Agreement respond, in a timely fashion to any government inspection requests relating to immigration law compliance and/or Form I-9 compliance and/or worksite enforcement by the Department of Homeland Security, the Department of Labor, or the Social Security Administration.

d. Contractor shall require all subcontractors or subconsultants to make the same representations and warranties as set forth in Subsection 21.c.

e. Contractor shall, upon request of City, provide a list of all employees working under this Agreement and shall provide, to the reasonable satisfaction of City, verification that all such employees are eligible to work in the United States. All costs associated with such verification shall be borne by Contractor. Once such request has been made, Contractor may not change employees working under this Agreement without written notice to City, accompanied by the verification required herein for such employees.

f. Contractor shall require all subcontractors or sub-consultants to make the same verification as set forth in Subsection 21.e.

g. If Contractor or subcontractor knowingly employs an employee providing work under this Agreement who is not authorized to work in the United States, and/or fails to follow federal laws to determine the status of such employee, that shall constitute a material breach of this Agreement and may be cause for immediate termination of this Agreement by City.

h. Contractor agrees to indemnify and hold City, its officers, officials, agents and employees harmless for, of and from any loss, including but not limited to fines, penalties and corrective measures City may sustain by reason of Contractor's failure to comply with said laws, rules and regulations in connection with the performance of this Agreement.

22. Governing Law and Venue. This Agreement shall be construed in accordance with and governed by the laws of the State of California and Contractor agrees to submit to the

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jurisdiction of California courts. Venue for any dispute arising under this Agreement shall be in Orange County, California.

23. **Integration**. This Agreement constitutes the entire agreement of the parties. No other agreement, oral or written, pertaining to the work to be performed under this Agreement shall be of any force or effect unless it is in writing and signed by both parties. Any work performed which is inconsistent with or in violation of the provisions of this Agreement shall not be compensated.

24. **Notice**. Except as otherwise provided herein, all notices required under this Agreement shall be in writing and delivered personally, by e-mail, or by first class U.S. mail, postage prepaid, to each party at the address listed below. Either party may change the notice address by notifying the other party in writing. Notices shall be deemed received upon receipt of same or within three (3) days of deposit in the U.S. Mail, whichever is earlier. Notices sent by e-mail shall be deemed received on the date of the e-mail transmission.

"CONTRACTOR"	"CITY"
Western A/V 1521 E. Orangethorpe Ave, Suite A Fullerton, CA 92831 Attn.: Hailey Schellin	City of Orange 300 E. Chapman Avenue Orange, CA 92866-1591 Attn.: Mike Dering
Telephone: (714) 637-7272 E-Mail: haileys@wav1.com	Telephone: (714) 744-2285 E-Mail: mdering@cityoforange.org

25. **Counterparts**. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Signatures transmitted electronically shall have the same effect as original signatures.

[Remainder of page intentionally left blank; signatures on next page]

Docusign Envelope ID: 78D7623D-9615-8532-8210-70E79BA15606

IN WITNESS of this Agreement, the parties have entered into this Agreement as of the year and day first above written.

"CONTRACTOR"

WESTERN A/V, a California corporation

Signed by:
*By: _____
E1725FEBAC39480...
Printed Name: Catherine Schellin
Title: President

Signed by:
*By: _____
08D7C04F45B0490...
Printed Name: Jay Schellin
Title: CFO

"CITY"

CITY OF ORANGE, a municipal corporation

By: _____
Daniel R. Slater, Mayor

ATTEST:

_____
Pamela Coleman, City Clerk

APPROVED AS TO FORM:

_____
Connor Hyland
Senior Assistant City Attorney

***NOTE:** **City requires the following signature(s) on behalf of the Contractor:**

-- **(1) the Chairman of the Board, the President or a Vice-President, AND (2) the Secretary, the Chief Financial Officer, the Treasurer, an Assistant Secretary or an Assistant Treasurer. If only one corporate officer exists or one corporate officer holds more than one corporate office, please so indicate. OR**

-- **The corporate officer named in a corporate resolution as authorized to enter into this Agreement. A copy of the corporate resolution, certified by the Secretary close in time to the execution of the Agreement, must be provided to City.**

√

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EXHIBIT "A"

SCOPE OF SERVICES

[Beneath this sheet.]

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PROPOSAL

City of Orange

City Council AV Presentation System Upgrades

Quote Number: WAV-0573
Revision: 0
Proposal Date: 4/8/2026



Presented By:

Western Audio Visual & Security

1521 E. Orangethorpe, Suite A
Fullerton, CA 92831

Seth Criswell
(714) 637-7272
sethc@wav1.com

Western Audio Visual & Security

Working With WAVS

OUR COMPANY PROFILE

LET US BE YOUR GAME CHANGER

Years in the Industry	Top Ranked Service	Million $+ Projects	Certifications
34	#1	25+	100+

Western Audio Visual & Security is a design-build audio visual and security firm specializing in the design, engineering, installation, and service of corporate, civic and education audio visual and security systems. While we are primarily a Southern California based company, our coverage extends north to the central California region and east to Nevada and Arizona.

Our team is made up of highly recognized industry veterans with over 30 years of experience integrating solutions within executive boardrooms, conference rooms, auditoriums, training rooms, video conferencing suites, command/control centers and corporate headquarters throughout Southern California and beyond.

Starting with AV budgeting exercises and following through to post installation support, the Western Audio Visual & Security team is well equipped to take any project from it's design stage to final installation.





Scope of Work

General – Western A/V & Security (WAVS) will install all components listed below to upgrade the Audio/Visual system. After completion of the project, as-built documentation will be delivered. This includes all drawings and electronic copies of all user manuals. Training sessions will be provided to all necessary personnel.

Council Chamber

Video Presentation & Control System

	Quantity	Manufacturer/Model	Unit Price	Extended Price
	1	**Crestron CP4N** 4-Series Control System	$1,757.61	$1,757.61
	2	**Crestron DGE-1000** Digital Graphics Engine 1000	$1,711.96	$3,423.92
	2	**Crestron DMF-CI-8** DigitalMedia Card Chassis for DM-NVX-C & DMCF, 8 Slots	$1,255.43	$2,510.86
	3	**Crestron DM-NVX-360** DM NVX 4K60 4:4:4 HDR Network AV Encoder/Decoder	$1,300.00	$3,900.00
	1	**Crestron DM-NVX-363C** DM NVX 4K60 4:4:4 HDR Network AV Encoder/Decoder Card with Downmixing and Dante Audio	$1,506.52	$1,506.52
	2	**Crestron DM-NVX-D200** DM NVX 4K60 4:2:0 Network AV Decoder with Scaler [Now Accepting Orders]	$684.78	$1,369.56
	2	**Crestron DM-NVX-D30C** DM NVX 4K60 4:4:4 HDR Network AV Decoder Card	$816.30	$1,632.60
	8	**Crestron DM-NVX-E30** DM NVX 4K60 4:4:4 HDR Network AV Encoder	$816.30	$6,530.40
	2	**Crestron DM-NVX-E30C** DM NVX 4K60 4:4:4 HDR Network AV Encoder Card	$816.30	$1,632.60
	2	**Crestron HD-DA8-4KZ-E** 1:8 HDMI Distribution Amplifier w/4K60 4:4:4 & HDR Support	$628.26	$1,256.52
	2	**Crestron TS-1070-GV-B-S** 10.1" Tabletop Touch Screen, Government Version, Black Smooth	$1,865.22	$3,730.44
	11	**Crestron TS-770-GV-B-S** 7" Tabletop Touch Screen, Government Version, Black Smooth	$1,257.61	$13,833.71

Sound Reinforcement System

	Quantity	Manufacturer/Model	Unit Price	Extended Price
	3	**Biamp TESIRA EX-LOGIC** Tesira Poe Logic Expander With 16 Logic GPIO (4 GPIO Are Configurable For Potentiometer Interface)	$444.57	$1,333.71
	1	**Biamp Tesira Forte AVB VT** Audio DSP	$2,788.04	$2,788.04

	2	**Biamp TESIRACONNECT TC-5D** 5-Port Expansion Device With AVB To Dante Bridging	$1,141.85	$2,283.70
	1	**Biamp TESIRAFORTE AVB CI** Digital Audio Server With 12 Analog Input Each With Acoustic Echo Cancellation (AEC) Technology, 8 Analog Output, And Up To 8 Channel Of Configurable USB Audio	$2,598.37	$2,598.37
	15	**Shure MX400SMP** Surface mount preamplifier for MX405, MX410 and MX415 for microflex modular gooseneck microphone, 5-pin XLR female connector	$110.49	$1,657.35
	15	**Shure MX415LPDF/C** 15" Cardioid Dualflex gooseneck microphone with bi-color status indicator	$200.33	$3,004.95

Network Switch & KVM

Quantity	Manufacturer/Model	Unit Price	Extended Price
3	**Adderview ALIF1102R-US** IP KVM Receiver - Single-Head Digital Video/Audio/USB2.0 Over 1GbE IP Network	$962.50	$2,887.50
3	**Adderview ALIF1104T-US** IP KVM Transmitter - Single-Head/HDMI/Digital Video/Audio/USB2.0 over 1GbE IP	$962.50	$2,887.50
1	**Adderview CCS-MV 4224** 4k KVMA Multi-Viewer Switch	$3,344.02	$3,344.02
2	**AJA UTAP-SDI** USB 3.0 SDI Capture Device	$494.57	$989.14
2	**AJA Video Systems U-TAP HDMI** Simple USB 3.0 Powered HDMI Capture	$494.57	$989.14

Shipping, Handling & Consumables

Quantity	Manufacturer/Model	Unit Price	Extended Price
1	**Western AV Cable and Connectors**	$742.50	$742.50
1	**Western AV Equipment Rack Hardware** Equipment Rack Hardware (Lacing Bars, Blanks, Vents, etc.)	$302.50	$302.50
1	**Western AV Installing Hardware & Accessories** Installing Hardware & Accessories	$247.50	$247.50
1	**Western AV Tariff Surcharge** Tariff Surcharge Subject to Change	$1,874.23	$1,874.23

Labor

Installation Labor

Quantity	Manufacturer/Model	Unit Price	Extended Price

1	**Western AV Engineering & Drafting** Engineering & Drafting costs include site walks, creation of drawings, design review, installer support, meetings etc.	$2,533.28
1	**Western AV Project Management** Project Management costs include meetings, site walks, project coordination / scheduling etc.	$1,133.36
1	**Western AV: Closing & Commissioning** Training, Closing, Commissioning costs include updating all devices to the latest firmware, testing, troubleshooting, device configuring and training clients.	$5,666.80
1	**Western AV: Programming** Programming costs include user interface designing, off-site and on-site programming.	$8,000.00
1	**Western AV: Installation Labor - PW** Installation Labor	$17,000.40

Equipment:	**$71,014.89**
Labor:	**$34,333.84**
G & A:	**$1,130.78**
Travel:	**$0.00**
Bond:	**$0.00**
Shipping:	**$2,061.65**
Electronic Waste:	**$54.00**

Council Chamber Subtotal Without Tax	**$108,595.16**

Contingency

Shipping, Handling & Consumables

Quantity	Manufacturer/Model	Unit Price	Extended Price
1	Western AV Contingency	$11,860.98	$11,860.98

Equipment:	$11,860.98
Labor:	$0.00
G & A:	$0.00
Travel:	$0.00
Bond:	$0.00
Shipping:	$0.00
Electronic Waste:	$0.00

Contingency Subtotal Without Tax	$11,860.98

LOCATION SUMMARY

Location	Installed Price
Council Chamber	$108,595.16
Contingency	$11,860.98
Project Subtotal without tax:	**$120,456.14**

SERVICE PLAN

Service and Preventative Maintenance	$4,351.25	Annually

Year 1: $4,351.25 *INCLUDED IN BASE BID*
Year 2: $4,351.25
Year 3: $4,351.25
Year 4: $4,351.25
Year 5: $4,351.25

PROJECT SUMMARY

COST BREAKDOWN

Equipment:	$82,875.87
Labor:	$34,333.84
G & A:	$1,130.78
Travel:	$0.00
Bond:	$0.00
Shipping and Handling:	$2,061.65
Electronic Waste Recycling:	$54.00
Sales Tax:	$5,663.43
Project Subtotal:	$126,119.57
Service and Preventative Maintenance	$4,351.25
Grand Total:	**$130,470.82**

Agenda Item

Orange City Council

Item #: 3.6. 6/9/2026 **File #:** 26-0332

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

First Amendment to Agreement with CR&R Incorporated for Integrated Solid Waste Management suspending the Road Mitigation Payment and updating fees paid to the City

2. SUMMARY

The City proposes to amend its Restated and Amended Agreement No. 5444.B with CR&R Incorporated, suspending the existing Road Mitigation Payment and replacing the payment with a Franchise Fee based on the demonstrated value of CR&R Incorporated's extraordinary use of the public right-of-way used for solid waste collection, effective July 1, 2026. The new encroachment-based Franchise Fee will remain at the same amount as the current Road Mitigation Payment, with ongoing Consumer Price Index escalation, resulting in no impact to established solid waste collection rates.

3. RECOMMENDED ACTION

Approve First Amendment to Agreement with CR&R Incorporated to suspend the existing Road Mitigation Payment and adopt a new encroachment-based Franchise Fee set at the same annual dollar amount as the Road Mitigation Payment currently in effect; and authorize the Mayor and City-Clerk to execute on behalf of the City.

4. FISCAL IMPACT

None

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability
Goal 3: Enhance Public Communication Strategy and Quality of Life

6. DISCUSSION AND BACKGROUND

The City and CR&R Incorporated have maintained a solid waste franchise agreement since 2009. The current Restated and Amended Agreement No. 5444.B was approved by the City Council and executed in February 2024. The Agreement establishes a ten-year term commencing March 1, 2024, and expiring February 28, 2034, with a mutual option to extend for one additional five-year period upon 24 months' prior written notice.

In addition to providing services, Agreement No. 5444.B requires CR&R to make various annual

payments to the City as consideration for the exclusive franchise. All annual payments are adjusted each July 1 based on the Consumer Price Index (CPI) for the Los Angeles-Long Beach-Anaheim metropolitan area (CPI) for the prior 12-month period ending December and are paid in four (4) equal quarterly installments. Included as payment to the City is the Road Mitigation Payment that is based on the road repair costs relative to the pavement damage from solid waste trucks to local streets.

In June 2025, the California Court of Appeals, in the case of Rogers v. Redlands (Rogers), determined that fees based on the projected deterioration cost of solid waste trucks on City streets were invalid as a de facto toll. As a result of the Rogers decision, the City retained HF&H to quantify a different methodology for establishing the payment of fees to the City by CR&R (see attachment). HF&H's analysis examined the City's existing master fee schedule to identify existing fees that closely resemble the activity of solid waste pick up. The Encroachment Renewal Inspection Fee of $52.00 per month was identified as the most appropriate benchmark. This fee applies to regular, recurring disruptions of the right-of-way that do not involve construction, physical damage to, or repair of City property, the same essential character as the temporary weekly displacement of curbside parking caused by solid waste container placement.

HF&H calculated the encroachment value on a per-account, per-year basis as follows for the use of the trash carts space: the $52.00 monthly Renewal Inspection Fee was annualized to $624.00, then divided by seven to reflect once-per-week collection frequency, yielding an annual per-account encroachment value of $89.14. This per-account figure was then applied to all residential and commercial accounts served via the public right-of-way under the Agreement. The combined maximum encroachment value is $2,373,248 per year. Under the proposed amendment, staff recommends that the Franchise Fee replace the Road Mitigation Payment on a dollar-for-dollar basis. The fee will be $2,131,182.31 as of July 1, 2026. The establishment of the new fee is revenue neutral and does not impact already established solid waste rates.

7. ATTACHMENTS

- First Amendment to Agreement with CR&R

Agenda Item

Orange City Council

Item #: 3.6. 6/9/2026 **File #:** 26-0332

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

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None

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability
Goal 3: Enhance Public Communication Strategy and Quality of Life

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7. ATTACHMENTS

- First Amendment to Agreement with CR&R

FIRST AMENDMENT
TO
RESTATED AND AMENDED AGREEMENT
[Integrated Solid Waste Management and Street Sweeping Services]

THIS FIRST AMENDMENT TO RESTATED AND AMENDED AGREEMENT (the "First Amendment to Agreement") is made and entered into as of _____, 2026 ("Effective Date") by and between the CITY OF ORANGE, a municipal corporation ("City"), and CR&R INCORPORATED, a California corporation ("Contractor"), with reference to the following.

A. City and Contractor entered into an Agreement (Agreement No. 5444.B) dated as of January 9, 2024, which is incorporated herein by this reference (the "Original Agreement"); and

B. City and Contractor desire to amend the Original Agreement to modify, amend and supplement certain portions of the Original Agreement by establishing a franchise fee associated with Contractor's use of City property and the public right-of-way in connection with the provision of solid waste-related services; and

C. City is authorized pursuant to the California Constitution, applicable provisions of state law, and the Orange Municipal Code to grant franchises and charge reasonable compensation for the use of City property and the public right-of-way.

NOW, THEREFORE, the parties hereby agree as follows:

Section 1. **Defined Terms.** Except as otherwise defined herein, all capitalized terms used herein shall have the meanings set forth for such terms in the Original Agreement.

Section 2. **Cross-References.** City and Contractor agree that all references in this First Amendment are deemed and construed to refer to the Original Agreement, as implemented by this First Amendment.

Section 3. **Revised Compensation and Franchise Fee Requirements**. The Agreement is hereby amended as follows:

> "The Annual Road Mitigation Reimbursement provided for in Section 3.1.2 shall be suspended as of June 30, 2026.
>
> Effective July 1, 2026, the City and Contractor agree that Contractor shall pay City a Franchise Fee as consideration for Contractor's use and occupancy of City property and the public right-of-way, including the exclusive and special franchise rights granted under the Agreement in connection with the provision of solid waste-related services. The parties acknowledge and agree that the Franchise Fee is intended to reflect the reasonable market value of such rights, including Contractor's use and occupancy of the public right-of-way and other City property

in connection with the provision of services under the Agreement. The Franchise Fee is intended as consideration for the property and franchise rights granted under the Agreement and is not intended to recover the City's regulatory costs. The parties acknowledge that the Franchise Fee constitutes negotiated consideration for the franchise, access, occupancy, and use rights granted to Contractor under the Agreement.

Pursuant to this Agreement and the Orange Municipal Code, Contractor has been granted an exclusive and special right and license to use and encroach upon the public right-of-way for the purpose of placing collection containers and providing collection services.

The Franchise Fee shall not exceed the reasonable market value of the rights granted to Contractor under the Agreement, as further described in Exhibit "A." The Franchise Fee shall be initially set in the annual amount of $2,131,182.31 and shall be subject to annual adjustment based on the Consumer Price Index ("CPI"); unless otherwise modified by the City Council based upon an updated valuation analysis.

The City Council may, by ordinance or resolution, modify the Franchise Fee from time to time, provided that any such fee shall not exceed the reasonable market value of the rights granted to Contractor under the Agreement.

The Franchise Fee shall be paid to the City in accordance with the procedures, terms, and conditions set forth in Section 3.1.6 of the Agreement.

If established, Franchise Fees shall be considered a fully-recoverable, pass-through cost of business not subject to profit or mark-up and shall be included in the adjustment of Rates as described in Section 7."

Section 4. **Integration**. This First Amendment amends, as set forth herein, the Original Agreement and, except as specifically amended hereby, the Original Agreement shall remain in full force and effect. To the extent that there is any conflict or inconsistency between the terms and provisions of this First Amendment and the terms and provisions of the Original Agreement, the terms and provisions of this First Amendment shall control and govern the rights and obligations of the parties.

[Remainder of page intentionally left blank; signatures on next page]

IN WITNESS of this First Amendment to Agreement, the parties enter into this First Amendment on the year and day first above written.

"CONTRACTOR"	"CITY"
CR&R INCORPORATED, a California corporation	CITY OF ORANGE, a municipal corporation
*By: _____ Printed Name: CLIFF RONNENBORG Title: CEO	By: _____ Daniel R. Slater, Mayor
*By: _____ Printed Name: DAVID RONNENBORG Title: COO & President	ATTEST: _____ Pamela Coleman, City Clerk
	APPROVED AS TO FORM: _____ Nathalie Adourian, City Attorney

NOTE:
-- ***If CONTRACTOR is a corporation, the City requires the following signature(s): (1) the Chairman of the Board, the President or a Vice-President, AND (2) the Secretary, the Chief Financial Officer, the Treasurer, an Assistant Secretary or an Assistant Treasurer. If only one corporate officer exists or one corporate officer holds more than one corporate office, please so indicate. OR***

-- ***The corporate officer named in a corporate resolution as authorized to enter into this Agreement. A copy of the corporate resolution, certified by the Secretary close in time to the execution of the Agreement, must be provided to the City.***

√

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"CONTRACTOR"	"CITY"
CR&R INCORPORATED, a California corporation	CITY OF ORANGE, a municipal corporation
*By:_____ Printed Name:_____ Title:_____	By:_____ Daniel R. Slater, Mayor
*By: _____ Printed Name: _____ Title: _____	ATTEST: _____ Pamela Coleman, City Clerk
	APPROVED AS TO FORM: _____ Nathalie Adourian, City Attorney

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√ X

EXHIBIT "A"

HF&H CONSULTANTS, LLC MEMORANDUM – FRANCHISE FEE

[Behind this page.]

MEMORANDUM

To: Christopher Cash, Director of Public Works, City of Orange

From: Dave Hilton, Senior Project Manager, HF&H Consultants

CC: Rob Hilton, President, HF&H Consultants

Haley Kunert, Senior Project Manager, HF&H Consultants

Date: May 7, 2026

Re: Draft Franchise Fee Analysis for the City of Orange

This technical memorandum reports on the results of our analysis of the City of Orange's (City) value and costs associated with the City's solid waste franchise. HF&H Consultants, LLC (HF&H) understands that the City is interested in ensuring the value, along with the direct and indirect costs associated with its solid waste franchise, is analyzed and documented for the administrative record.

Background

The City requested HF&H to assist with an analysis of the value and costs associated with the City's solid waste franchise and other expenses incurred by the City's General Fund to provide solid waste-related services to its residents and businesses. As part of its solid waste franchise agreement (Agreement) with CR&R Incorporated (CR&R), the City regulates solid waste rates for residential and commercial customers.

STUDY PURPOSE AND OBJECTIVES

The purpose of this study is to conduct an analysis of the value and costs associated with the City's solid waste franchise.

This study has several key objectives:

- Evaluate potential Franchise Fee valuation methodologies for both legal and financial viability.
- Inventory and account for the City's direct and indirect costs associated with managing CR&R's Agreement including, but not limited to, CR&R's use of the City's right-of-way for customers to place their collection containers at the curb.
- Calculate the value of other direct and indirect costs of the Enterprise that are either reimbursed to the General Fund or from other parties (e.g., solid waste franchisee).

LEGAL REQUIREMENTS

Fees imposed by local governments are not "taxes" within the meaning of Article XIII C, Section 1(e) of the California Constitution (Proposition 26) if they fall within one of seven enumerated exemptions. Of particular relevance to this report are the first and fourth exemptions to Proposition 26. The first exemption authorizes local governments to impose fees for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege. The fourth exemption authorizes fees imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property. In the context of Franchise Fees, the California Supreme Court held that local government property means physical land, objects, or equipment that those who pay the charge can either enter or use (*Zolly v. City of Oakland* (2022) 13 Cal.5th 780, 807—808).

This report shows different approaches for determining the value of the physical land used by the franchised hauler in furtherance of its operations in the City—namely, encroachment of the public right-of-way—to satisfy the requirements of the fourth exemption to Proposition 26 with respect to a portion of the Franchise Fee.

Encroachment Value

HF&H analyzed what would constitute a reasonable fee that the City could charge for CR&R's extraordinary use of its public right-of-way. On-street collection requires temporary placement of containers in the public right-of-way. Access to containers afforded to CR&R personnel serves as a temporary encroachment in the public right-of-way, which interferes with normal public uses of that right-of-way, such as on-street parking.

Additionally, HF&H performed an alternative cost analysis to estimate the potential rate and cost impacts if the City were to prohibit customers from placing collection containers in the public right-of-way. This analysis showed that applying on-premise service rates—such as lock rates or scout services, which reflect the added cost of a driver dismounting the vehicle to access and service collection containers—would result in an additional $5.2 million in costs and rate impacts. However, this methodology is not included in our findings and recommendations for determining a reasonable Franchise Fee value.

FINDINGS AND RECOMMENDATIONS

On-street collection requires temporary placement of containers in the public right-of-way. The access to containers afforded to CR&R personnel serves as a temporary encroachment to on-street parking. HF&H analyzed a reasonable fee that the City could charge for the use of its public right-of-way, based on existing fees for the allowance of the finite use of space in the City's right-of-way which can be found in the City's master fee schedule. The existing fee most similar to the encroachment by CR&R to collect solid waste containers was found to be the Encroachment Renewal Inspection Fee as it involves regular disruption, but the disruption does not require construction, damage to or repair of City property.

In preparing this analysis, the following findings were made.

Encroachment Renewal Inspection Fee Value – Residential

HF&H determined that the City could charge up to $2,175,098 for the use of public right-of-way to place containers for the purpose of residential solid waste collection. This amount was determined by using the Renewal Inspection Fee of $52 for each residential account serviced via the public right-of-way within the City. The Renewal Inspection Fee for drop-off boxes, recycling bins, etc. is assumed to cover the use of up to 20 feet of space. Several additional assumptions were employed to calculate the encroachment value of the containers, including: (1) collection occurs once per week; (2) the Renewal Inspection Fee is for one month; and (3) 24,400 residential accounts are accessed using public roads and are authorized under the Agreement to place containers in the street for collection. To calculate the maximum encroachment value, the $52 Renewal Inspection Fee—assumed to be per month—was multiplied by 12 and divided by seven to reach a one-time, once-per-week annual fee of $89.14 per account. The per-account amount ($89.14) was then multiplied by the total residential accounts included in the assumptions above (24,400), resulting in a Renewal Inspection Fee value of $2,175,098 for solid waste containers. **Table 1** below summarizes the calculation of the maximum right-of-way encroachment value with this approach.

Table 1

	Renewal Inspection Fee Value	
a	Renewal Inspection Fee monthly cost	$52.00
b=a*12	Renewal Inspection Fee value per account ($/year)	$624.00
c=b/7	Renewal Inspection Fee value per account ($/year/1x/week)	$89.14
d	Total residential accounts	24,400
e=c*d	**Annual encroachment value**	**$2,175,098**

Note: Numbers may not be calculated exactly due to rounding.

Encroachment Renewal Inspection Fee Value – Commercial

HF&H determined that the City could charge up to $198,150 for the use of public right-of-way to place containers for the purpose of commercial solid waste collection. This amount was determined by using the Renewal Inspection Fee of $52 per commercial account serviced via the City's public right-of-way. Several additional assumptions were employed to calculate the encroachment value, including: (1) container collection occurs once per week; (2) the Renewal Inspection Fee is for one month; and (3) 2,223 commercial accounts are accessed on public roads and are authorized for street collection under the Agreement. To calculate the maximum encroachment value, the $52 Renewal Inspection Fee—assumed to be per month—was multiplied by 12 and divided by seven to reach a one-time, once-per-week annual fee of $89.14 per account. The per-account amount of $89.14 was multiplied by the total commercial accounts above (2,223), resulting in an encroachment value of $198,150 for commercial solid waste containers. **Table 2** below summarizes the calculation of the maximum value for this approach.

Table 2

	Renewal Inspection Fee Value	
a	Renewal Inspection Fee monthly cost	$52.00
b=a*12	Renewal Inspection Fee value per account ($/year)	$624.00
c=b/7	Renewal Inspection Fee value per account ($/year/1x/week)	$89.14
d	Total commercial accounts	2,223
e=c*d	**Annual encroachment value**	**$198,150**

Note: Numbers may not be calculated exactly due to rounding.

CONCLUSION

The reasonable fee for the use of public right-of-way based on the Encroachment Renewal Inspection Fee value is up to $2,175,098 for residential container placement and up to $198,150 for commercial container placement for a combined amount of $2,373,248.

HF&H has found that the reasonable amount to be collected through a Franchise Fee in exchange for CR&R's use of the public right-of-way is up to $2,373,248. This amount should be escalated by CPI (Consumer Price Index, Series ID: CUURS49ASAO, All items in Los Angeles-Long Beach-Anaheim, CA, all urban consumers, not seasonally adjusted (U. S. Department of Labor, Bureau of Labor Statistics.) to ensure that the amount reflected is adjusted over time and brought into then-current dollars.

Agenda Item

Orange City Council

Item #: 3.7. 6/9/2026 **File #:** 26-0220

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Adoption of four projects into the Capital Improvement Plan; acceptance and appropriation of $1,628,550 in designated grant funding from the California Department of Transportation; and appropriation of $180,950 in local matching funds

2. SUMMARY

The City applied for and received state funding for four highway safety improvement projects: installation of flashing beacons at four school pedestrian crossings, bike lane striping enhancements, upgrades to existing traffic signal indication heads, and installation of roadway edgelines. To move the projects forward, City Council must accept the funding and approve the related budget appropriations.

3. RECOMMENDED ACTION

1. Adopt the following four projects into the City's Capital Improvement Plan:
   - 265125 Flashing Beacon Installation at Four School Crossings
   - 265126 HSIP Bike Lane Enhancements
   - 265127 Signal Head Indication Upgrades
   - 265128 Edgeline Striping Installation at Various Locations
2. Accept into the City's Reimbursable Capital Projects (550) revenue budget $1,628,550 in grant funding from the California Department of Transportation to:

550-5703-43201-265125	Flashing Beacon Installation at Four School Crossings	$349,740
550-5703-43201-265126	HSIP Bike Lane Enhancements	$349,920
550-5703-43201-265127	Signal Head Indication Upgrades	$661,320
550-5703-43201-265128	Edgeline Striping Installation at Various Locations	$267,570

3. Authorize the appropriation of $1,628,550 into Reimbursable Capital Projects (550):

550-5703-87101-265125	Flashing Beacon Installation at Four School Crossings	$349,740
550-5703-87102-265126	HSIP Bike Lane Enhancements	$349,920
550-5703-87101-265127	Signal Head Indication Upgrades	$661,320

550-5703-87102-265128 Edgeline Striping Installation at Various Locations $267,570

4. Authorize the appropriation of $180,950 from the Measure M-Traffic Improvement (263) unreserved fund balance to:

263-5703-87101-265125 Flashing Beacon Installation at Four School Crossings $38,860
263-5703-87102-265126 HSIP Bike Lane Enhancements $38,880
263-5703-87101-265127 Signal Head Indication Upgrades $73,480
263-5703-87102-265128 Edgeline Striping Installation at Various Locations $29,730

4. FISCAL IMPACT

The expense for these projects is $1,809,500 and will be funded through Reimbursable Capital Projects (550) and Measure M-Traffic Improvement (263) respectively:

Flashing Beacon Installation at Four School Crossings

550-5703-87101-265125 $349,740

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HSIP Bike Lane Enhancements
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Signal Head Indication Upgrades
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263-5703-87102-265126 $73,480

Edgeline Striping Installation at Various Locations
550-5703-87101-265128 $267,570

263-5703-87102-265128 $29,730

Upon approval of this appropriation, the estimated Measure M-Traffic Improvement (263) unreserved fund balance as of June 30, 2026, will be $6.7 million.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

The City has experienced tremendous success in applying for Highway Safety Improvement Program (HSIP) funds over the past 15 years. In 2024, the California Department of Transportation (Caltrans) issued a call for projects to fund improvements that aim to reduce fatalities and serious injuries on local roadways. In response to this call, staff nominated four projects for consideration in September 2024. All were awarded state funding. A brief description of each project is provided below.

Flashing Beacon Installation at Four School Crossings

Rapid rectangular flashing beacons (RRFBs) will be installed at four pedestrian crossings adjacent to

schools. These locations currently have marked crosswalks: two along Shaffer Street, one on Walnut Avenue, and one on Rancho Santiago Boulevard. This project will feature, among other things, refurbishing high visibility crosswalk markings, installation of pedestrian activated RRFBs, installation of curb ramps, and related roadway signage. Providing for RRFBs is expected to make the affected school crossings more pedestrian-friendly.

HSIP Bike Lane Enhancements

The proposed project will install Class II (striped, in roadway) bike lanes with green-painted conflict zones along four different roadway segments. The Circulation and Mobility Element of the General Plan guides the development of a connected, citywide network of Class I, II, and III bikeways that facilitates commuter and recreational cycling throughout the community. This project will implement planned Class II bike lanes identified in the General Plan, along portions of Glassell Street, Fletcher Street, Main Street, and Canyon View Avenue. The addition of designated bike lanes and green conflict markings are expected to enhance cyclist visibility and comfort, improve connectivity throughout the city, and strengthen regional bicycle access to neighboring communities.

Signal Head Indication Upgrades

The City completed a Local Roadway Safety Plan (LRSP) in 2023 that evaluated five years of collision data across the City's roadway network to identify locations where targeted safety improvements could reduce crash risk. Through this analysis, the LRSP identified intersections where enhancements such as enlarging existing 8-inch (diameter) traffic signal indications to 12-inch indications, and installing yellow retroreflective backplates could improve signal visibility for motorists, particularly during nighttime and low-light conditions. As a result, 28 signalized intersections throughout the city were selected for visibility enhancements, including upgrading to larger signal indication heads, installation of yellow retroreflective backplates, or a combination of both treatments.

Edgeline Striping Installation at Various Locations

This project will install striped edgelines (shoulder stripes) along 12 street segments totaling approximately 8.5 miles of roadway within the City. Among other benefits, edgelines can be effective traffic calming features as they tend to narrow the perceived width of the travel lanes. The selected segments consist primarily of two-lane and four-lane undivided roadways, many with wider curbside lanes and on-street parking. The installation of edge lines is expected to better define travel lanes and visually narrow the roadway, which can encourage lower vehicle speeds. Edgelines can be especially beneficial in areas with unmarked curbside parking, as the delineation can encourage more separation between moving and parked vehicles.

This particular cycle of the HSIP funds projects at 90%, with the city required to provide a 10% local match. The total value of the four projects is $1,809,500, of which $1,628,550 is funded through the grant. The local match of $180,950 that the city must provide for can be appropriated from Measure M- Traffic Improvement (263) unreserved fund balance. Project design activities are expected to begin in summer of 2026.

7. ATTACHMENTS

- Attachment 1 - Flashing Beacon Installation at Four School Crossings Vicinity Map
- Attachment 2 - HSIP Bike Lane Enhancements Vicinity Map

- Attachment 3 - Signal Head Indication Upgrades Vicinity Map
- Attachment 4 - Edgeline Striping Installation at Various Locations Vicinity Map

Agenda Item

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Edgeline Striping Installation at Various Locations

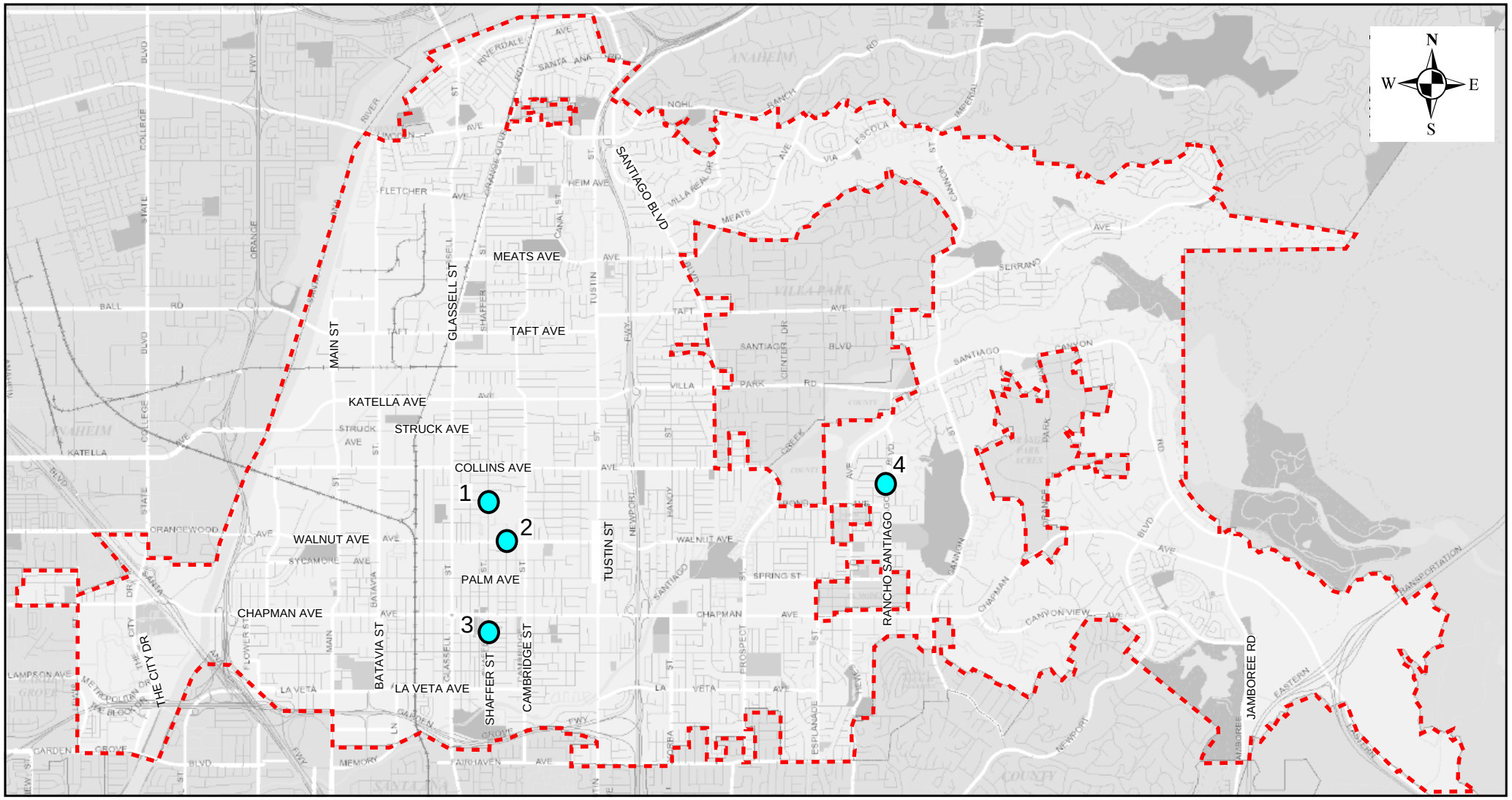
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VICINITY MAP

LEGEND:

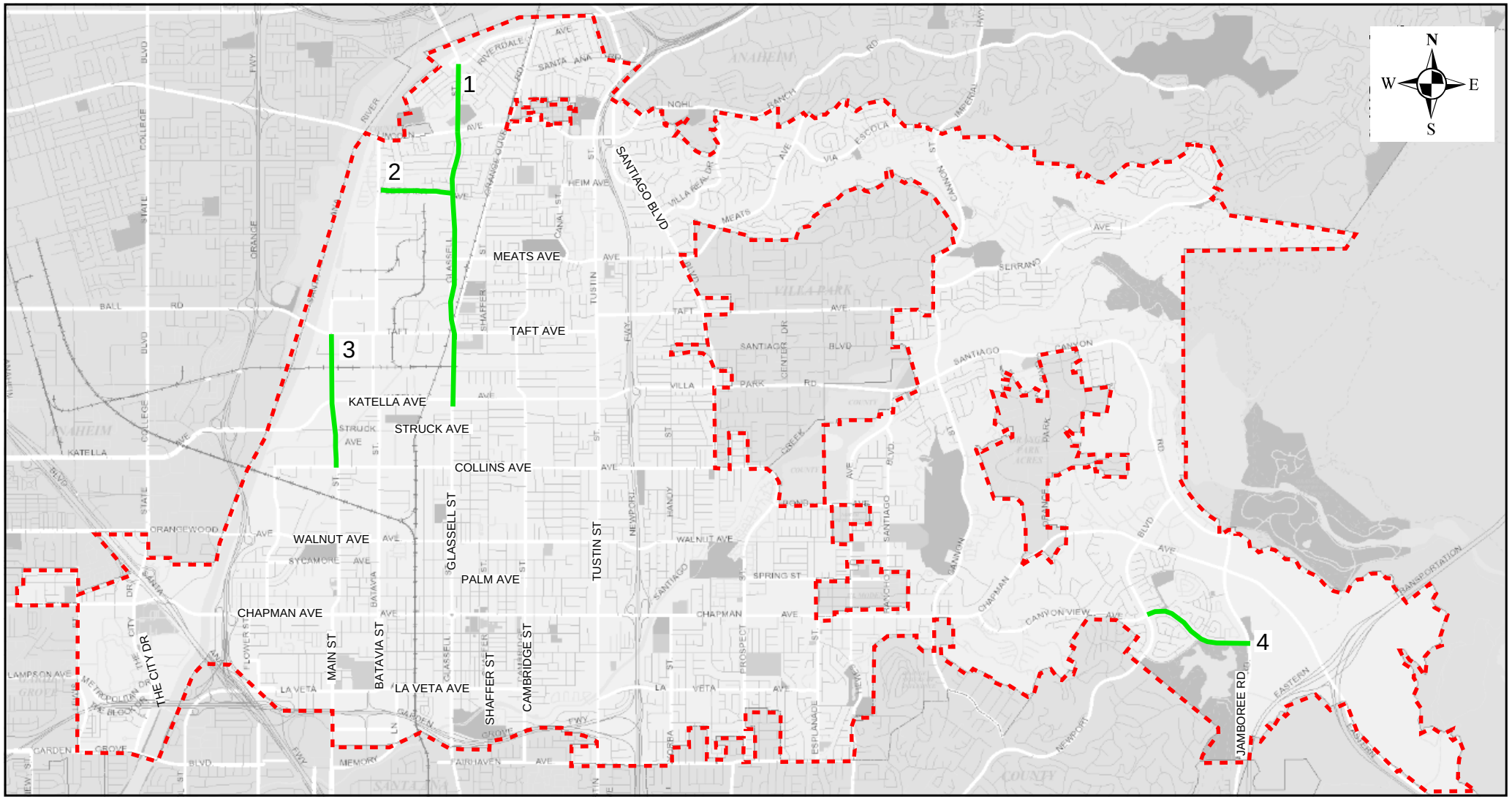
- Rectangular Rapid Flashing Beacons (RRFB) Locations

Locations:

1. Shaffer Street & Everett Place
2. Walnut Avenue & Harwood Street
3. Shaffer Street 130' N/o Almond Avenue
4. Rancho Santiago Blvd & Orange Grove Ave

City of Orange
Geographic Information System

Attachment 1: Flashing Beacon Installation at Four School Crossings



VICINITY MAP

LEGEND:

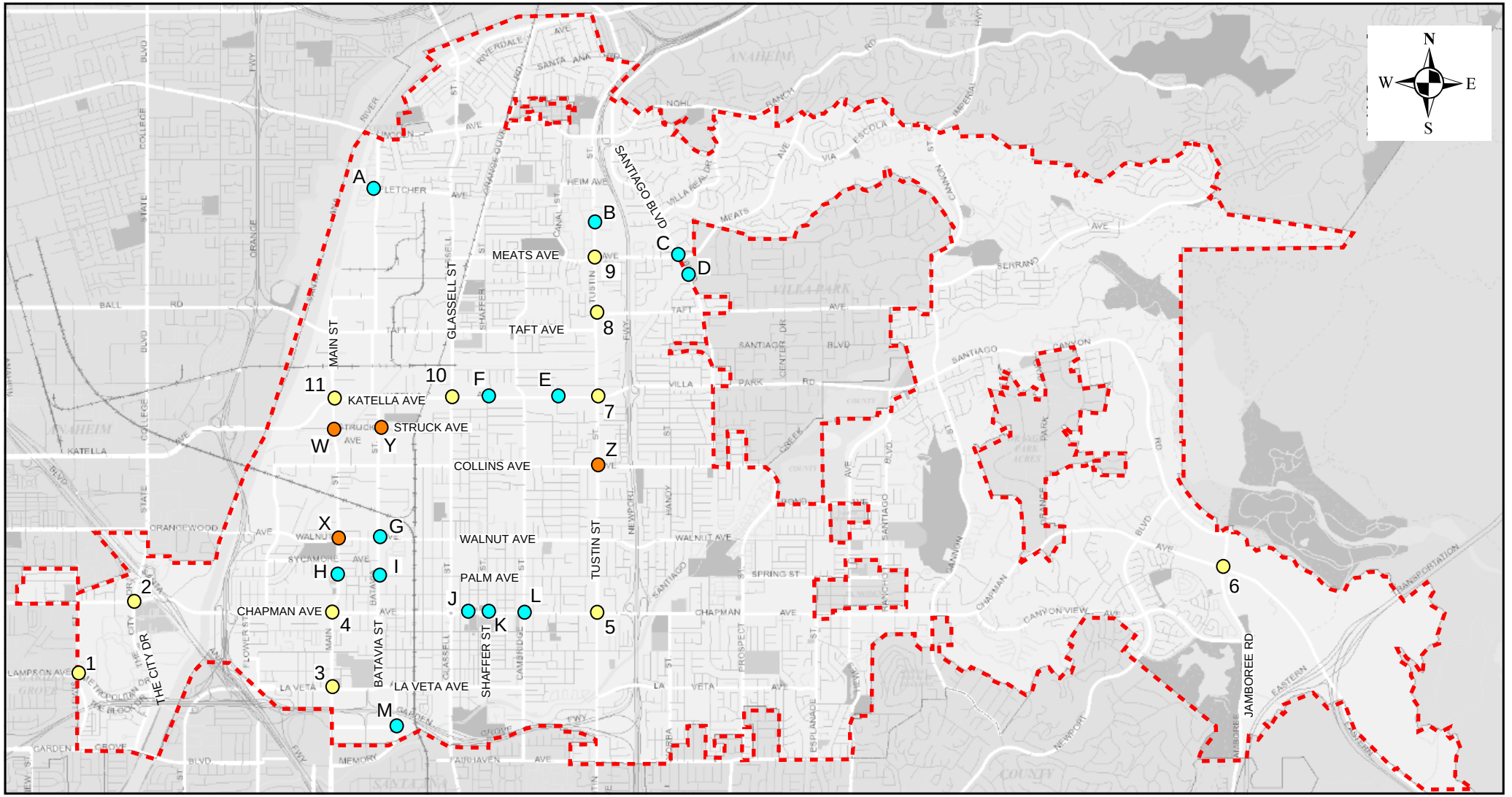
Proposed New Bike Lanes with Green Conflict Paint

Locations:

1. Glassell Street from Riverdale Ave to Katella Ave
2. Fletcher Street from Batavia St to Glassell St
3. Main Street from Taft Ave to Collins Ave
4. Canyon View Ave from Newport Blvd to Jamboree Rd

City of Orange
Geographic Information System

VICINITY MAP



LEGEND:

- Yellow Tape Backplates Upgrade (1-11)
- 8" to 12" Traffic Signal Heads Upgrade (A-M)
- 8" to 12" Traffic Signal Head and Yellow Tape Backplate Upgrade (W-Z)
- City of Orange Boundary

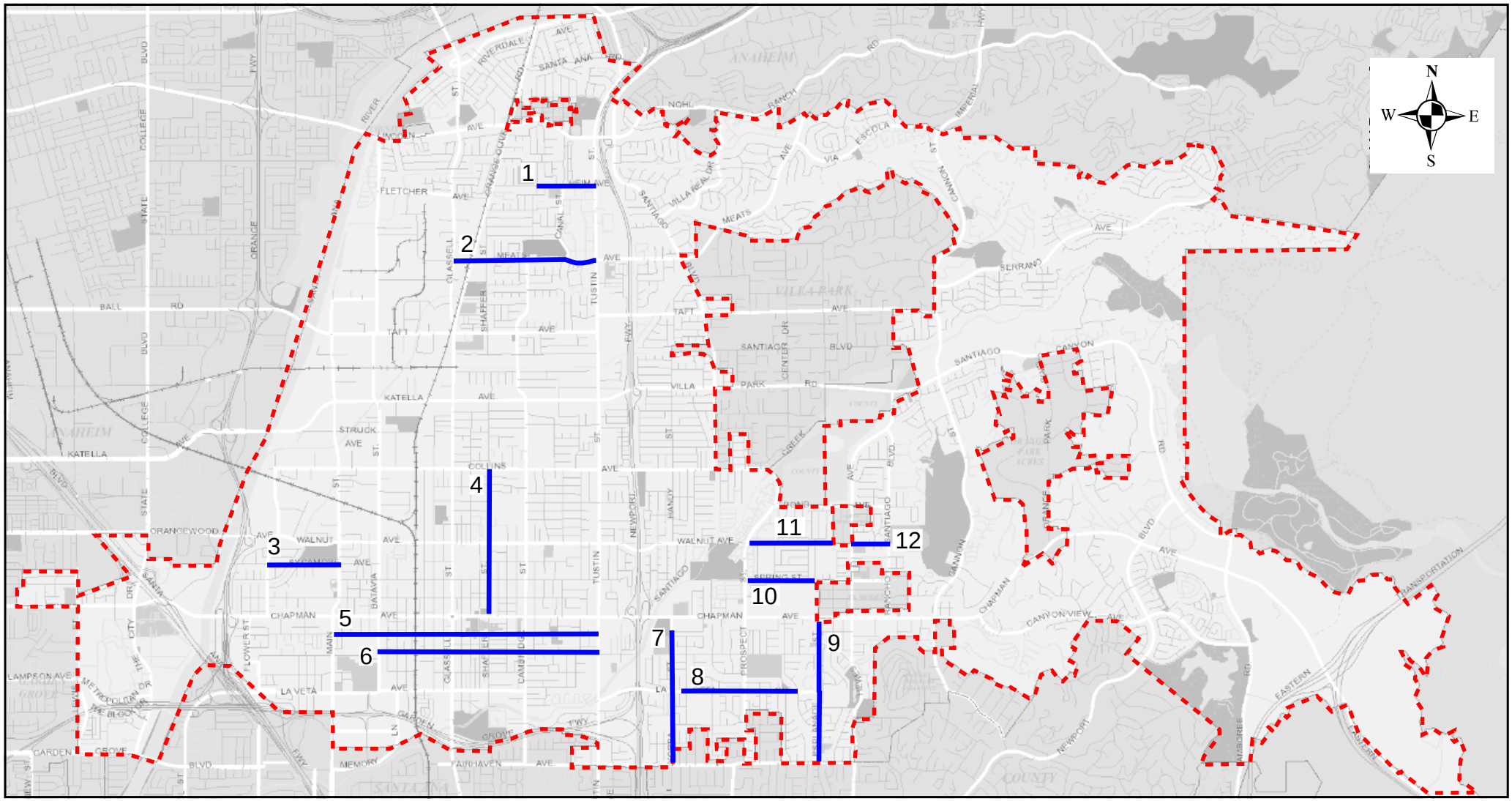


EXISTING



PROPOSED

City of Orange
Geographic Information System



LEGEND:

Proposed Edgeline

LOCATIONS:

1. Heim Ave from Tustin St to Torres St
2. Meats Ave from Glassell St to Tustin St
3. Sycamore Ave from Eckhoff St to Main St
4. Shaffer St from Chapman Ave to Collins Ave
5. Almond Ave from Main St to Lincoln St
6. Palmyra Ave from Batavia St to Tustin St

LOCATIONS (CONT.)

7. Yorba St from Fairhaven Ave to Palmyra Ave
8. La Veta Ave from Rosalinda Dr to Woodland St
9. Esplanade St from Fairhaven Ave to Chapman Ave
10. Spring St from Prospect St to Esplanade St
11. Walnut Ave from Prospect St to Earlham St
12. Walnut Ave from Hewes Ave to Rancho Santiago Blvd

City of Orange
Geographic Information System

Attachment 4: Edgeline Striping Installation at Various Locations

Agenda Item

Orange City Council

Item #: 3.8. 6/9/2026 **File #:** 26-0297

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Award of OMNIA Partners Contract to Milliken Services, LLC for carpet and flooring replacement at Fire Stations 3, 7, and 8; and finding of California Environmental Quality Act exemption

2. SUMMARY

The carpet and flooring at Fire Stations 3, 7, and 8 are beyond their useful life and need replacement. Staff solicited proposals through the OMNIA Partners cooperative purchasing program, Contract No. 2020002150 and recommends awarding the contract to Milliken Services, LLC under OMNIA Partners Contract No. 2020002150.

3. RECOMMENDED ACTION

Approve the contract with Milliken Services, LLC in the total amount of $90,785, representing an original proposal amount of $82,532, plus a 10% contingency of $8,253, for carpet and flooring replacement at Fire Stations 3, 7, and 8; and authorize the Mayor and City Clerk to execute on behalf of the City.

4. FISCAL IMPACT

The expense for this contract is $90,784.12 and will be funded through Developer Impact Fees - Fire Fund (560):

560-3121-83101-263021	Fire Station Repairs	$90,785

5. STRATEGIC PLAN GOALS

Goal 1: Maintain Strong Emergency and Safety Services
Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability

6. DISCUSSION AND BACKGROUND

The City of Orange operates several fire stations, including Stations 3, 7, and 8. Flooring at Stations 7 and 8 is original to each facility, having been installed in 1989 and 2006, respectively. Although the flooring at Station 3 was replaced in 2017, recent inspections identified deterioration and trip-and-fall hazards that warrant replacement. Due to age, wear, and continuous operational use, the flooring at all three stations is in poor condition and requires replacement to maintain a safe and functional environment for fire personnel.

Staff solicited proposals through the OMNIA Partners cooperative purchasing program, Contract No. 2020002150. Use of this cooperative purchasing contract satisfies the City's competitive procurement requirements, as the contract was competitively solicited and awarded in accordance with applicable public procurement laws. The proposed work includes removal of the existing flooring, subfloor preparation, and installation of new carpet tile, vinyl tile, wall base cove, and all associated labor and materials.

Construction is anticipated to begin in July 2026 and be completed by September 2026.

7. ENVIRONMENTAL REVIEW

Categorical Exemption: The proposed project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) per State CEQA Guidelines 15301 (Class 1 - Existing Facilities) because the project consists of repairs, maintenance, and minor alterations of existing public facilities, involving negligible or no expansion of existing use and results in no expansion of area beyond that existing at the time of the City’s determination.

8. ATTACHMENTS

- Contract with Milliken Services, LLC
- Milliken Proposals

Agenda Item

Orange City Council

Item #: 3.8. 6/9/2026 **File #:** 26-0297

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- Contract with Milliken Services, LLC
- Milliken Proposals

CONTRACT
[Carpet and Flooring Replacement at Fire Stations 3, 7, and 8
Omnia Partners Contract 2020002150 (SP-4331)]

THIS CONTRACT (the "Contract") is made and entered into as of _____, 2026 ("Effective Date") by and between the CITY OF ORANGE, a municipal corporation ("City"), and MILLIKEN SERVICES, LLC, a South Carolina limited liability company ("Contractor"), who agree as follows.

ARTICLE 1
Work Performed

a. For and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by City, and under the conditions expressed in the two (2) bonds presented to City with this Contract and incorporated herein by this reference, Contractor hereby agrees to and shall do all the work and furnish all the labor, materials, tools and equipment, except such as are mentioned in the specifications to be furnished by City to Contractor, necessary to complete in good workmanship and substantial manner the work (the "Work") described in:

(1) The latest edition of the "City of Orange Standard Plans and Specifications" (the "Orange Book") with the term "Engineer," as used in the Orange Book and in this Contract, to specifically include the City Engineer (or designee);

(2) The "Standard Specifications for Public Works Construction" (the "Greenbook"), and all amendments thereto, except the definition of "Subcontractor" in Section 1.2 (General – Terms and Definitions) of Part 1 (General Provisions) of the Greenbook, which is hereby amended in its entirety to read as follows: "Subcontractor – An individual, firm, or corporation having a direct contract with the Contractor for the performance of a part of the Work;"

(3) The "City of Orange Standard Special Provisions;"

(4) The Standard Plans; and

(5) Contractor's Bid Proposal, which is on file with City's Department of Public Works.

b. Contractor acknowledges that it has received the Plans from City and that a complete copy of the Plans are in its possession and are hereby specifically referred to and by such reference made a part hereof. The Orange Book, Greenbook and City of Orange Standard Special Provisions and Standard Plans are on file with City's Public Works Director and are hereby specifically referred to and by such reference made a part hereof. Contractor hereby acknowledges that it has read, reviewed and understands the Plans, the Orange Book, the Greenbook, the Special Provisions, the Standard Plans, and the Encroachment Permit as they relate to the Work, all of which documents shall be referred to herein collectively as the "Plans and Specifications."

c. Contractor acknowledges the provisions of Chapter 8.28 of the Orange Municipal Code which requires, among other things, that Contractor utilize City's exclusive solid waste hauler for the rental of bins for trash and debris removal and imposes mandatory recycling requirements for self-hauled construction and demolition waste. The terms and conditions set forth in this Contract shall control over any terms and conditions in the Plans and Specifications to the contrary.

d. The Work shall be performed in conformity with the Plans and Specifications and the Bid Proposal and all applicable laws, including any and all applicable federal and state labor laws and standards and applicable prevailing wage requirements and any and all state, federal and local statutes, regulations and ordinances relating to the protection of human health or the environment.

e. Unless and until otherwise notified in writing by City's Public Works Director, City's Assistant Field Services Manager, Rachael Gomez ("Authorized City Representative"), shall be the person to whom Contractor will report for the performance of the Work hereunder. It is understood that Contractor's performance hereunder shall be under the direction and supervision of the Authorized City Representative or such other person as City's Public Works Director may designate from time to time, that Contractor shall coordinate the Work hereunder with the Authorized City Representative to the extent required by the Authorized City Representative, and that all performances required hereunder by Contractor shall be performed to the satisfaction of the Authorized City Representative or City's Public Works Director.

f. It is expressly agreed by and between the parties hereto that should there be any conflict between the terms of this instrument and Contractor's Bid Proposal, then this instrument shall control and nothing herein shall be considered as an acceptance of the said terms of said Bid Proposal conflicting herewith.

ARTICLE 2
Commencement of Work

Contractor shall commence the Work provided for in this Contract within fifteen (15) days of the date of the issuance by City of a Notice to Proceed and diligently prosecute completion of the Work within forty-five (45) calendar days from such date, unless legal extension is granted in accordance with the terms set forth in the Greenbook. Time is of the essence in this Contract. Contractor shall do all things necessary and incidental to the prosecution of Contractor's Work.

ARTICLE 3
Compensation

a. Contractor agrees to receive and accept an amount not to exceed EIGHTY-TWO THOUSAND FIVE HUNDRED THIRTY-TWO DOLLARS and 00/100 ($82,532.00) as compensation for furnishing all materials and doing all the Work contemplated and embraced in this Contract. Said compensation covers (1) all loss or damage arising out of the nature of the Work, from the acts of the elements; (2) any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the Work until its acceptance by City, other than as

provided below; (3) all risks of every description connected with the Work; (4) all expenses incurred by or in consequence of the suspension or discontinuance of the Work; and (5) well and faithfully completing the Work, and for the whole thereof, in the manner and according to the Plans and Specifications, and requirements of the Authorized City Representative under them. Retention amounts shall be withheld from progress payments as required by law unless Contractor provides securities in lieu of retention.

b. In addition to the scheduled Work to be performed by the Contractor, the parties recognize that additional, unforeseen work and services may be required by the Authorized City Representative. In anticipation of such contingencies, the sum of EIGHT THOUSAND TWO HUNDRED FIFTY-THREE DOLLARS and 00/100 ($8,253.00) has been added to the total compensation of this Contract. The Authorized City Representative may approve the additional work and the actual costs incurred by the Contractor in performance of additional work or services in accordance with such amount as the Authorized City Representative and the Contractor may agree upon in advance. Said additional work or services and the amount of compensation therefor, up to the amount of the authorized contingency, shall be memorialized in the form of a Contract Amendment approved by the City Manager on a form acceptable to the City Attorney. The Contractor agrees to perform only that work or those services that are specifically requested by the Authorized City Representative. Any and all additional work and services performed under this Contract shall be completed in such sequence as to assure their completion as expeditiously as is consistent with professional skill and care in accordance with a cost estimate or proposal submitted to and approved by the Authorized City Representative prior to the commencement of such Work or services.

c. The total amount of compensation under this Contract, including contingencies, shall not exceed NINETY THOUSAND SEVEN HUNDRED EIGHTY-FIVE DOLLARS and 00/100 ($90,785.00**)**.

ARTICLE 4
Licenses

Contractor represents that it and any subcontractors it may engage, possess any and all licenses which are required under state or federal law to perform the Work contemplated by this Contract and that Contractor and subcontractors shall maintain all appropriate licenses, including a City of Orange business license, at its cost, during the performance of this Contract.

ARTICLE 5
Guarantees

a. Contractor guarantees the construction and installation of all Work included in the Plans and Specifications for which Contractor has been awarded this Contract.

b. Should any of the materials or equipment installed pursuant to this Contract prove defective or should the Work as a whole prove defective, due to faulty equipment, workmanship, materials furnished or methods of installations, or should said Work or any part thereof fail to function properly, as designed, due to any of the above causes within twelve (12) months after the

date on which said Work is accepted by City, Contractor shall make repairs and furnish such materials and equipment as are necessary to be furnished and installed within fifteen (15) calendar days after the receipt of a demand from City.

c. Said Work will be deemed defective within the meaning of this guarantee in the event that it fails to function as originally intended either by the Plans and Specifications of this Contract or by the manufacturer(s) of the equipment incorporated into the Work.

d. In the event repairs are not made within fifteen (15) calendar days after Contractor's receipt of a demand from City, City shall have the unqualified option to make any needed repairs or replacements itself or by any other contractor. Contractor shall reimburse City, upon demand, for all expenses incurred in restoring said Work to the condition contemplated in this Contract, including the cost of any equipment or materials replaced.

e. It is understood that emergency repairs may, by necessity, be made by City. Therefore, when defective equipment, materials or workmanship result in emergency repairs by City, Contractor shall reimburse City, upon demand, for all expenses incurred. Emergency repairs will be deemed as those repairs determined by City's Director of Public Works to be necessary due to an immediate detriment to the health, safety, welfare or convenience of the residents of City.

ARTICLE 6
Water Quality

a. The Santa Ana Regional Water Quality Control Board ("RWQCB") has issued National Pollutant Discharge Elimination System ("NPDES") Permit No. R8-2009-0030 (the "Permit"), which governs storm water and non-storm water discharges resulting from municipal activities performed by City or its contractors. In order to comply with the Permit requirements, the County of Orange has prepared a Drainage Area Management Plan ("DAMP"), containing Model Maintenance Procedures with Best Management Practices ("BMPs") that City and its contractors must adhere to. The Model Maintenance Procedures contain pollution prevention and source control techniques to minimize the impact of those activities upon dry-weather urban runoff, storm water runoff, and receiving water quality. Examples include: wash water from cleaning of sidewalks or parking lots must be collected and disposed of in the sewer or landscaped areas.

b. The Permit, the DAMP and the Model Maintenance Procedures are on file in the office of City's Director of Public Works. Contractor hereby acknowledges that it has read, reviewed and understands the Permit, the DAMP and the Model Maintenance Procedures, as they relate to the Work and hereby shall perform the Work in conformance therewith.

ARTICLE 7
Independent Contractor; Contractor not Agent

a. At all times during the term of this Contract, Contractor shall be an independent contractor and not an employee of City. City shall have the right to control Contractor only insofar as the result of Contractor's services rendered pursuant to this Contract. City shall not have the right to control the means by which Contractor accomplishes services rendered pursuant to this Contract. Contractor shall, at its sole cost and expense, furnish all facilities, materials and equipment which may be required for furnishing services pursuant to this Contract. Contractor shall be solely responsible for, and shall indemnify, defend and save City harmless from all matters relating to the payment of its subcontractors, agents and employees, including compliance with social security, withholding and all other wages, salaries, benefits, taxes, exactions, and regulations of any nature whatsoever. Contractor acknowledges that Contractor and any subcontractors, agents or employees employed by Contractor shall not, under any circumstances, be considered employees of City, and that they shall not be entitled to any of the benefits or rights afforded employees of City, including, but not limited to, sick leave, vacation leave, holiday pay, Public Employees Retirement System benefits, or health, life, dental, long-term disability or workers' compensation insurance benefits.

b. Except as City may specify in writing, Contractor shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Contractor shall have no authority, express or implied, to bind City to any obligation whatsoever.

ARTICLE 8
Public Work; Prevailing Wage

a. The Work which is the subject of this Contract is a "public work," as that term is defined in Section 1720 of the California Labor Code, for which prevailing wages must be paid. To the extent Contractor's employees will perform any work that falls within any of the classifications for which the Department of Labor Relations of the State of California promulgates prevailing wage determinations, Contractor hereby agrees that Contractor, and any subcontractor under it, shall pay not less than the specified prevailing rates of wages to all such workers. The general prevailing wage determinations for crafts can be located on the website of the Department of Industrial Relations (www.dir.ca.gov/DLSR). Additionally, to perform work under this Contract, Contractor must meet all State registration requirements and criteria, including project compliance monitoring.

b. Attached hereto as Attachment No. 1 and incorporated herein by this reference is a copy of the provisions of Sections 1725.5, 1771, 1771.1, 1771.4, 1775, 1776, 1777.5, 1813 and 1815 of the California Labor Code. Contractor hereby acknowledges that it has read, reviewed and understands those provisions of the Labor Code and shall prosecute and complete the Work under this Contract in strict compliance with all of those terms and provisions.

c. Contractor shall secure the payment of compensation to its employees in accordance with the provisions of Section 3700 of the California Labor Code. Accordingly, and as required by Section 1861 of the California Labor Code, Contractor hereby certifies as follows:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

d. Contractor shall indemnify, protect, defend and hold harmless City and its officers, employees, contractors and agents, with counsel reasonably acceptable to City, from and against any and all loss, liability, damage, claim, cost, expense, and/or "increased costs" (including reasonable attorney's fees, court and litigation costs, and fees of expert witnesses) which result or arise in any way from the noncompliance by Contractor of any applicable local, state and/or federal law, including, without limitation, any applicable federal and/or state labor laws (including, without limitation, the requirement to pay state prevailing wages). It is agreed by the parties that, in connection with the construction of the Work which is the subject of this Contract, Contractor shall bear all risks of payment or non-payment of state prevailing wages. "Increased costs" as used in this paragraph shall have the meaning ascribed to it in Labor Code Section 1781, as the same may be enacted, adopted or amended from time to time. The foregoing indemnity shall survive termination of this Contract.

ARTICLE 9
Equal Employment Opportunity

During the performance of this Contract, Contractor agrees as follows:

a. Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law. Contractor shall ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law. Such actions shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. Contractor shall post in conspicuous places, available to employees and applicants for employment, a notice setting forth provisions of this non-discrimination clause.

b. Contractor shall, in all solicitations and advertisements for employees placed by, or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, mental or physical disability, or any other basis prohibited by applicable law.

c. Contractor shall cause the foregoing paragraphs (a) and (b) to be inserted in all subcontracts for any Work covered by this Contract, provided that the foregoing provisions shall not apply to subcontracts for standard commercial supplies or raw materials.

ARTICLE 10
Conflicts of Interest

Contractor agrees that it shall not make, participate in the making, or in any way attempt to use its position as a contractor to influence any decision of City in which Contractor knows or has reason to know that Contractor, its officers, partners, or employees have a financial interest as defined in Section 87103 of the Government Code. Contractor further agrees that it shall not be eligible to work as the builder for any project for which the design work is part of this Contract.

ARTICLE 11
Indemnity

Contractor shall defend, indemnify and hold harmless City and its officers, officials, agents, and employees from and against:

a. Any and all claims, liabilities, losses, damages, penalties, costs or expenses (including reasonable attorneys' fees and court costs) which City may directly or indirectly sustain or suffer arising from or as a result of the death of any person or any accident, injury, loss or damage whatsoever caused to any person or the property of any person which shall occur on or adjacent to the real property which is the subject of this Contract, or in connection with performance of this Contract which may be directly or indirectly caused by the acts or omissions of Contractor or its officers, employees, contractors or agents, or as a consequence of any use, generation, manufacture, storage, disposal, release or threatened release of a hazardous waste or substance. Contractor shall not be responsible for (and such indemnity shall not apply to) any willful misconduct, negligence or breach of this Contract by City or its officers, officials, agents, and employees. The foregoing indemnity shall survive termination of this Contract.

b. Any and all claims under workers' compensation acts and other employee benefit acts with respect to Contractor's employees or Contractor's subcontractor's employees arising out of Contractor's Work under this Contract, including any and all claims under any law pertaining to Contractor's status as an independent contractor.

ARTICLE 12
Insurance

a. Contractor shall procure and maintain for the duration of this Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder and the results of that Work by Contractor, its agents, representatives, employees or subcontractors. Any umbrella liability insurance that is provided as part of the general or automobile liability minimums set forth below shall be maintained for the duration of the Contract.

b. Contractor shall maintain the following minimum amount of insurance: the greater of either the limits set forth in (1) through (4), below; or all of the insurance coverage and/or limits carried by or available to Contractor.

(1)	General Liability	$2,000,000	per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
(2)	Automobile Liability	$1,000,000	per accident for bodily injury and property damage.
(3)	Workers' Compensation		as required by the State of California.
(4)	Employer's Liability	$1,000,000	per accident for bodily injury or disease.

c. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits which are applicable to a given loss shall be available to City. No representation is made that the minimum insurance requirements of this Contract are sufficient to cover the obligations of Contractor under this Contract.

d. Any deductibles or self-insured retentions must be declared to and approved by City. At the option of City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions with respect to City, its officers, officials, agents and employees; or Contractor shall provide a financial guarantee satisfactory to City guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

e. Each policy of general liability and automotive liability insurance shall contain, or be endorsed to contain, the following provisions:

(1) City, its officers, officials, agents, and employees are declared to be additional insureds under the terms of the policy, with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of Contractor (any auto), and with respect to liability arising out of Work or operations performed by or on behalf of Contractor, including materials, parts or equipment furnished in connection with such Work or operations. A policy endorsement to that effect shall be provided to City along with the certificate of insurance. In lieu of an endorsement, City will accept a copy of the policy(ies) which evidences that City is an additional insured as a contracting party. The minimum coverage required by Subsection 12.b, above, shall apply to City as an additional insured.

(2) For any claims related to this Contract, Contractor's insurance coverage shall be primary insurance with respect to City, its officers, officials, agents and employees. Any insurance or self-insurance maintained by City, its officers, officials, agents and employees shall be excess of Contractor's insurance and shall not contribute with it.

(3) Coverage shall not be canceled, except after thirty (30) days' prior written notice has been provided to City.

f. Contractor shall furnish City with original certificates of insurance and endorsements effecting coverage required by this Article 12. The endorsements shall be on forms acceptable to City. All certificates and endorsements are to be received and approved by City before the Work commences. However, failure to do so shall not operate as a waiver of these insurance requirements. City reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

g. All insurance procured and maintained by Contractor shall be issued by insurers admitted to conduct the pertinent line of insurance business in California and having a rating of Grade A or better and Class VII or better by the latest edition of Best Key Rating Guide.

h. Contractor shall immediately notify City if any required insurance lapses or is otherwise modified and cease performance of this Contract unless otherwise directed by City. In such a case, City may procure insurance or self-insure the risk and charge Contractor for such costs and any and all damages resulting therefrom by way of set-off from any sums owed Contractor.

i. Contractor agrees that in the event of loss due to any of the perils for which it has agreed to provide insurance, Contractor shall look solely to its insurance for recovery. Contractor hereby grants to City, on behalf of any insurer providing insurance to either Contractor or City with respect to the services of Contractor herein, a waiver of any right to subrogation which any such insurer may acquire against City by virtue of the payment of any loss under such insurance. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of City for all Work performed by Contractor, its employees, agents and subcontractors. Contractor shall obtain any other endorsement that may be necessary to effect this waiver of subrogation.

j. Contractor shall require and verify that all subcontractors maintain insurance meeting all of the requirements stated herein.

ARTICLE 13
Termination

City, acting through its City Manager or designee, reserves the right to terminate this Contract for any reason by giving five (5) days' written notice of intent to terminate to Contractor. Upon receipt of notice, Contractor shall immediately cease work, unless the notice provides otherwise. Should City terminate this Contract, City shall pay Contractor for services satisfactorily provided and all allowable reimbursements incurred to the date of termination in compliance with this Contract, unless such termination shall be for cause, in which event City may withhold any disputed compensation. City shall not be liable for any claim of lost profits.

ARTICLE 14
Maintenance and Inspection of Records

In accordance with generally accepted accounting principles, Contractor and its subcontractors shall maintain reasonably full and complete books, documents, papers, accounting records and other information (collectively, the "records") pertaining to the costs of and completion of services performed under this Contract. During the term of this Contract and for a period of three (3) years after termination or completion of this Contract, City shall have the right to inspect and/or audit Contractor's records pertaining to the performance of this Contract at Contractor's office. Contractor shall make available all such records for inspection or audit at its offices during normal business hours and upon three (3) days' notice from City, and copies thereof shall be furnished if requested.

ARTICLE 15
Compliance with Laws

a. Contractor shall be knowledgeable of and comply with all local, state and federal laws pertaining to the subject matter hereof or in any way regulating the activities undertaken by Contractor or any subcontractor hereunder.

b. Contractor represents and warrants that it:

(1) Has complied and shall at all times during the term of this Contract comply, in all respects, with all immigration laws, regulations, statutes, rules, codes, and orders, including, without limitation, the Immigration Reform and Control Act of 1986 (IRCA); and

(2) Has not and will not knowingly employ any individual to perform services under this Contract who is ineligible to work in the United States or under the terms of this Contract; and

(3) Has properly maintained, and shall at all times during the term of this Contract properly maintain, all related employment documentation records including, without limitation, the completion and maintenance of the Form I-9 for each of Contractor's employees; and

(4) Has responded, and shall at all times during the term of this Contract respond, in a timely fashion to any government inspection requests relating to immigration law compliance and/or Form I-9 compliance and/or worksite enforcement by the Department of Homeland Security, the Department of Labor, or the Social Security Administration.

c. Contractor shall require all subcontractors and/or subconsultants to make the same representations and warranties required by this Article 15 when hired to perform services under this Contract.

d. Contractor shall, upon request of City, provide a list of all employees working under this Contract and shall provide, to the reasonable satisfaction of City, verification that all such

employees are eligible to work in the United States. All costs associated with such verification shall be borne by Contractor. Once such request has been made, Contractor may not change employees working under this Contract without written notice to City, accompanied by the verification required herein for such employees. Contractor shall require all subcontractors and/or sub-consultants to make the same verification when hired to perform services under this Contract.

e. If Contractor, or a subcontractor or subconsultant, knowingly employs an employee providing Work under this Contract who is not authorized to work in the United States, and/or fails to follow federal laws to determine the status of such employee, such shall constitute a material breach of this Contract and may be cause for immediate termination of this Contract by City.

f. Contractor shall indemnify and hold City, its officials and employees harmless for, of and from any loss, including but not limited to fines, penalties and corrective measures, City may sustain by reason of Contractor's failure to comply with said laws, rules and regulations in connection with the performance of this Contract.

ARTICLE 16
Governing Law and Venue

This Contract shall be construed in accordance with and governed by the laws of the State of California and Contractor shall submit to the jurisdiction of California courts. Venue for any dispute arising under this Contract shall be in Orange County, California.

ARTICLE 17
Integration and Amendment

a. This Contract constitutes the entire agreement of the parties. No other agreement, oral or written, pertaining to the Work to be performed under this Contract shall be of any force or effect unless it is in writing and signed by both parties. Any Work performed which is inconsistent with or in violation of the provisions of this Contract shall not be compensated.

b. Amendments to this Contract must be in writing and signed by both parties. The City Manager is authorized to execute amendments to this Contract up to the amounts specified in Chapter 3.08 of the Orange Municipal Code.

ARTICLE 18
Notice

Except as otherwise provided herein, all notices required under this Contract shall be in writing and delivered personally, by e-mail, or by first class mail, postage prepaid, to each party at the address listed below. Either party may change the notice address by notifying the other party in writing. Notices shall be deemed received upon receipt of same or within three (3) days of deposit in the U.S. Mail, whichever is earlier. Notices sent by e-mail shall be deemed received on the date of the e-mail transmission.

"CONTRACTOR"	"CITY"
Milliken Services, LLC 201 Lukken Industrial Drive, West LaGrange, Georgia 30240	City of Orange 300 E. Chapman Avenue Orange, CA 92866-1591
Attn: Katie Buchanan	Attn: Rachael Gomez
Telephone: 706-590-5763 E-Mail: katie.buchanan@milliken.com	Telephone: 714-744-5588 E-Mail: rgomez@cityoforange.org

ARTICLE 19
Claim Resolution

City and Contractor agree that the claim resolution process applicable to any claim by Contractor in connection with the Work provided herein shall be subject to the procedures set forth in California Public Contract Code Section 9204, attached hereto as Attachment No. 2, and incorporated herein by this reference.

ARTICLE 20
Counterparts

This Contract may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Signatures transmitted electronically shall have the same effect as original signatures.

[Remainder of page intentionally left blank; signatures on next page]

"CITY"

CITY OF ORANGE, a municipal corporation

By:_____
Daniel R. Slater
Mayor of the City of Orange

CONTRACT, BONDS AND INSURANCE APPROVED BY:

_____
Connor Hyland
Senior Assistant City Attorney

ATTEST:

_____
Pamela Coleman, City Clerk

"CONTRACTOR"

MILLIKEN SERVICES, LLC,
a South Carolina limited liability company

[Note: Signature of Managing Member or Person(s) Authorized to bind LLC is (are) required]

By: Patrick B. Keese
Printed Name: Patrick B. Keese
Title: President – Milliken Flooring

By:_____
Printed Name:_____
Title:_____

√

"CITY"

CITY OF ORANGE, a municipal corporation

By:_____
Daniel R. Slater
Mayor of the City of Orange

CONTRACT, BONDS AND INSURANCE APPROVED BY:

_____
Connor Hyland
Senior Assistant City Attorney

ATTEST:

_____
Pamela Coleman, City Clerk

"CONTRACTOR"

MILLIKEN SERVICES, LLC,
a South Carolina limited liability company

[Note: Signature of Managing Member or Person(s) Authorized to bind LLC is (are) required]

By:_____
Printed Name:_____
Title:_____

By:_____
Printed Name:_____
Title:_____

√ X

ATTACHMENT NO. 1

CALIFORNIA LABOR CODE
SECTIONS 1725.5, 1771, 1771.1, 1771.4, 1775, 1776, 1777.5, 1813 and 1815

Section 1725.5. Registration of contractors; mandatory registration; qualifications and application; fees; exempt contractors

A contractor shall be registered pursuant to this section to be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any public work contract that is subject to the requirements of this chapter. For the purposes of this section, "contractor" includes a subcontractor as defined by Section 1722.1.

(a) To qualify for registration under this section, a contractor shall do all of the following:

(1)(A) Register with the Department of Industrial Relations in the manner prescribed by the department and pay an initial nonrefundable application fee of four hundred dollars ($400) to qualify for registration under this section and an annual renewal fee on or before July 1 of each year thereafter. The annual renewal fee shall be in a uniform amount set by the Director of Industrial Relations, and the initial registration and renewal fees may be adjusted no more than annually by the director to support the costs specified in Section 1771.3.

(B) Beginning June 1, 2019, a contractor may register or renew according to this subdivision in annual increments up to three years from the date of registration. Contractors who wish to do so will be required to prepay the applicable nonrefundable application or renewal fees to qualify for the number of years for which they wish to preregister.

(2) Provide evidence, disclosures, or releases as are necessary to establish all of the following:

(A) Workers' compensation coverage that meets the requirements of Division 4 (commencing with Section 3200) and includes sufficient coverage for any worker whom the contractor employs to perform work that is subject to prevailing wage requirements other than a contractor who is separately registered under this section. Coverage may be evidenced by a current and valid certificate of workers' compensation insurance or certification of self-insurance required under Section 7125 of the Business and Professions Code.

(B) If applicable, the contractor is licensed in accordance with Chapter 9 (commencing with Section 7000) of the Business and Professions Code.

(C) The contractor does not have any delinquent liability to an employee or the state for any assessment of back wages or related damages, interest, fines, or penalties pursuant to any final judgment, order, or determination by a court or any federal, state, or local administrative agency, including a confirmed arbitration award. However, for purposes of this paragraph, the contractor shall not be disqualified for any judgment, order, or determination that is under appeal, provided that the contractor has secured the payment of any amount eventually found due through a bond or other appropriate means.

(D) The contractor is not currently debarred under Section 1777.1 or under any other federal or state law providing for the debarment of contractors from public works.

(E) The contractor has not bid on a public works contract, been listed in a bid proposal, or engaged in the performance of a contract for public works without being lawfully registered in accordance with this section, within the preceding 12 months or since the effective date of the requirements set forth in subdivision (e), whichever is earlier. If a contractor is found to be in violation of the requirements of this paragraph, the period of disqualification shall be waived if both of the following are true:

(i) The contractor has not previously been found to be in violation of the requirements of this paragraph within the preceding 12 months.

(ii) The contractor pays an additional nonrefundable penalty registration fee of two thousand dollars ($2,000).

(b) Fees received pursuant to this section shall be deposited in the State Public Works Enforcement Fund established by Section 1771.3 and shall be used only for the purposes specified in that section.

(c) A contractor who fails to pay the renewal fee required under paragraph (1) of subdivision (a) on or before the expiration of any prior period of registration shall be prohibited from bidding on or engaging in the performance of any contract for public work until once again registered pursuant to this section. If the failure to pay the renewal fee was inadvertent, the contractor may renew its registration retroactively by paying an additional nonrefundable penalty renewal fee equal to the amount of the renewal fee within 90 days of the due date of the renewal fee.

(d) If, after a body awarding a contract accepts the contractor's bid or awards the contract, the work covered by the bid or contract is determined to be a public work to which Section 1771 applies, either as the result of a determination by the director pursuant to Section 1773.5 or a court decision, the requirements of this section shall not apply, subject to the following requirements:

(1) The body that awarded the contract failed, in the bid specification or in the contract documents, to identify as a public work that portion of the work that the determination or decision subsequently classifies as a public work.

(2) Within 20 days following service of notice on the awarding body of a determination by the Director of Industrial Relations pursuant to Section 1773.5 or a decision by a court that the contract was for public work as defined in this chapter, the contractor and any subcontractors are registered under this section or are replaced by a contractor or subcontractors who are registered under this section.

(3) The requirements of this section shall apply prospectively only to any subsequent bid, bid proposal, contract, or work performed after the awarding body is served with notice of the determination or decision referred to in paragraph (2).

(e) The requirements of this section shall apply to any bid proposal submitted on or after March 1, 2015, to any contract for public work, as defined in this chapter, executed on or after April 1, 2015, and to any work performed under a contract for public work on or after January 1, 2018, regardless of when the contract for public work was executed.

(f) This section does not apply to work performed on a public works project of twenty-five thousand dollars ($25,000) or less when the project is for construction, alteration, demolition, installation, or repair work or to work performed on a public works project of fifteen thousand dollars ($15,000) or less when the project is for maintenance work.

Section 1771. Payment of general prevailing rate

Except for public works projects of one thousand dollars ($1,000) or less, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in this chapter, shall be paid to all workers employed on public works.

This section is applicable only to work performed under contract, and is not applicable to work carried out by a public agency with its own forces. This section is applicable to contracts let for maintenance work.

Section 1771.1. Registration as a contractor or subcontractor required prior to bid submission; exceptions; violations; penalties

(a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

(b) Notice of the requirement described in subdivision (a) shall be included in all bid invitations and public works contracts, and a bid shall not be accepted nor any contract or subcontract entered into without proof of the contractor or subcontractor's current registration to perform public work pursuant to Section 1725.5.

(c) An inadvertent error in listing a subcontractor who is not registered pursuant to Section 1725.5 in a bid proposal shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive, provided that any of the following apply:

(1) The subcontractor is registered prior to the bid opening.

(2) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

(3) The subcontractor is replaced by another registered subcontractor pursuant to Section 4107 of the Public Contract Code.

(d) Failure by a subcontractor to be registered to perform public work as required by subdivision (a) shall be grounds under Section 4107 of the Public Contract Code for the contractor, with the consent of the awarding authority, to substitute a subcontractor who is registered to perform public work pursuant to Section 1725.5 in place of the unregistered subcontractor.

(e) The department shall maintain on its Internet Web site a list of contractors who are currently registered to perform public work pursuant to Section 1725.5.

(f) A contract entered into with any contractor or subcontractor in violation of subdivision (a) shall be subject to cancellation, provided that a contract for public work shall not be unlawful, void, or voidable solely due to the failure of the awarding body, contractor, or any subcontractor to comply with the requirements of Section 1725.5 or this section.

(g) If the Labor Commissioner or his or her designee determines that a contractor or subcontractor engaged in the performance of any public work contract without having been registered in accordance with this section, the contractor or subcontractor shall forfeit, as a civil penalty to the state, one hundred dollars ($100) for each day of work performed in violation of the registration requirement, not to exceed an aggregate penalty of eight thousand dollars ($8,000) in addition to any penalty registration fee assessed pursuant to clause (ii) of subparagraph (E) of paragraph (2) of subdivision (a) of Section 1725.5.

(h)(1) In addition to, or in lieu of, any other penalty or sanction authorized pursuant to this chapter, a higher tiered public works contractor or subcontractor who is found to have entered into a subcontract with an unregistered lower tier subcontractor to perform any public work in violation of the requirements of Section 1725.5 or this section shall be subject to forfeiture, as a civil penalty to the state, of one hundred dollars ($100)

for each day the unregistered lower tier subcontractor performs work in violation of the registration requirement, not to exceed an aggregate penalty of ten thousand dollars ($10,000).

(2) The Labor Commissioner shall use the same standards specified in subparagraph (A) of paragraph (2) of subdivision (a) of Section 1775 when determining the severity of the violation and what penalty to assess, and may waive the penalty for a first time violation that was unintentional and did not hinder the Labor Commissioner's ability to monitor and enforce compliance with the requirements of this chapter.

(3) A higher tiered public works contractor or subcontractor shall not be liable for penalties assessed pursuant to paragraph (1) if the lower tier subcontractor's performance is in violation of the requirements of Section 1725.5 due to the revocation of a previously approved registration.

(4) A subcontractor shall not be liable for any penalties assessed against a higher tiered public works contractor or subcontractor pursuant to paragraph (1). A higher tiered public works contractor or subcontractor may not require a lower tiered subcontractor to indemnify or otherwise be liable for any penalties pursuant to paragraph (1).

(i) The Labor Commissioner or his or her designee shall issue a civil wage and penalty assessment, in accordance with the provisions of Section 1741, upon determination of penalties pursuant to subdivision (g) and subparagraph (B) of paragraph (1) of subdivision (h). Review of a civil wage and penalty assessment issued under this subdivision may be requested in accordance with the provisions of Section 1742. The regulations of the Director of Industrial Relations, which govern proceedings for review of civil wage and penalty assessments and the withholding of contract payments under Article 1 (commencing with Section 1720) and Article 2 (commencing with Section 1770), shall apply.

(j)(1) Where a contractor or subcontractor engages in the performance of any public work contract without having been registered in violation of the requirements of Section 1725.5 or this section, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractor or the unregistered subcontractor on all public works until the unregistered contractor or unregistered subcontractor is registered. The stop order shall not apply to work by registered contractors or subcontractors on the public work.

(2) A stop order may be personally served upon the contractor or subcontractor by either of the following methods:

(A) Manual delivery of the order to the contractor or subcontractor personally.

(B) Leaving signed copies of the order with the person who is apparently in charge at the site of the public work and by thereafter mailing copies of the order by first class mail, postage prepaid to the contractor or subcontractor at one of the following:

(i) The address of the contractor or subcontractor on file with either the Secretary of State or the Contractors' State License Board.

(ii) If the contractor or subcontractor has no address on file with the Secretary of State or the Contractors' State License Board, the address of the site of the public work.

(3) The stop order shall be effective immediately upon service and shall be subject to appeal by the party contracting with the unregistered contractor or subcontractor, by the unregistered contractor or subcontractor, or both. The appeal, hearing, and any further review of the hearing decision shall be governed by the procedures, time limits, and other requirements specified in subdivision (a) of Section 238.1.

(4) Any employee of an unregistered contractor or subcontractor who is affected by a work stoppage ordered by the commissioner pursuant to this subdivision shall be paid at his or her regular hourly prevailing wage rate by that employer for any hours the employee would have worked but for the work stoppage, not to exceed 10 days.

(k) Failure of a contractor or subcontractor, owner, director, officer, or managing agent of the contractor or subcontractor to observe a stop order issued and served upon him or her pursuant to subdivision (j) is guilty of a misdemeanor punishable by imprisonment in county jail not exceeding 60 days or by a fine not exceeding ten thousand dollars ($10,000), or both.

(l) This section shall apply to any bid proposal submitted on or after March 1, 2015, and any contract for public work entered into on or after April 1, 2015. This section shall also apply to the performance of any public work, as defined in this chapter, on or after January 1, 2018, regardless of when the contract for public work was entered.

(m) Penalties received pursuant to this section shall be deposited in the State Public Works Enforcement Fund established by Section 1771.3 and shall be used only for the purposes specified in that section.

(n) This section shall not apply to work performed on a public works project of twenty-five thousand dollars ($25,000) or less when the project is for construction, alteration, demolition, installation, or repair work or to work performed on a public works project of fifteen thousand dollars ($15,000) or less when the project is for maintenance work.

Section 1771.4. Additional requirements when bidding and awarding public works contracts

(a) All of the following are applicable to all public works projects that are otherwise subject to the requirements of this chapter:

(1) The call for bids and contract documents shall specify that the project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

(2) The awarding body shall post or require the prime contractor to post job site notices, as prescribed by regulation.

(3) Each contractor and subcontractor shall furnish the records specified in Section 1776 directly to the Labor Commissioner, in the following manner:

(A) At least monthly or more frequently if specified in the contract with the awarding body.

(B) In a format prescribed by the Labor Commissioner.

(4) If the contractor or subcontractor is not registered pursuant to Section 1725.5 and is performing work on a project for which registration is not required because of subdivision (f) of Section 1725.5, the unregistered contractor or subcontractor is not required to furnish the records specified in Section 1776 directly to the Labor Commissioner but shall retain the records specified in Section 1776for at least three years after completion of the work.

(5) The department shall undertake those activities it deems necessary to monitor and enforce compliance with prevailing wage requirements.

(b) The Labor Commissioner may exempt a public works project from compliance with all or part of the requirements of subdivision (a) if either of the following occurs:

(1) The awarding body has enforced an approved labor compliance program, as defined in Section 1771.5, on all public works projects under its authority, except those deemed exempt pursuant to subdivision (a) of Section 1771.5, continuously since December 31, 2011.

(2) The awarding body has entered into a collective bargaining agreement that binds all contractors performing work on the project and that includes a mechanism for resolving disputes about the payment of wages.

(c) The requirements of paragraph (1) of subdivision (a) shall only apply to contracts for public works projects awarded on or after January 1, 2015.

(d) The requirements of paragraph (3) of subdivision (a) shall apply to all contracts for public work, whether new or ongoing, on or after January 1, 2016.

Section 1775. Penalties for violations

(a)(1) The contractor and any subcontractor under the contractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit not more than two hundred dollars ($200) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates as determined by the director for the work or craft in which the worker is employed for any public work done under the contract by the contractor or, except as provided in subdivision (b), by any subcontractor under the contractor.

(2)(A) The amount of the penalty shall be determined by the Labor Commissioner based on consideration of both of the following:

(i) Whether the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.

(ii) Whether the contractor or subcontractor has a prior record of failing to meet its prevailing wage obligations.

(B)(i) The penalty may not be less than forty dollars ($40) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.

(ii) The penalty may not be less than eighty dollars ($80) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the contractor or subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.

(iii) The penalty may not be less than one hundred twenty dollars ($120) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1.

(C) If the amount due under this section is collected from the contractor or subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that contractor

or subcontractor shall be satisfied before applying that amount to the penalty imposed on that contractor or subcontractor pursuant to this section.

(D) The determination of the Labor Commissioner as to the amount of the penalty shall be reviewable only for abuse of discretion.

(E) The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the contractor or subcontractor, and the body awarding the contract shall cause to be inserted in the contract a stipulation that this section will be complied with.

(b) If a worker employed by a subcontractor on a public works project is not paid the general prevailing rate of per diem wages by the subcontractor, the prime contractor of the project is not liable for any penalties under subdivision (a) unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

(1) The contract executed between the contractor and the subcontractor for the performance of work on the public works project shall include a copy of the provisions of this section and Sections 1771, 1776, 1777.5, 1813, and 1815.

(2) The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.

(3) Upon becoming aware of the failure of the subcontractor to pay his or her workers the specified prevailing rate of wages, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.

(4) Prior to making final payment to the subcontractor for work performed on the public works project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees on the public works project and any amounts due pursuant to Section 1813.

(c) The Division of Labor Standards Enforcement shall notify the contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages.

Section 1776. Payroll records; retention; inspection; redacted information; agencies entitled to receive nonredacted copies of certified records; noncompliance penalties; rules

(a) Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1) The information contained in the payroll record is true and correct.

(2) The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

(b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the contractor on the following basis:

(1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract and the Division of Labor Standards Enforcement of the Department of Industrial Relations.

(3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the contractor, subcontractors, and the entity through which the request was made. The public may not be given access to the records at the principal office of the contractor.

(c) Unless required to be furnished directly to the Labor Commissioner in accordance with paragraph (3) of subdivision (a) of Section 1771.4, the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division. The payroll records may consist of printouts of payroll data that are maintained as computer records, if the printouts contain the same information as the forms provided by the division and the printouts are verified in the manner specified in subdivision (a).

(d) A contractor or subcontractor shall file a certified copy of the records enumerated in subdivision (a) with the entity that requested the records within 10 days after receipt of a written request.

(e) Except as provided in subdivision (f), any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a multiemployer Taft-Hartley trust fund (29 U.S.C. Sec. 186(c)(5)) that requests the records for the purposes of allocating contributions to participants shall be marked or obliterated only to prevent disclosure of an individual's full social security number, but shall provide the last four digits of the social security number. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management Cooperation Act of 1978 (29 U.S.C. Sec. 175a) shall be marked or obliterated only to prevent disclosure of an individual's social security number.

(f)(1) Notwithstanding any other provision of law, agencies that are included in the Joint Enforcement Strike Force on the Underground Economy established pursuant to Section 329 of the Unemployment Insurance Code and other law enforcement agencies investigating violations of law shall, upon request, be provided nonredacted copies of certified payroll records. Any copies of records or certified payroll made available for inspection and furnished upon request to the public by an agency included in the Joint Enforcement Strike Force on the Underground Economy or to a law enforcement agency investigating a violation of law shall be marked or redacted to prevent disclosure of an individual's name, address, and social security number.

(2) An employer shall not be liable for damages in a civil action for any reasonable act or omission taken in good faith in compliance with this subdivision.

(g) The contractor shall inform the body awarding the contract of the location of the records enumerated under subdivision (a), including the street address, city, and county, and shall, within five working days, provide a notice of a change of location and address.

(h) The contractor or subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit one hundred dollars ($100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

(i) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section.

(j) The director shall adopt rules consistent with the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code) and the Information Practices Act of 1977 (Title 1.8 (commencing with Section 1798) of Part 4 of Division 3 of the Civil Code) governing the release of these records, including the establishment of reasonable fees to be charged for reproducing copies of records required by this section.

Section 1777.5. Employment of registered apprentices; wages; standards; number; apprenticeable craft or trade; exemptions; contributions; compliance program

(a)(1) This chapter does not prevent the employment upon public works of properly registered apprentices who are active participants in an approved apprenticeship program.

(2) For purposes of this chapter, "apprenticeship program" means a program under the jurisdiction of the California Apprenticeship Council established pursuant to Section 3070.

(b)(1) Every apprentice employed upon public works shall be paid the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered and shall be employed only at the work of the craft or trade to which he or she is registered.

(2) Unless otherwise provided by a collective bargaining agreement, when a contractor requests the dispatch of an apprentice pursuant to this section to perform work on a public works project and requires the apprentice to fill out an application or undergo testing, training, an examination, or other preemployment process as a condition of employment, the apprentice shall be paid for the time spent on the required preemployment activity, including travel time to and from the required activity, if any, at the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered. Unless otherwise provided by a collective bargaining agreement, a contractor is not required to compensate an apprentice for the time spent on preemployment activities if the apprentice is required to take a preemployment drug or alcohol test and he or she fails to pass that test.

(c) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written

apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3 are eligible to be employed at the apprentice wage rate on public works. The employment and training of each apprentice shall be in accordance with either of the following:

(1) The apprenticeship standards and apprentice agreements under which he or she is training.

(2) The rules and regulations of the California Apprenticeship Council.

(d) If the contractor to whom the contract is awarded by the state or any political subdivision, in performing any of the work under the contract, employs workers in any apprenticeable craft or trade, the contractor shall employ apprentices in at least the ratio set forth in this section and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the site of the public work for a certificate approving the contractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the contractor, shall arrange for the dispatch of apprentices to the contractor. A contractor covered by an apprenticeship program's standards shall not be required to submit any additional application in order to include additional public works contracts under that program. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the California Apprenticeship Council. As used in this section, "contractor" includes any subcontractor under a contractor who performs any public works not excluded by subdivision (o).

(e) Before commencing work on a contract for public works, every contractor shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the site of the public work. The information submitted shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the awarding body, if requested by the awarding body. Within 60 days after concluding work on the contract, each contractor and subcontractor shall submit to the awarding body, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the contract. The information under this subdivision shall be public. The apprenticeship programs shall retain this information for 12 months.

(f) The apprenticeship program supplying apprentices to the area of the site of the public work shall ensure equal employment and affirmative action in apprenticeship for women and minorities.

(g) The ratio of work performed by apprentices to journeymen employed in a particular craft or trade on the public work may be no higher than the ratio stipulated in the apprenticeship standards under which the apprenticeship program operates if the contractor agrees to be bound by those standards. However, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentice work for every five hours of journeyman work.

(h) This ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the jobsite and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week shall not be used to calculate the ratio. The contractor shall employ apprentices for the number of hours computed as above before the end of the contract or, in the case of a subcontractor, before the end of the subcontract. However, the contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the jobsite. When an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Administrator

of Apprenticeship, upon application of an apprenticeship program, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.

(i) A contractor covered by this section who has agreed to be covered by an apprenticeship program's standards upon the issuance of the approval certificate, or who has been previously approved for an apprenticeship program in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the applicable apprenticeship standards, but in no event less than the 1-to-5 ratio required by subdivision (g).

(j) Upon proper showing by a contractor that he or she employs apprentices in a particular craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by journeymen, the Administrator of Apprenticeship may grant a certificate exempting the contractor from the 1-to-5 hourly ratio, as set forth in this section for that craft or trade.

(k) An apprenticeship program has the discretion to grant to a participating contractor or contractor association a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:

(1) Unemployment for the previous three-month period in the area exceeds an average of 15 percent.

(2) The number of apprentices in training in the area exceeds a ratio of 1 to 5.

(3) There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis.

(4) Assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.

(l) If an exemption is granted pursuant to subdivision (k) to an organization that represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis, the member contractors shall not be required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.

(m)(1) A contractor to whom a contract is awarded, who, in performing any of the work under the contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the director determines is the prevailing amount of apprenticeship training contributions in the area of the public works site. A contractor may take as a credit for payments to the council any amounts paid by the contractor to an approved apprenticeship program that can supply apprentices to the site of the public works project. The contractor may add the amount of the contributions in computing his or her bid for the contract.

(2)(A) At the conclusion of the 2002-03 fiscal year and each fiscal year thereafter, the California Apprenticeship Council shall distribute training contributions received by the council under this subdivision, less the expenses of the Department of Industrial Relations for administering this subdivision, by making grants to approved apprenticeship programs for the purpose of training apprentices. The grant funds shall be distributed as follows:

(i) If there is an approved multiemployer apprenticeship program serving the same craft or trade and geographic area for which the training contributions were made to the council, a grant to that program shall be made.

(ii) If there are two or more approved multiemployer apprenticeship programs serving the same craft or trade and county for which the training contributions were made to the council, the grant shall be divided among those programs based on the number of apprentices from that county registered in each program.

(iii) All training contributions not distributed under clauses (i) and (ii) shall be used to defray the future expenses of the Department of Industrial Relations for the administration and enforcement of apprenticeship and preapprenticeship standards and requirements under this code.

(B) An apprenticeship program shall only be eligible to receive grant funds pursuant to this subdivision if the apprenticeship program agrees, prior to the receipt of any grant funds, to keep adequate records that document the expenditure of grant funds and to make all records available to the Department of Industrial Relations so that the Department of Industrial Relations is able to verify that grant funds were used solely for training apprentices. For purposes of this subparagraph, adequate records include, but are not limited to, invoices, receipts, and canceled checks that account for the expenditure of grant funds. This subparagraph shall not be deemed to require an apprenticeship program to provide the Department of Industrial Relations with more documentation than is necessary to verify the appropriate expenditure of grant funds made pursuant to this subdivision.

(C) The Department of Industrial Relations shall verify that grants made pursuant to this subdivision are used solely to fund training apprentices. If an apprenticeship program is unable to demonstrate how grant funds are expended or if an apprenticeship program is found to be using grant funds for purposes other than training apprentices, then the apprenticeship program shall not be eligible to receive any future grant pursuant to this subdivision and the Department of Industrial Relations may initiate the process to rescind the registration of the apprenticeship program.

(3) All training contributions received pursuant to this subdivision shall be deposited in the Apprenticeship Training Contribution Fund, which is hereby created in the State Treasury. Upon appropriation by the Legislature, all moneys in the Apprenticeship Training Contribution Fund shall be used for the purpose of carrying out this subdivision and to pay the expenses of the Department of Industrial Relations.

(n) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section. The stipulations shall fix the responsibility of compliance with this section for all apprenticeable occupations with the prime contractor.

(o) This section does not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor when the contracts of general contractors or those specialty contractors involve less than thirty thousand dollars ($30,000).

(p) An awarding body that implements an approved labor compliance program in accordance with subdivision (b) of Section 1771.5 may, with the approval of the director, assist in the enforcement of this section under the terms and conditions prescribed by the director.

Section 1813. Forfeiture for violations; contract stipulation; report of violations

The contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty- five dollars ($25) for each worker employed in the execution of

the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of this article. In awarding any contract for public work, the awarding body shall cause to be inserted in the contract a stipulation to this effect. The awarding body shall take cognizance of all violations of this article committed in the course of the execution of the contract, and shall report them to the Division of Labor Standards Enforcement.

Section 1815. Overtime

Notwithstanding the provisions of Sections 1810 to 1814, inclusive, of this code, and notwithstanding any stipulation inserted in any contract pursuant to the requirements of said sections, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon public work upon compensation for all hours worked in excess of 8 hours per day at not less than 1 ½ times the basic rate of pay.

ATTACHMENT NO. 2

CALIFORNIA PUBLIC CONTRACT CODE SECTION 9204

Section 9204. Legislative findings and declarations regarding timely and complete payment of contractors for public works projects; claims process (Eff: January 1, 2017)

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)(A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d)(1)(A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)(A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on their own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2027, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2027, deletes or extends that date.

Milliken Services, LLC
Customer Proposal
OMNIA PARTNERS Contract - 2020002150

DIR Number: PW-LR-1000561459

Proposal Date: 5/5/2026 MQ Number: 1021000921

Project Name:	Fire Station 3	Milliken Sales Rep:	Becca Dobbs
City, State, Zip:		Primary Phone:	310 - 504 - 4635
Project Number:		Email:	becca.dobbs@milliken.com
Seller (company):	Milliken Services, LLC	Project Manager:	Katie Buchanan
Address:	201 W. Lukken Industrial Drive	Primary Phone:	706 590 5763
City, State, Zip:	LaGrange, GA 30240	Email:	katie.buchanan@milliken.com
Customer (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org
Bill To (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org

Item	Qty	Unit of Measure	Unit Price	Total
Nordic Stories Isograd Dark Dansk 50cm	190.164	SY	$ 33.18	$ 6,309.64
Standard Carpet Tile Adhesive (order by pail)	2.000	4-gal. pail	$ 147.22	$ 294.44
Carpet				
Install Carpet (renovation) Sq. Yd.	177.000	SY	$ 12.00	$ 2,124.00
Take Up/Remove Existing Carpet Sq. Yd.	150.000	SY	$ 5.00	$ 750.00
Furniture Move				
Furniture Move (heavy moving) Sq. Yd.	21.000	SY	$ 42.00	$ 882.00
Additional Labor				
Material Handling/Staging	1,594.000	SF	$ 0.60	$ 956.40
Transition Strips				
Metal Transition Strips - Furnish & Install	8.000	LNF	$ 6.92	$ 55.36
Disposal				
Material Disposal	177.000	SY	$ 1.50	$ 265.50
Open Market				
Other: Demo wall base & prep walls	381.000	LF	$ 1.00	$ 381.00
Other: Millwork Base 4.25" furnish & install	448.000	LF	$ 9.00	$ 4,032.00
CA Carpet Stewardship Assessment Carpet Tile	190.164	SY	$ 1.49	$ 283.34
Profit and Overhead	1.000	Each	$ 1,115.80	$ 1,115.80
Project Management Fee	1.000	Each	$ 150.00	$ 150.00
Sales Tax				
TOTAL				**$ 17,599.48**

If there is a change in materials or scope of work, a new proposal must be issued by Milliken Services, LLC.
Any revisions made to this proposal will invalidate the proposal.

This proposal is valid for 30 days from the "Proposal Date" posted at the top of this form.
Prices are subject to change based on price increases or modifications if they fall during this timeframe.

Special Conditions:

Notes:

1) This quotation is based on preliminary drawings. If actual yardage requirements are different, the price may change.
2) Pricing for installation is subject to change based upon flooring conditions and preparation requirements. Refer to Special Conditions above (if applicable) for more information.
3) Unless stated otherwise in proposal, the following exclusions apply: Major floor prep and leveling; Hoisting; Handling electronic equipment (including but not limited to computers, telephones, and personal belongings); Permits, Payment and performance bonds; Floor and equipment protection; Long-term storage of materials; and asbestos identification, testing, and abatement. If materials are suspected to contain asbestos during work, all work will immediately stop and it is the sole responsibility of the customer to conduct testing and abatement.
4) Site Conditions: Area must be enclosed, a minimum of 65 degrees, and HVAC running for 72 hours prior to install. Area must be clear of equipment and materials from other trades. Subfloor must be structurally sound and suitable for specified flooring. Scheduling delays and site unprepared may result in additional costs.
5) Installation schedule to be agreed upon by the customer and Milliken. Disruptions or unplanned changes in owner's schedule may result in additional costs.
6) Taxes will be applied unless appropriate tax exempt documentation is received by the customer prior to invoicing.
7) Materials are billed separate from installation, subject to POD at ship-to.
8) Material prices include freight. Rates do not include special freight services unless specified in quote above.
9) Pricing is based on PREVAILING WAGE labor rates.

All orders placed under Milliken's Sourcewell Contract are subject to
Milliken's contracted terms and conditions with Sourcewell.

Sign and return one copy of this agreement before any work begins. Keep one copy for your records.

Seller's Representative

Signature:	Katie Buchanan	Date:	5/5/2026
Printed Name:	Katie Buchanan	Title:	Project Manager

Customer's Representative

Signature:		Date:	
Printed Name:		Title:	

ALL PURCHASE ORDERS MUST BE MADE OUT TO: Milliken Services, LLC

Signed proposal, a **copy** of your **purchase order**,
and a **tax exempt certificate** should be emailed to:
katie.buchanan@milliken.com
If mailing, please send to:

Milliken Services, LLC
Katie Buchanan
201 Lukken Industrial Drive, West
LaGrange, Georgia 30240
706 590 5763

Milliken Services, LLC
Customer Proposal
OMNIA PARTNERS Contract - 2020002150

DIR Number: PW-LR-1000561459

Proposal Date: 5/5/2026 MQ Number: 1021000921

Project Name:	Fire Station 7	Milliken Sales Rep:	Becca Dobbs
City, State, Zip:		Primary Phone:	310 - 504 - 4635
Project Number:		Email:	becca.dobbs@milliken.com
Seller (company):	Milliken Services, LLC	Project Manager:	Katie Buchanan
Address:	201 W. Lukken Industrial Drive	Primary Phone:	706 590 5763
City, State, Zip:	LaGrange, GA 30240	Email:	katie.buchanan@milliken.com
Customer (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org
Bill To (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org

Item	Qty	Unit of Measure	Unit Price	Total
Nordic Stories Isograd Dark Dansk 50cm	195.247	SY	$ 33.18	$ 6,478.30
Standard Carpet Tile Adhesive (order by pail)	2.000	4-gal. pail	$ 147.22	$ 294.44
Carpet				
Install Carpet (renovation) Sq. Yd.	185.000	SY	$ 12.00	$ 2,220.00
Take Up/Remove Existing Carpet Sq. Yd.	165.000	SY	$ 5.00	$ 825.00
Furniture Move				
Furniture Move (light moving) Sq. Yd.	35.000	SY	$ 8.65	$ 302.75
Additional Labor				
Material Handling/Staging	1,661.000	SF	$ 0.60	$ 996.60
Transition Strips				
Metal Transition Strips - Furnish & Install	16.000	LNF	$ 6.92	$ 110.72
Disposal				
Material Disposal	165.000	SY	$ 1.50	$ 247.50
Milliken N/XT Life Solution				
Milliken N/XT Material Preparation - Carpet	165.000	SY	$ 3.00	$ 495.00
Open Market				
Other: Demo wall base & prep walls	358.000	LF	$ 1.00	$ 358.00
Other: Millwork Base 4.25" furnish & install	384.000	LF	$ 8.00	$ 3,072.00
CA Carpet Stewardship Assessment Carpet Tile	195.247	SY	$ 1.49	$ 290.92
Profit and Overhead	1.000	Each	$ 1,070.61	$ 1,070.61
Sales Tax				
TOTAL				**$ 16,761.84**

If there is a change in materials or scope of work, a new proposal must be issued by Milliken Services, LLC.
Any revisions made to this proposal will invalidate the proposal.

This proposal is valid for 30 days from the "Proposal Date" posted at the top of this form.
Prices are subject to change based on price increases or modifications if they fall during this timeframe.

Special Conditions:

Notes:

1) This quotation is based on preliminary drawings. If actual yardage requirements are different, the price may change.
2) Pricing for installation is subject to change based upon flooring conditions and preparation requirements. Refer to Special Conditions above (if applicable) for more information.
3) Unless stated otherwise in proposal, the following exclusions apply: Major floor prep and leveling; Hoisting; Handling electronic equipment (including but not limited to computers, telephones, and personal belongings); Permits, Payment and performance bonds; Floor and equipment protection; Long-term storage of materials; and asbestos identification, testing, and abatement. If materials are suspected to contain asbestos during work, all work will immediately stop and it is the sole responsibility of the customer to conduct testing and abatement.
4) Site Conditions: Area must be enclosed, a minimum of 65 degrees, and HVAC running for 72 hours prior to install. Area must be clear of equipment and materials from other trades. Subfloor must be structurally sound and suitable for specified flooring. Scheduling delays and site unprepared may result in additional costs.
5) Installation schedule to be agreed upon by the customer and Milliken. Disruptions or unplanned changes in owner's schedule may result in additional costs.
6) Taxes will be applied unless appropriate tax exempt documentation is received by the customer prior to invoicing.
7) Materials are billed separate from installation, subject to POD at ship-to.
8) Material prices include freight. Rates do not include special freight services unless specified in quote above.
9) Pricing is based on PREVAILING WAGE labor rates.

All orders placed under Milliken's Sourcewell Contract are subject to
Milliken's contracted terms and conditions with Sourcewell.

Sign and return one copy of this agreement before any work begins. Keep one copy for your records.

Seller's Representative

Signature:	Katie Buchanan	Date:	5/5/2026
Printed Name:	Katie Buchanan	Title:	Project Manager

Customer's Representative

Signature:		Date:	
Printed Name:		Title:	

ALL PURCHASE ORDERS MUST BE MADE OUT TO: Milliken Services, LLC

Signed proposal, a **copy** of your **purchase order**,
and a **tax exempt certificate** should be emailed to:
katie.buchanan@milliken.com
If mailing, please send to:

Milliken Services, LLC
Katie Buchanan
201 Lukken Industrial Drive, West
LaGrange, Georgia 30240
706 590 5763

Milliken Services, LLC
Customer Proposal
OMNIA PARTNERS Contract - 2020002150

DIR Number: PW-LR-1000561459

Proposal Date: 5/5/2026 MQ Number: 1021000921

Project Name:	Fire Station 8	Milliken Sales Rep:	Becca Dobbs
City, State, Zip:		Primary Phone:	310 - 504 - 4635
Project Number:		Email:	becca.dobbs@milliken.com
Seller (company):	Milliken Services, LLC	Project Manager:	Katie Buchanan
Address:	201 W. Lukken Industrial Drive	Primary Phone:	706 590 5763
City, State, Zip:	LaGrange, GA 30240	Email:	katie.buchanan@milliken.com
Customer (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org
Bill To (company):	City of Orange	Contact Person:	Kirk Wudzke
Address:	637 W Struck Ave	Primary Phone:	714 532 6474
City, State, Zip:	Orange CA 92867	Email:	kwudzke@cityoforange.org

Item	Qty	Unit of Measure	Unit Price	Total
Nordic Stories Isograd Dark Dansk 50cm	322.322	SY	$ 33.18	$ 10,694.64
Fortified Foundations 5.0 Shenandoah Moose 9x60	896.140	SF	$ 5.26	$ 4,713.70
Standard Carpet Tile Adhesive (order by pail)	3.000	4-gal. pail	$ 147.22	$ 441.66
Standard LVT TPS Adhesive	1.000	4-gal. pail	$ 150.58	$ 150.58
Standard LVT TPS Adhesive	1.000	1-gal. pail	$ 44.49	$ 44.49
Carpet				
Install Carpet (renovation) Sq. Yd.	301.000	SY	$ 12.00	$ 3,612.00
Take Up/Remove Existing Carpet Sq. Yd.	278.000	SY	$ 5.00	$ 1,390.00
LVT/Resilient				
Install LVT/Resilient Flooring	846.000	SF	$ 4.50	$ 3,807.00
Remove LVT/Resilient Flooring	806.000	SF	$ 2.50	$ 2,015.00
Floor Preparation Labor				
Floor Preparation	806.000	SF	$ 1.73	$ 1,394.38
Furniture Move				
Furniture Move (medium moving) Sq. Yd.	368.000	SY	$ 12.00	$ 4,416.00
Additional Labor				
Material Handling/Staging	3,556.000	SF	$ 0.60	$ 2,133.60
Cove Base				
4" Cove Base - Furnish & Install	240.000	LNF	$ 4.00	$ 960.00
Transition Strips				
Vinyl Transition Strips - Furnish & Install	24.000	LNF	$ 6.92	$ 166.08
Disposal				
Material Disposal	368.000	SY	$ 1.50	$ 552.00
Milliken N/XT Life Solution				
Milliken N/XT Material Preparation - Carpet	278.000	SY	$ 2.50	$ 695.00
Open Market				
Other: Ardex skim coat material for prep	20.000	Each	$ 30.00	$ 600.00
Other: Millwork Base 4.25" furnish & install	384.000	LF	$ 9.00	$ 3,456.00
Other: 4' straight base furnish & install	720.000	LF	$ 4.00	$ 2,880.00
CA Carpet Stewardship Assessment Carpet Tile	322.322	SY	$ 1.49	$ 480.26
Profit and Overhead	1.000	Each	$ 3,067.31	$ 3,067.31
Project Management Fee	1.000	Each	$ 500.00	$ 500.00
Sales Tax				
TOTAL				**$ 48,169.70**

If there is a change in materials or scope of work, a new proposal must be issued by Milliken Services, LLC.
Any revisions made to this proposal will invalidate the proposal.

This proposal is valid for 30 days from the "Proposal Date" posted at the top of this form.
Prices are subject to change based on price increases or modifications if they fall during this timeframe.

Special Conditions:

Notes:
1) This quotation is based on preliminary drawings. If actual yardage requirements are different, the price may change.
2) Pricing for installation is subject to change based upon flooring conditions and preparation requirements. Refer to Special Conditions above (if applicable) for more information.
3) Unless stated otherwise in proposal, the following exclusions apply: Major floor prep and leveling; Hoisting; Handling electronic equipment (including but not limited to computers, telephones, and personal belongings); Permits, Payment and performance bonds; Floor and equipment protection; Long-term storage of materials; and asbestos identification, testing, and abatement. If materials are suspected to contain asbestos during work, all work will immediately stop and it is the sole responsibility of the customer to conduct testing and abatement.
4) Site Conditions: Area must be enclosed, a minimum of 65 degrees, and HVAC running for 72 hours prior to install. Area must be clear of equipment and materials from other trades. Subfloor must be structurally sound and suitable for specified flooring. Scheduling delays and site unprepared may result in additional costs.
5) Installation schedule to be agreed upon by the customer and Milliken. Disruptions or unplanned changes in owner's schedule may result in additional costs.
6) Taxes will be applied unless appropriate tax exempt documentation is received by the customer prior to invoicing.
7) Materials are billed separate from installation, subject to POD at ship-to.
8) Material prices include freight. Rates do not include special freight services unless specified in quote above.
9) Pricing is based on PREVAILING WAGE labor rates.

All orders placed under Milliken's Sourcewell Contract are subject to
Milliken's contracted terms and conditions with Sourcewell.

Sign and return one copy of this agreement before any work begins. Keep one copy for your records.

Seller's Representative

Signature:	*Katie Buchanan*	Date:	5/5/2026
Printed Name:	Katie Buchanan	Title:	Project Manager

Customer's Representative

Signature:		Date:	
Printed Name:		Title:	

ALL PURCHASE ORDERS MUST BE MADE OUT TO: Milliken Services, LLC

Signed proposal, a **copy** of your **purchase order**,
and a **tax exempt certificate** should be emailed to:
katie.buchanan@milliken.com
If mailing, please send to:

Milliken Services, LLC
Katie Buchanan
201 Lukken Industrial Drive, West
LaGrange, Georgia 30240
706 590 5763

Agenda Item

Orange City Council

Item #: 3.9. 6/9/2026 **File #:** 26-0349

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 05-26 amending Chapter 5.100 of the Orange Municipal Code to eliminate certain restrictions on the retail sale of tobacco and tobacco products and provide clarification on the transferability of Tobacco Retailer Permits

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gutierrez, Gyllenhammer, Slater
	NOES:	None
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 05-26.

4. ATTACHMENTS

- Ordinance No. 05-26

Agenda Item

Orange City Council

Item #: 3.9. 6/9/2026 **File #:** 26-0349

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 05-26 amending Chapter 5.100 of the Orange Municipal Code to eliminate certain restrictions on the retail sale of tobacco and tobacco products and provide clarification on the transferability of Tobacco Retailer Permits

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gutierrez, Gyllenhammer, Slater
	NOES:	None
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 05-26.

4. ATTACHMENTS

- Ordinance No. 05-26

ORDINANCE NO. 05-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING CHAPTER 5.100 OF THE ORANGE MUNICIPAL CODE TO ELIMINATE CERTAIN RESTRICTIONS ON THE RETAIL SALE OF TOBACCO AND TOBACCO PRODUCTS AND PROVIDE CLARIFICATION ON THE TRANSFERABILITY OF TOBACCO RETAILER PERMITS

WHEREAS, California Constitution, Article XI, Section 7, authorizes the City of Orange ("City") to adopt and enforce local police, sanitary, and other ordinances and regulations that are not in conflict with general laws; and

WHEREAS, California Health & Safety Code section 101450 empowers the City Council to take measures necessary to preserve and protect public health, including adopting ordinances, regulations, and orders that are not in conflict with general laws; and

WHEREAS, a local tobacco retailer and several tobacco retail advocates provided public comment at a recent City Council meeting regarding the adverse economic impacts of restricting the sale of tobacco products, including electronic smoking devices and related accessories, between the hours of 2:00 a.m. and 6:00 a.m., as well as the resulting impacts on other general merchandise sales, and requested clarification regarding the transferability of a valid Tobacco Retailer Permit to a new proprietor in connection with the sale of a business; and

WHEREAS, the City Council finds and determines that removing certain restrictions and clarifying the transferability of a valid Tobacco Retailer Permit to a new proprietor in connection with the sale of a business will help mitigate adverse economic impacts on responsible local tobacco retailers while preserving the City's regulatory authority and enforcement discretion.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES HEREBY ORDAIN AS FOLLOWS:

SECTION I:

The subject Ordinance is exempt from the provisions of the California Environmental Quality Act (CEQA) per State CEQA Guidelines (Guidelines) Sections 15060(c)(2) and 15060(c)(3) because the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment, and it is not a "project" as defined in Guideline 15378.

SECTION II:

Sections 5.100.040 of the Orange Municipal Code, Business Taxes and Regulations – Tobacco Retailers – Tobacco Retailer Permit Applications, is hereby amended to read as follows:

5.100.040 Tobacco Retailer Permit Applications

A. Permit Required. No person shall engage in tobacco retailing within the City without first obtaining and maintaining a valid tobacco retailer permit for each specific location.

B. Application Procedure.

1. Applications must be submitted on forms provided by the City and include a non-refundable annual fee as set by City Council resolution.

2. Each application shall include, at minimum, the following:

a. Full legal name, date of birth, government-issued identification number, mailing address, phone number, and email for each proprietor;

b. Business name, address, phone number, and hours of operation;

c. Disclosure of any prior permit suspensions or revocations under this chapter, including dates and reasons;

d. Proof of a valid state tobacco retailer license from the California Department of Tax and Fee Administration;

e. Any other information deemed necessary by the City Manager for the administration or enforcement purposes;

f. A signed certification by each proprietor under penalty of perjury affirming the accuracy of the information provided and compliance with this chapter.

C. Authority to Adopt Administrative Regulations. The City Manager may adopt and implement additional administrative regulations, consistent with this chapter, to effectively enforce and administer local tobacco control measures. All regulations must be published in advance and filed with the City Clerk's office for public inspection.

D. Change of Information. Permittee shall notify the City in writing of any changes to submitted application information within 10 calendar days. A fee as set by City Council resolution may be imposed for processing such changes.

E. Permit Generally Nontransferable. A Tobacco Retailer Permit issued pursuant to this Chapter shall not automatically transfer or assign to any other person, proprietor, entity, or location except as expressly authorized by this Section. A Tobacco Retailer Permit is revocable regulatory privilege only and does not create a vested right, property interest, or entitlement.

F. Transfer Upon Change in Ownership. An existing Tobacco Retailer Permit may be transferred to a new owner or proprietor of the same business location upon approval by the City, provided that:

1. The proposed transferee submits a completed transfer application on a form approved by the City as contained in Subsection B prior to the transfer of ownership;

2. The transferee pays all applicable annual fees as established by resolution of the City Council;

3. The business location remains in compliance with all applicable federal, state, and local laws, including this Chapter;

4. No suspension, revocation, unpaid administrative fines, penalties, outstanding violations, or delinquent City obligations exist against the permit or business location at the time of transfer; and

5. The proposed transferee otherwise satisfies all requirements necessary to obtain a Tobacco Retailer Permit under this Chapter.

G. No Expansion of Existing Rights.

1. Approval of a permit transfer shall not authorize:

   a. Expansion or intensification of the tobacco retail use;

   b. Relocation of the business to another site;

   c. Modification of any conditions previously imposed upon the permit; or

   d. Any waiver of applicable buffer, density, zoning, land use, or operational requirements of this Chapter or other applicable law.

H. Arm's-Length Transactions and Related Transfers.

A transfer application may be considered only where the business remains substantially the same operation at the same approved location and the transfer involves one or more of the following:

1. Sale of the business through a bona fide arm's-length transaction;

2. Transfer between immediate family members; defined as spouse, domestic partner, parent, child, sibling, grandparent, grandchild or other person related by blood, marriage, or legal guardianship;

3. Transfer between business partners, related entities, corporations, limited liability companies, or successor entities;

4. Change in ownership structure where the business remains substantially the same operation at the same location; or

5. Internal restructuring, merger, conversion, or reorganization of the same operating business entity; or

6. Succession following the death or incapacity of the proprietor.

I. City Review Authority.

The City Manager, Community Development Director, or designee may approve, conditionally approve, or deny a transfer application if the proposed transfer does not comply with this Chapter or applicable law.

J. Effect of Unauthorized Transfer.

Any attempted transfer, assignment, or operation under a Tobacco Retailer Permit without City approval shall render the permit void and constitute a violation of this Chapter.

K. Continuation of Operations Pending Review.

A timely filed transfer application shall temporarily toll expiration of the existing Tobacco Retailer Permit during administrative review by the City unless the Tobacco Retailer Permit is suspended, revoked, or otherwise rendered invalid by operation of law.

L. Effect of Prior Violations at Location. Permit ineligibility due to prior violations at a location shall continue to apply unless:

1. The location has been transferred to new proprietor(s) in a bona fide Arm's Length Transaction; and

2. The new proprietor submits clear and convincing evidence of such transfer to the City's satisfaction.

SECTION III:

Section 5.100.060.C of the Orange Municipal Code, Business Taxes and Regulations – Tobacco Retailers –Prohibitions and Requirements, is hereby amended to read as follows:

5.100.060.C. Prohibitions and Requirements – Prohibited Products and Activities

The following items shall not be sold, distributed, displayed, furnished, administered, exchanged, given away, or possessed with the intent to sell or offered for sale by any tobacco retailer:

1. Drug paraphernalia;

2. Nitrous oxide or any device used to dispense it as defined by state law and the City Code;

3. Cannabis, cannabis products, cannabis accessories, or edible cannabis products as defined in state or federal law;

4. Controlled substances, including marijuana where applicable, as governed by California Health and Safety Code Sections 11351, 11352, 11359, 11360, 11366, 11378, and 11379 as may be amended from time to time.

5. Flavored tobacco products and tobacco product flavor enhancer, as prohibited under state or federal law;

6. (Reserved).

7. Imitation tobacco products, including, but not limited to, candy cigarettes and bubble gum cigars;

8. Edible tobacco look-alike products, including, but not limited to, snacks packaged or marketed to resemble tobacco products;

9. Disguised vape or electronic smoking devices, including, but not limited to, those made to look like USB drives, pens, markers, phone cases, watches, lipstick, remote keys or other non-tobacco items.

10. Unlawful weapon sales, including, but not limited to, violations of California Penal Code Sections 17235 (switchblade knives over two inches), 20410 (ballistic knives), 21810 (brass knuckles) as may be amended from time to time, and any other applicable local, state or federal laws.

SECTION IV:

Section 5.100.060.H of the Orange Municipal Code, Business Taxes and Regulations – Tobacco Retailers – Prohibitions and Requirements, is hereby amended to read as follows:

5.100.060.H Prohibitions and Requirements - Premises Regulations.

1. The business must maintain a clearly designated front entrance for customers. All non-emergency public access must occur through this entrance.

2. Front entrance doors must remain unlocked during regular business hours, unless temporarily secured for safety or emergency response.

3. (Reserved).

SECTION V:

If any section, subdivision, paragraph, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subdivision, paragraph, sentence, clause and phrase thereof,

irrespective of the fact that any one (or more) section, subdivision, paragraph, sentence, clause or phrase had been declared invalid or unconstitutional.

SECTION VI:

The City Clerk is hereby directed to certify the adoption of this Ordinance and cause the same to be published as required by law. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this ____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the 26th day of May, 2026, and thereafter at the regular meeting of said City Council duly held on the ___ day of _____, 2026 was duly passed and adopted by the following vote, to wit:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

Agenda Item

Orange City Council

Item #: 3.10. 6/9/2026 **File #:** 26-0350

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 06-26 approving Zone Change No. ZC25-0002 to change the zoning classification from Limited Business Tustin Redevelopment Project Area (C-TR) to Residential Multiple Family (R-3) on a 4.23-acre site located at 2375 N Tustin Street

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gyllenhammer, Slater
	NOES:	Gutierrez
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 06-26.

4. ATTACHMENTS

- Ordinance No. 06-26

Agenda Item

Orange City Council

Item #: 3.10. 6/9/2026 **File #:** 26-0350

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 06-26 approving Zone Change No. ZC25-0002 to change the zoning classification from Limited Business Tustin Redevelopment Project Area (C-TR) to Residential Multiple Family (R-3) on a 4.23-acre site located at 2375 N Tustin Street

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gyllenhammer, Slater
	NOES:	Gutierrez
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 06-26.

4. ATTACHMENTS

- Ordinance No. 06-26

ORDINANCE NO. 06-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE APPROVING ZONE CHANGE NO. ZC25-0002 TO CHANGE THE ZONING CLASSIFICATION FROM LIMITED BUSINESS TUSTIN REDEVELOPMENT PROJECT AREA (C-TR) TO RESIDENTIAL MULTIPLE FAMILY (R-3) ON A 4.23-ACRE SITE LOCATED AT 2375 N. TUSTIN STREET

ZONE CHANGE NO. ZC25-0002
APPLICANT: CHAD BROWN, MILIA HOMES

WHEREAS, the City Council has authority per Orange Municipal Code ("OMC") Section 17.10.020 and Government Code Section 65850 to adopt ordinances amending the City's Zoning Ordinance and to approve Zone Changes; and

WHEREAS, the application for Zone Change No. ZC25-0002 was filed by Chad Brown, Melia Homes in accordance with the provisions of the OMC for a proposal to redevelop a vacant commercial site with 71, three-story single-family small lot homes, open space recreation area, guest parking, and related site improvements on a 4.23-acre site located at 2375 N. Tustin Street ("Project"); and

WHEREAS, the application for Zone Change No. ZC25-0002 was processed in the time and manner prescribed by state and local law; and

WHEREAS, applications for Mitigated Negative Declaration No. ENV25-0001, General Plan Amendment No. GPA25-0003, Tentative Tract Map No. TTM25-0001, Major Site Plan Review No. MJSP25-0002, and Administrative Design Review Design Review No. ADR25-0018 were filed concurrently with Zone Change No. ZC25-0002; and

WHEREAS, the Planning Commission conducted a duly advertised public hearing on April 6, 2026, considered public comments, and recommended approval of the project by a 4-2 vote to the City Council, including Zone Change No. ZC25-0002; and

WHEREAS, the City Council adopted Mitigated Negative Declaration No. ENV25-0001 and associated Mitigation Monitoring and Reporting Program, which was prepared to analyze potential environmental impacts of the Project, including Zone Change No. ZC25-0002 ("Zone Change"); and

WHEREAS, the City Council adopted Resolution No. 11685, adopting Mitigated Negative Declaration No. ENV25-0001, and approving General Plan Amendment No. GPA25-0003, Tentative Tract Map No. TTM25-0001, Major Site Plan Review No. MJSP25-0002, and

Administrative Design Review No. ADR25-0018 for a proposal to redevelop a vacant commercial site with 71, three-story single-family small lot homes, open space recreation area, guest parking, and related site improvements on a 4.23-acre site located at 2375 N. Tustin Street ("Project"); and

WHEREAS, the City Council conducted a duly advertised public hearing on May 26, 2026, at which time interested persons had an opportunity to testify either in support of or opposition to the project, including Zone Change No. ZC25-0002.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES ORDAIN AS FOLLOWS:

SECTION I:

The existing zoning is depicted on the map attached hereto as Exhibit "A" and incorporated herein by reference. Section 17.06.030 of the Orange Municipal Code is amended in order to change the zoning classification by amending the zoning on the site as depicted on the map attached hereto as Exhibit "B" and incorporated herein by reference.

SECTION II:

1. The proposed Zone Change from Limited Business Tustin Redevelopment Project Area (C-TR) to Residential Multiple Family (R-3) makes the project's zoning consistent with the Medium Density Residential General Plan (MDR) land use designation established by the project's General Plan Amendment No. GPA25-0003, as required by law (Government Code Section 65860).

2. Table LU-3 in the General Plan Land Use Element indicates that residential zoning districts, including the R-3 and R-4 zones are compatible with the MDR General Plan land use designation established by the project's General Plan Amendment No. GPA25-0003.

3. The R-3 zoning and implementation of the Small Lot Subdivision Development Standards allows a small lot residential development use and physical development conditions that are generally compatible with the Residential Multiple Family (R-3(A)) zoning to the north and south and Limited Business Tustin Redevelopment Project Area (C-TR) zoning to the west which accommodates a mix of retail and service commercial uses, and professional offices. The zoning supports the pattern of residential development to the north and south of the site on Tustin Street.

4. The proposed Zone Change furthers the goals and Policy Actions of the General Plan Housing Element and the City's work toward meeting its Regional Housing Needs Allocation by contributing to the market-rate housing inventory in the community.

SECTION III:

The proposed Zone Change described in Section I is related to the public welfare, is consistent with the accompanying Mitigated Negative Declaration No. EMV25-0001, General Plan Amendment No. GPA25-0003, Tentative Tract Map No. TTM25-0001, Major Site Plan

Review No. MJSP25-0002, and Administrative Design Review No. ADR25-0018 filed herewith, and furthers the objectives and policies of the General Plan as is more specifically set forth in Resolution No. 11685, which is incorporated by reference as though fully set forth herein.

The proposed Zone Change from Limited Business Tustin Redevelopment Project Area (C-TR) to Residential Multiple Family (R-3) would make the proposed zoning classification consistent with the proposed General Plan land use designation. The Project would meet the Small Lot Subdivision Development Standards for the R-3 zone.

SECTION IV:

Mitigated Negative Declaration (MND) No. ENV25-0001 was prepared to evaluate the physical environmental impacts of the zone change and associated development project, in conformance with the provisions of the California Environmental Quality Act (CEQA) per state CEQA guidelines Section 15070 and the local CEQA Guidelines. No land use impacts have been identified in the MND. The MND finds that the project will have less than significant impacts to the environment, with the implementation of Project Design Features, Plans, Programs, and Policies, relating to Aesthetics, Air Quality, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Noise, and Tribal Cultural Resources, and Mitigation Measures relating to Biological Resources, Noise, and Tribal Cultural Resources.

SECTION V:

If any section, subdivision, paragraph, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subdivision, paragraph, sentence, clause and phrase thereof, irrespective of the fact that any one (or more) section, subdivision, paragraph, sentence, clause or phrase had been declared invalid or unconstitutional.

SECTION VI:

The City Clerk is hereby directed to certify the adoption of this Ordinance and cause the same to be published as required by law. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this _____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____

Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____

Nathalie Adourian, City Attorney, City of Orange

Attachments: Exhibits A & B

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

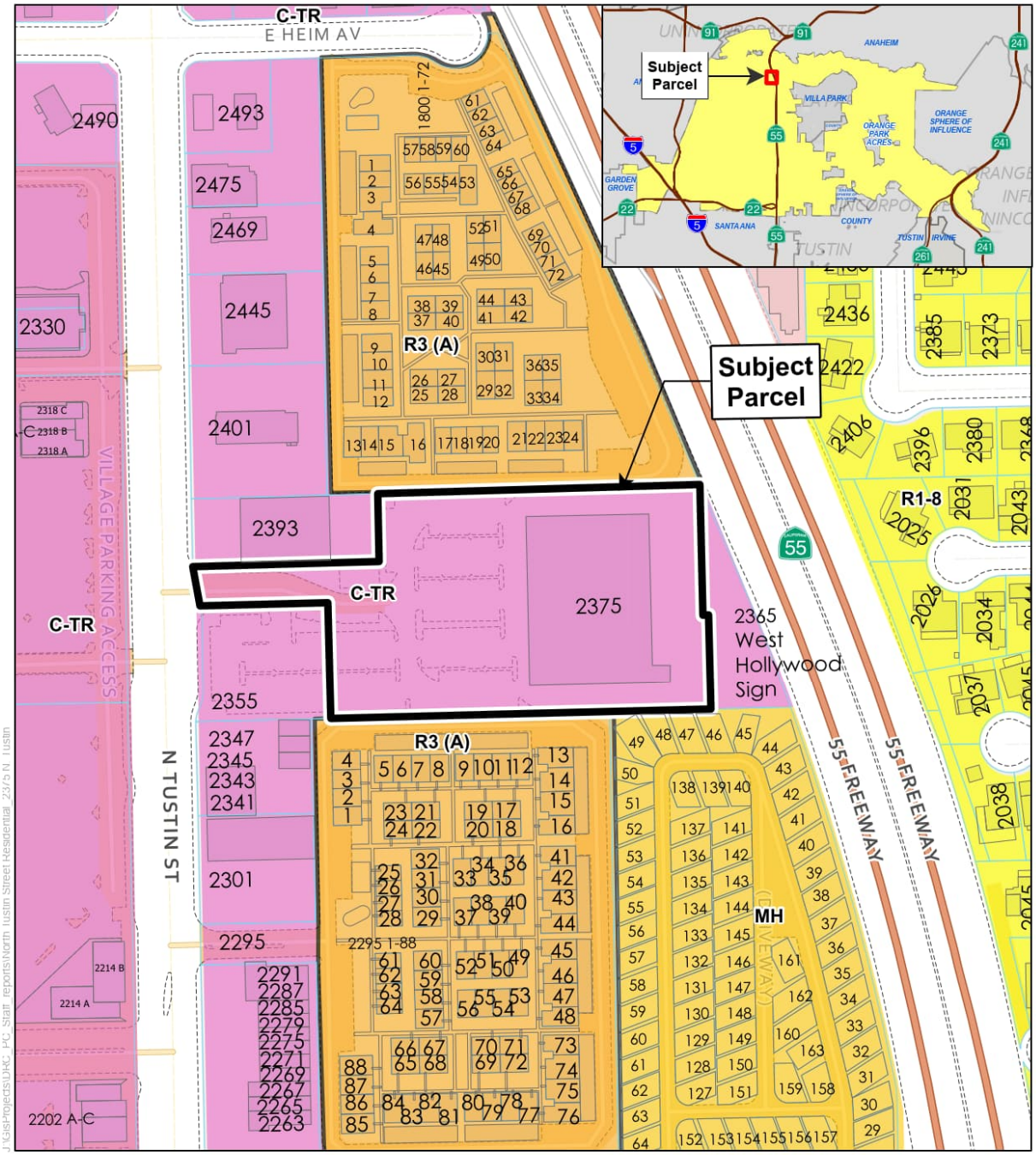
I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the 26th day of May, 2026, and thereafter at the regular meeting of said City Council duly held on the ____ day of _____, 2026 and was duly passed and adopted by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____

Pamela Coleman, City Clerk, City of Orange

EXHIBIT A
Existing Zoning Map



City of Orange
Geographic Information System

Legend
Parcels
Subject Parcel

Zoning
C-TR
MH
OP
R1-8
R3 (A)

Zone Change No.: ZC25-0002
Address: 2375 N. Tustin Street
Existing Zoning: C-TR

0 100 200 Feet

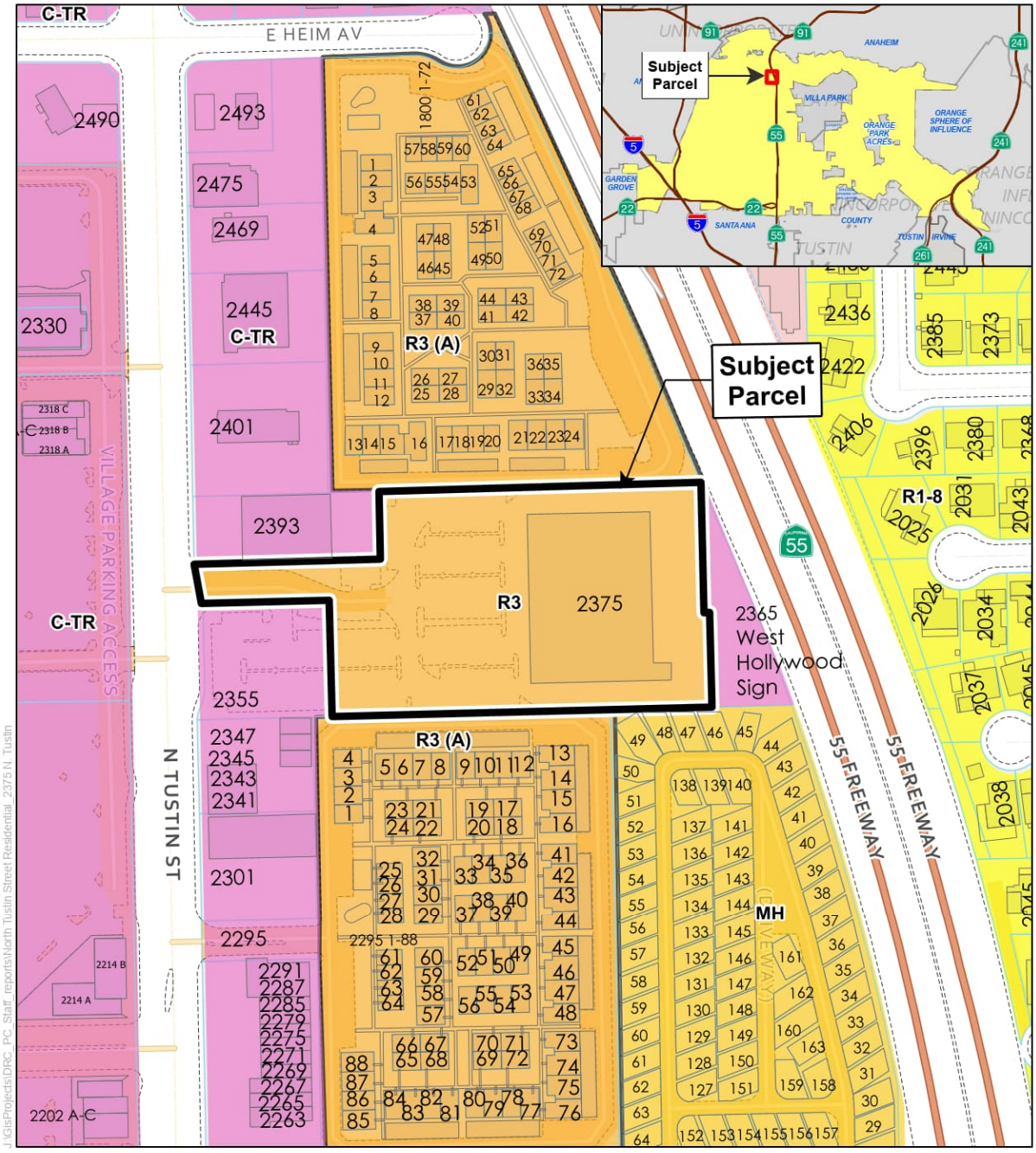
2/3/2026

Source: City of Orange (2026)

CITY OF ORANGE
NORTH TUSTIN STREET RESIDENTIAL PROJECT
EXISTING ZONING MAP

EXHIBIT B

Proposed Zoning Map



Agenda Item

Orange City Council

Item #: 3.11. 6/9/2026 **File #:** 26-0351

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 07-26 amending Title 17 of the Orange Municipal Code to comply with State law regarding Residential Care Facilities (Health and Safety Code Sections 1267.16 and 1500-1569.889)

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gutierrez, Gyllenhammer, Slater
	NOES:	None
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 07-26.

4. ATTACHMENTS

- Ordinance No. 07-26

Agenda Item

Orange City Council

Item #: 3.11. 6/9/2026 **File #:** 26-0351

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk/City Clerk Services Director**

1. SUBJECT

Second Reading and adoption of Ordinance No. 07-26 amending Title 17 of the Orange Municipal Code to comply with State law regarding Residential Care Facilities (Health and Safety Code Sections 1267.16 and 1500-1569.889)

2. SUMMARY

The Introduction and First Reading of the above-entitled Ordinance was approved at a Regular Council Meeting on May 26, 2026.

The Ordinance is now presented for Second Reading by title only, and adoption.

Vote at First Reading:	AYES:	Bilodeau, Barrios, Dumitru, Tavoularis, Gutierrez, Gyllenhammer, Slater
	NOES:	None
	ABSENT:	None

3. RECOMMENDED ACTION

Adopt Ordinance No. 07-26.

4. ATTACHMENTS

- Ordinance No. 07-26

ORDINANCE NO. 07-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING TITLE 17 OF THE ORANGE MUNICIPAL CODE TO COMPLY WITH STATE LAW REGARDING RESIDENTIAL CARE FACILITIES (HEALTH AND SAFETY CODE SECTIONS 1267.16 AND 1500-1569.889)

WHEREAS, the City of Orange 2021-2029 Housing Element was adopted by City Council on October 20, 2023, and the California State Department of Housing and Community Development found the Housing Element in substantial compliance with State Housing Element Law on January 2, 2024; and

WHEREAS, the 2021-2029 Housing Element, Housing Plan Program 4F, states "The City will amend the Orange Municipal Code to be compliant with State law regarding residential care facilities serving seven (7) or more persons in all residential zones, as well as ensure barrier-free housing choices for persons with disabilities." (Sections 1267.8, 1566.3, 1568.0831 of the California Health and Safety Code); and

WHEREAS, Health and Safety Code Sections 1267.16, 1566.3, 1568.0831 require local governments to treat licensed group homes and residential care facilities with six or fewer residents no differently than other by-right single-family housing uses, and that Local agencies must allow these licensed, residential-care facilities in any area zoned for residential use, and may not require licensed, residential-care facilities for six residents or less to obtain conditional use permits or variances that are not required of other family dwellings; and

WHEREAS, the Health and Safety Code provides that Residential Care Facilities operating as single-family residences that provide licensable services to more than six residents may be subject to conditional use or other discretionary approval processes; and

WHEREAS, the Health and Safety Code states that for the purpose of all local ordinances, a residential care facility that serves six or fewer persons shall not be included within the definition of a boarding house, rooming house, institution, guest home, rest home, community residence, or other similar term that implies that the residential care facility is a business run for profit or differs in any other way from a family dwelling; and

WHEREAS, the Health and Safety Code provides regulations for family day care home facilities for both small and large, and has updated operation regulations; and

WHEREAS, the City of Orange seeks to comply with these statutory provisions by amending the Orange Municipal Code (OMC) to appropriately classify and allow residential care facilities in applicable zoning districts and update family day care facilities consistent with state law; and

WHEREAS, the Planning Commission having considered the proposed revisions to the OMC at a public hearing held on February 19, 2026, including review of the staff report, and having received public testimony on the item, and adopted Planning Commission Resolution No. 06-26 recommending that the City Council approve the proposed amendments to Title 17, Chapter 17.13 of the Orange Municipal Code; and

WHEREAS, the City Council, having now considered the proposed changes to the OMC at a public hearing held on May 26, 2026, including review of the staff report, and having received public testimony on the item, desires to adopt the Proposed Ordinance.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES ORDAIN AS FOLLOWS:

SECTION I:

The recitals stated above are true and correct, incorporated herein, and with the public record, form the basis for this Ordinance.

SECTION II:

Section 17.04.022 of the Orange Municipal Code, "Zoning – Definitions – "C" Definitions," is hereby amended to delete the following definitions:

"Community Care Facility" means any facility, place or building where non-medical care and supervision are provided for seven or more persons (does not include the licensee or members of the licensee's family or persons employed as facility staff).

"Convalescent facility" means a use providing bed care and in-patient services for persons requiring regular medical attention, and persons aged or infirm unable to care for themselves, excluding surgical or emergency medical services.

"Convalescent hospital" means a facility providing long-term nursing, dietary and other medical services to convalescents or invalids but not providing surgery or primary treatments such as are customarily provided in a hospital. A convalescent hospital must be licensed by the State as such.

SECTION III:

Section 17.04.023 of the Orange Municipal Code, "Zoning – Definitions – "D" Definitions," is hereby amended to revise the following definition:

"Day care center" means any facility which provides non-medical care for an individual on less than a 24 hour basis including child day care centers. Day care centers are separate and distinct from Family day care homes, see definition of Family day care homes, small and large.

Section 17.04.023 of the Orange Municipal Code, "Zoning – Definitions – "D" Definitions," is hereby amended to delete the following definition:

"Day nurseries" means a facility where children are temporarily cared for in their parents' absence when and if there is provided on the lot or adjacent to the premises a play lot completely fenced, and containing an area of not less than 900 square feet, plus an additional 50 square feet for each child in excess of nine children and subject to all safety precautions as required by the Fire Department and Building Division.

SECTION IV:

Section 17.04.025 of the Orange Municipal Code, "Zoning – Definitions – "F" Definitions," is hereby amended to revise the following definitions as follows:

"Family" means one or more persons living together as a single housekeeping unit in a dwelling unit. This includes, but is not limited to, licensed residential care facilities serving six or fewer persons, as defined by state law. The term "family" shall not be limited by the presence of non-related individuals or the existence of a legal guardianship or other legal relationship.

"Family day care homes, large" means a single-family dwelling with the accessory daytime care of nine to 14 children. Pursuant to California Health and Safety Code §1597.40–1597.46 must be considered a residential use of property provided they meet zoning requirements.

"Family Day Care, Small" means a single-family dwelling with the accessory daycare of up to eight children. Pursuant to California Health and Safety Code §1597.40–1597.46 must be considered a residential use of property and is permitted by right.

SECTION V:

Section 17.04.026 of the Orange Municipal Code, "Zoning – Definitions – "G" Definitions," is hereby amended to revise the following definition as follows:

"Group home" means a residential facility that provides 24-hour care and supervision to children, delivered at least in part by staff employed by the licensee in a structured environment. The care and supervision provided by a group home shall be nonmedical, except as otherwise permitted by law.

SECTION VI:

Section 17.04.033 of the Orange Municipal Code, "Zoning – Definitions – "N" Definitions," is hereby amended to delete the following definition as follows:

"Nursing home" means an extended or intermediate care facility licensed or approved to provide full-time convalescent or chronic care to individuals who, by reason of advanced age, chronic illness or infirmity, are unable to care for themselves. (Ord. 20-82; Ord. 12-95)

SECTION VII:

Section 17.04.037 of the Orange Municipal Code, "Zoning – Definitions – "R" Definitions," is hereby amended to revise the following definition as follows:

"Residential Care Facility" means any family home, group care facility, or similar facility determined by the department, for 24-hour nonmedical care of persons in need of personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual.

Section 17.04.037 of the Orange Municipal Code, "Zoning – Definitions – "R" Definitions," is hereby amended to delete the following definition as follows:

"Rest home" means an extended or intermediate care facility licensed or approved to provide full-time convalescent or chronic care to individuals who, by reason of advanced age, chronic illness or infirmity, are unable to care for themselves.

SECTION VIII:

Section 17.04.038 of the Orange Municipal Code, "Zoning – Definitions – "S" Definitions," is hereby amended to add the following definition as follows:

"Skilled Nursing Facility" means a healthcare facility that provides 24-hour skilled nursing care and related services for individuals who require medical or nursing care, or rehabilitation services. These facilities are designed to help patients recover after a hospital stay for an illness or injury, or to provide ongoing care for those with chronic illnesses or disabilities.

Section 17.04.038 of the Orange Municipal Code, "Zoning – Definitions – "S" Definitions," is hereby amended to delete the following definitions as follows:

"Sanitarium, health" means an institution where patients, other than the mentally disoriented or mentally incompetent, are housed and where medical or post-surgical treatment is provided.

"Sanitarium, mental" means an institution for the recuperation and treatment of the mentally disordered, mentally incompetent or victims of drug addiction.

SECTION IX:

Title 17, Section 17.13.040 of the Orange Municipal Code is hereby amended to revise the following as follows:

NN. Large-Family Day Care Homes. Large-family day care homes are subject to the following:

1. The business shall be operated in a single-family residence on property residentially zoned.

2. The City noise ordinance in Chapter 8.24 shall be complied with at all times.

3. Two enclosed parking spaces shall be maintained for parking purposes only.

4. The facility shall be licensed by the State Department of Social Services.

5. The facility shall comply with State Fire Marshal standards for large-family day care facilities.

6. No signs advertising the business shall be allowed.

7. Compliance with all development standards for single-family residential structures is required.

8. A site plan identifying pedestrian access to and from loading area shall be submitted.

SECTION X:

Title 17, Section 17.13.040 of the Orange Municipal Code is hereby amended to add the following:

KKK. Reserved for Future Section.

LLL. Residential Care Facilities. Residential Care Facilities may occur in residential zones as specified in Table 17.13.030 pursuant to the following:

1. **Purpose.** The purpose of this section is to bring the Orange Municipal Code into compliance with the California Community Care Facilities Act (Health and Safety Code Sections 1500-1569.889) by clarifying the regulation of Residential Care Facilities. In the event of any inconsistency or conflict between the provisions of this code and state law, the provisions of state law shall prevail and be controlling.

2. **Residential Care Facilities that do not provided licensable services.** Group homes that operate as single-family residences and that do not provide licensable services shall be considered a residential use of property by a single family.

3. **Residential Care Facilities for Six or Fewer Persons.** In accordance with Health and Safety Code Section 1566.3 and 1568.0831, a Residential Care Facility that provides licensable services to six or fewer persons shall be considered a residential use of property by a single family. Such housing shall be permitted in all zones that allow residential uses, subject to the same standards and restrictions applicable to other residential dwellings of the same type in the same zone. In addition:

a. The residents and operators of the facility shall be considered a family for the purposes of any law or zoning ordinance that relates to the residential use of property pursuant to this chapter.

b. A residential care facility that serves six or fewer persons shall not be included within the definition of a boarding house, rooming house, institution, guest home, rest home, community residence, or other similar term that implies that the residential care facility is a business run for profit or differs in any other way from a family dwelling.

4. **Residential Care Facilities for Seven or More Persons.** A Residential Care Facility that provides licensable services to seven or more persons shall require approval of a conditional use permit, and shall be subject to the applicable zoning, permitting, and conditional use requirements of the underlying zone, consistent with all local and state housing laws.

5. **Heath and Safety Requirements.** All Residential Care facilities, licensed and un-licensed must comply with applicable code requirements including but not limited to, building code, health and safety code, and fire code.

SECTION XI:

Title 17, Section 17.13.050 of the Orange Municipal Code is hereby amended to delete W. Family Day Care Home – Large (Seven to 12 Children), and is replaced as follows:

W. Reserved for Future Section.

SECTION XII:

Table 17.13.030, of the Orange Municipal Code, "Zoning – Master Land Use Table – Care Facility," is hereby amended to be revised to the following:

ZONING	RESIDENTIAL							COMMERCIAL						MIXED USE					INDUSTRIAL		AGRICULTURAL OPEN SPACE			PI	OVERLAY		SAND & GRAVEL
LAND USE	R1-5	R1-6 to R-15	R1-20 to R-140 & R1-R	R2-6 to R2-8	R-3	R-4	MH	OP	CP/C1	CTR	C2	C3	CR	OTMU-15S	OTMU-15	OTMU-24	NMU-24	UMU	M1	M2	A1	RO	SH	PI	FP-1	FP-2	SG
Care facility—Includes uses that provide for non-24-hour care of children, elderly, or developmentally disabled persons.																											
Day Care Center (incudes child, elderly, or disabled	-	-	-	-	-	-	-	C	P *	P *	P *	P *	-	C	C	C	C	C	-	-	-	-	-	-	-	-	-
Day Care Center in conjunction with a church or school or other similar institutional use	C	C	C	C	C	C	C	C	C	C	C	C	-	C	C	C	C	C	C	C	C	-	-	C	-	-	-

ZONING	RESIDENTIAL							COMMERCIAL						MIXED USE					INDUSTRIAL		AGRICULTURAL OPEN SPACE			PI	OVERLAY		SAND & GRAVEL
LAND USE	R1-5	R1-6 to R-15	R1-20 to R-140 & R1-R	R2-6 to R2-8	R-3	R-4	MH	OP	CP/C1	CTR	C2	C3	CR	OTMU-15S	OTMU-15	OTMU-24	NMU-24	UMU	M1	M2	A1	RO	SH	PI	FP-1	FP-2	SG
Family Day Care homes, small (up to eight children)	P	P	P	P	P	P	P							P	P	P											
Family Day Care homes, large (9-14 children)	P*	P*	P*	P*	P*	P*	P*							P*	P*	P*											
Housing—Includes all structures permitted as living quarters whether they be for short or long-term occupancy. Includes all uses identified in California Building Code definitions that are preceded with main entry words (key terms) that include one of the following: Dwelling, unit, house, housing, ~~congregate,~~ residence, multi-family, dormitory, home(s), hotel, motel, residential care facility, residential facility, or lodging.																											
Residential Care Facility (all unlicensed facilities, or	P*	P*	P*	P*	P*	P*	P*	-	-	-	-	-	-	P*	P*	P*	P*	P*	-	-	-	-	-	-	-	-	-

ZONING	RESIDENTIAL							COMMERCIAL						MIXED USE					INDUSTRIAL		AGRICULTURAL OPEN SPACE			PI	OVERLAY		SAND & GRAVEL
LAND USE	R1-5	R1-6 to R-15	R1-20 to R-140 & R1-R	R2-6 to R2-8	R-3	R-4	MH	OP	CP/C1	CTR	C2	C3	CR	OTMU-15S	OTMU-15	OTMU-24	NMU-24	UMU	M1	M2	A1	RO	SH	PI	FP-1	FP-2	SG
licensed care facility for 6 or fewer persons																											
Residential Care Facility (licensed care facility for 7 or more persons	C	C	C	C	C	C	C	-	-	-	-	-	-	C	C	C	C	C	-	-	-	-	-	-	-	-	-
~~Congregate care (assisted living) home health facility (6 or fewer persons)~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~P~~	~~P~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~	~~-~~

ZONING	RESIDENTIAL							COMMERCIAL						MIXED USE					INDUSTRIAL		AGRICULTURAL OPEN SPACE			PI	OVERLAY		SAND & GRAVEL
LAND USE	R1-5	R1-6 to R-15	R1-20 to R-140 & R1-R	R2-6 to R2-8	R-3	R-4	MH	OP	CP/C1	CTR	C2	C3	CR	OTMU-15S	OTMU-15	OTMU-24	NMU-24	UMU	M1	M2	A1	RO	SH	PI	FP-1	FP-2	SG
~~Convalescent Facility, skilled nursing facility~~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	~~P~~	~~P~~	-	-	-	-	-	-	-	-	-
~~Convalescent Hospital~~	-	-	-	-	~~C~~	~~C~~	-	~~C~~	~~C~~	~~C~~	~~C~~	~~C~~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
~~Home for elderly, or mentally, or physically disabled persons (6 or fewer persons~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	~~P*~~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

ZONING	RESIDENTIAL							COMMERCIAL						MIXED USE					INDUSTRIAL		AGRICULTURAL OPEN SPACE			PI	OVERLAY		SAND & GRAVEL
LAND USE	R1-5	R1-6 to R1-15	R1-20 to R-140 & R1-R	R2-6 to R2-8	R-3	R-4	MH	OP	CP/C1	CTR	C2	C3	CR	OTMU-15S	OTMU-15	OTMU-24	NMU-24	UMU	M1	M2	A1	RO	SH	PI	FP-1	FP-2	SG
~~Residential Structure~~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	~~C~~	-
~~Rest Home~~ Skilled Nursing Facility	-		-	-	C	C		C	C	C	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
~~Sanitarium~~	-	-	-	-	~~C~~	~~C~~	-	-	-	-	-	-	-	-	-	-	-	-	-	-	~~C~~	-	-	-	-	-	-

SECTION XIII:

Table 17.34.060.A of the Orange Municipal Code, "Zoning – Off-Street Parking and Loading – Required Number of Parking Spaces for Residential Uses," is hereby amended to read as follows:

Table 17.34.060.A

REQUIRED NUMBER OF PARKING SPACES FOR RESIDENTIAL USES

USE	REQUIRED NUMBER OF SPACES
Skilled nursing facility	1 space per 4 beds.
Residential Care Facility (all unlicensed facilities, or licensed care facility for 6 or fewer persons	Residential Care Facilities (all unlicensed facilities, or licensed care facility for 6 or fewer persons) are treated as a residential use as required by state law, and are to be parked at the same parking requirements as a single-family home.
Residential Care Facility (7 or more)	1 space per 3 beds or approval of a Conditional Use Permit for an alternate rate based on a Parking Demand Study. An Overflow Parking Plan may be required as part of a conditional use permit.
~~Independent living facility~~	~~1 enclosed or covered space per unit, plus 1 space per 10 units for guests.~~

SECTION XIV:

This ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15061(b)(3) (Common Sense Exemption), because it can be seen with certainty that there is no possibility that the ordinance may have a significant effect on the environment. The proposed amendments do not significantly increase the potential (in manner or degree) for future development, beyond what is currently permitted by the City of Orange Zoning Code. Therefore, the project would not result in a direct or reasonably foreseeable indirect physical change in the environment.

SECTION XV:

If any section, subdivision, paragraph, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subdivision, paragraph, sentence, clause and phrase thereof,

irrespective of the fact that any one (or more) section, subdivision, paragraph, sentence, clause or phrase had been declared invalid or unconstitutional.

SECTION XVI:

The City Clerk is hereby directed to certify the adoption of this Ordinance and cause the same to be published as required by law. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this _____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the 26th day of May, 2026, and thereafter at the regular meeting of said City Council duly held on the _____ day of _____, 2026 was duly passed and adopted by the following vote, to wit:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

Agenda Item

Orange City Council

Item #: 3.12. 6/9/2026 **File #:** 26-0277

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Adam Jevec, Chief of Police**

1. SUBJECT
Authorize purchase of Police Department uniforms from Galls, LLC.

2. SUMMARY
Purchase of uniforms from Galls, LLC through Cooperative Purchasing Agreement, Master Agreement No. 106-499158, to support uniform needs during Fiscal Year 2026-2027

3. RECOMMENDED ACTION
Approve the purchase of Police Department uniforms from Galls, LLC for $130,000.

4. FISCAL IMPACT
The expense for this purchase is $130,000 and will be funded upon adoption of the proposed Fiscal Year 2026-2027 budget through General Fund (100):

100-4011-53102 Uniforms & Clothing

5. STRATEGIC PLAN GOALS
Goal 1: Maintain Strong Emergency and Safety Services

6. DISCUSSION AND BACKGROUND
Police personnel are required to wear uniforms to ensure clear identification as law enforcement officers and to promote public trust and accessibility during emergencies and daily operations. Newly hired officers and select staff are initially issued a collection of uniforms, while worn or damaged items are replaced annually or as needed.

In addition to standard uniforms, specialized units such as Special Weapons and Tactics (SWAT), Motor Officers, K9, and Bicycle Patrol require unit-specific attire to perform their duties safely and effectively.

The Orange Police Department currently procures uniforms and duty gear from Galls, LLC (Galls), a national supplier headquartered in Lexington, Kentucky. Galls maintains a retail location in close proximity to the department, reducing staff travel time for fittings and order pickups. Galls provides a broad range of uniform options, competitive pricing, online ordering, and alteration services.

The proposed purchase leverages a Cooperative Agreement between Galls and the City of Anaheim (Master Agreement No. 106-499158), which offers the most cost-effective pricing available to the

City.

To ensure continuity of uniform supply, the Police Department requests authorization to purchase uniforms from Galls for a total amount of $130,000 for Fiscal Year 2026-2027.

7. ATTACHMENTS

- Galls Master Agreement No. 106-499158

Agenda Item

Orange City Council

Item #: 3.12. 6/9/2026 **File #:** 26-0277

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THRU: **Jarad Hildenbrand, City Manager**

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7. ATTACHMENTS

- Galls Master Agreement No. 106-499158

Master Agreement Purchase Order

200 S. Anaheim Blvd.
Purchasing, Suite 620
Anaheim, CA 92805-3820
Phone: 714-765-5110
Fax: 714-765-5288

MA #: 106-499158
Revision #: 1
Attachments: 10
Council Award: 9777; 5/7/24

GALLS, LLC
2789 LONG BEACH BLVD.
LONG BEACH, CA 90806

Contact Name: **MELISSA CASTRO**
Phone: 562-305-6176
Email: castro-melissa@galls.com
FOB: Destination, Delivery Charges included in price

Vendor ID Code #: VC0000108743
Master Agreement : 106-499158
Begin Date: 05/01/26
Expiration Date: 04/30/27
Supercedes MA: 106 - 498488
Renewal options: Yes
Total purchase Not to Exceed: $987,327.30
Payment terms: NET 30 DAYS

Authorized Departments:
POLICE

This agreement documents the general terms, conditions and pricing of the City's purchases of the goods and/or services described below. This Master Agreement does not authorize specific quantities or shipping dates; authorization to ship goods or deliver services will be made by issuing Delivery Order referencing this document. Shipping location, delivery date, items, quantities and prices will be confirmed on the Delivery Orders. All invoices must clearly indicate the relevant, authorizing Deliver Order # they pertain to.

COMMODITIES AND SERVICES COVERED BY THIS MASTER AGREEMENT:
UNIFORMS AND ACCESSORIES: POLICE

Special notes:
PER BID #: 9777 SPECIFICATIONS, TERMS and CONDITIONS.

Per RFB Specifications D., the Police Dept may add, change, or delete items as changes are made in the Police outfitting standard.
==========
THIS IS YEAR TWO OF UP TO FOUR ONE-YEAR OPTIONAL RENEWALS.

2026 3.4 CPI INCREASE (EXCEPTION - AKER INCREASE RANGE 17%-60% DUE TO MFR INCREASE-SUPPORT DOC ATTACHED)

Line #	CC	Description	Qty	U of M	Unit Price
1	20088	Uniforms and Accessories for Police Personnel (taxable).	0.00		$0.0000
2	20088	Services for Police Personnel (non-taxable).	0.00		$0.0000

CONTINUED ON NEXT PAGE
INSTRUCTIONS TO VENDORS
This Purchase Order subject to and governed by all Terms and Conditions printed at the end of this order.

Buyer's Signature:

Esther Robles (714) 765-4093
erobles@anaheim.net

Master Agreement Purchase Order

200 S. Anaheim Blvd.
Purchasing, Suite 620
Anaheim, CA 92805-3820
Phone: 714-765-5110
Fax: 714-765-5288

MA #: 106-499158
Revision #: 1
Attachments: 10
Council Award: 9777; 5/7/24

Special notes:

This Master Agreement ("MA"), along with the City's Standard Terms and Conditions, documents the items, prices and terms and conditions of the City's agreement with the supplier to provide the goods and/or services shown.
Quantities and/or dollars shown are estimates only. The City is under no obligation to purchase any or all of the items or services shown on this Master Agreement.
The City shall be obligated only for the specific quantities of materials or services that are authorized by the issuance of a specific Delivery Order ("DO") referencing this Master Agreement. Delivery Orders will be issued by the requesting department and shall specify the delivery date, location and unique Delivery Order Number.
Prices shown are to remain firm for the first year of this Agreement, unless otherwise specified in the body of this Master Agreement.
The total purchase limit shown for this Master Agreement is inclusive of all taxes. Supplier is not authorized to accept orders, nor provide goods or services in excess of this amount.
All invoices are to be sent to Accounts Payable ONLY, and must reference the specific Delivery Order number applicable to the invoice.
This Master Agreement may be renewable, in accordance with the terms of the applicable bid and/or City Council award.
This order may be terminated by either party, without cause, upon a thirty (30) day written notice.
This purchase order is for the referenced materials, products and/or services only. Departments requesting the goods and services are responsible for contract administration and monitoring compliance with the agreement.
At the City's option, annual increases in these prices may be negotiated, but shall not exceed the change in the Consumer Price Index ("CPI") for the preceeding twelve (12) month period for the Los Angeles, Riverside and Orange County areas.
All terms, conditions, and specifications of the referenced bid apply to this purchase order.
THIS PRICE AGREEMENT IS FOR A PERIOD OF ONE (1) YEAR WITH FOUR (4) OPTIONAL ONE-YEAR RENEWALS.

Buyer's Signature:

CONTINUED ON NEXT PAGE
INSTRUCTIONS TO VENDORS
This Purchase Order subject to and governed by all Terms and Conditions printed at the end of this order.

Esther Robles (714) 765-4093
erobles@anaheim.net

Master Agreement Purchase Order

200 S. Anaheim Blvd.
Purchasing, Suite 620
Anaheim, CA 92805-3820
Phone: 714-765-5110
Fax: 714-765-5288

MA #: 106-499158
Revision #: 1
Attachments: 10
Council Award: 9777; 5/7/24

STANDARD TERMS & CONDITIONS

1. TERMS OF ORDER: This order is limited to the terms herein unless expressly agreed in writing by the City's Purchasing Division.

2. ACCEPTANCE: Seller's shipment of goods, commencement of any work, or performance of any services hereunder shall constitute acceptance by Seller of this order and all of its terms and conditions. No additional terms or conditions stated by Seller in acknowledging or otherwise accepting this order shall be binding upon the City unless specifically accepted in writing by Buyer. No oral agreements shall be binding unless confirmed by a written revision to this purchase order.

3. SELL OR ASSIGN: The supplier shall not sell, assign, or transfer any obligations resulting from this order without the specific written consent of the City's Purchasing Division.

4. MATERIAL SAFETY DATA SHEETS: Supplier shall submit Material Safety Data Sheets with all orders of hazardous substances.

5. COMPLIANCE WITH LAWS: All goods and services provided shall comply with all current federal, state, and local laws relative thereto. Supplier further agrees to indemnify, defend, and hold the City harmless for any failure to so conform.

6. TAXES: Unless otherwise indicated on the P.O., this order is subject to California Sales Tax, at the current Orange County tax rate. The City is exempt from Federal Excise Tax.

7. WARRANTY: Supplier fully warrants all materials and equipment, including without limitation, any optional equipment purchased by the City under the terms of this order, against poor and inferior quality and workmanship of equipment, labor and materials, for one year after the date of final acceptance by the City, unless otherwise stated herein.

8. LAWS GOVERNING CONTRACT: This order will be administered and interpreted under the laws of the State of California.

9. BUSINESS LICENSE: Firms providing goods or services to the City of Anaheim must have a current City business license.

10. AUTHORIZED DISTRIBUTOR: Vendor represents that vendor is an authorized distributor of the product ordered. The City reserves the right to cancel this order at any time if it is determined that the vendor is not an authorized distributor of the product ordered.

11. CANCELLATION: Time is of the essence in the performance of this Purchase Order. The City reserves the right to cancel any portion of this order with respect to goods not delivered, or services not performed, on or before the required delivery date.

12. REJECTION OF MATERIALS/SERVICES: All materials and services furnished shall be as specified and are subject to inspection and approval by the City. The City reserves the right to reject any material or service which does not comply with the specifications and/or terms of this order.

13. F. O. B. POINT: All orders are to ship F. O. B. Destination, unless otherwise specified in the P.O.

14. TITLE: Except as otherwise and expressly provided herein, title to and risk of loss on all items shipped by vendor or vendor's agent to the City shall pass to the City upon the City's inspection and acceptance of such items at the City's premises.

15. SHIPPING & HANDLING CHARGES: Shipping, handling, packing, transportation, and any other fees or charges are not allowed unless specified otherwise herein.

16. PACKING SLIPS: Packing slips specifying quantity, description and purchase order number must be included with each delivery.

17. INVOICES: The purchase order number and department name must appear on all invoices, shipping papers, packages, and correspondence. Unless otherwise specified, the invoice shall contain the following information; purchase order number, item number, description of supplies or services, sizes, quantities, unit prices, extended totals, all applicable taxes, and freight and handling charges, where authorized.

18. PAYMENT: Payment will be made only upon receipt of all materials, services, and invoices which are as specified and in accordance with the terms of this order, unless otherwise stated herein.

19. HOLD HARMLESS AND INDEMNIFICATION: By acceptance of this purchase order, the vendor hereby agrees to indemnify, defend, and hold harmless the City (including its officers and employees) for/ from any and all claims or actions of any kind presented against the City arising out of vendor's (including vendor's employees, representatives, products, and subcontractors) performance under this agreement, excepting only such claims, costs, or liability which may arise out of sole negligence of the City.

20. INSURANCE: Vendors who perform work on City property are required to provide acceptable proof of insurance prior to commencing work. Specific insurance requirements are contained within the body of the purchase order.

21. NEW MATERIALS: Unless a bid specification calls for used, refurbished or recycled materials, all items or materials bid and supplied to the City are to be new, unused products.

Agenda Item

Orange City Council

Item #: 3.13. 6/9/2026 **File #:** 25-0681

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Approval of Final Tract Map for Tract 18163 for the Mabury 22 project located at 6000 E. Mabury Avenue

2. SUMMARY

Tract Map 18163 is a subdivision of 22 single-family homes on the south side of East Mabury Avenue.

3. RECOMMENDED ACTION

Approve Final Map for Tract 18163.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

On August 25, 2020, the City Council approved Resolution No. 11268 which includes Tentative Tract Map 0050-20 located at 6000 E. Mabury Avenue. The proposed project would involve subdividing and constructing 22 detached single-family dwelling units on approximately 10.9 acres of the approximately 15.4 acre site north of Santiago Creek. It would involve an open space dedication of approximately 4.5 acres along the Santiago Creek corridor on the portion of the site designated as Low Density Residential (LDR). Residential lots would comprise approximately 5.4 acres and the remaining approximately 5.5 acres would be used for infrastructure.

The Final Map for Tract 18163 conforms to the approved Tentative Tract Map. The Final Map also includes dedication of easements for streets, fire access, utility and public trail purposes.

All required fees have been paid, and bonds have been posted to guarantee construction of on-site improvements, and off-site street improvements.

7. ATTACHMENTS

- Site Map
- Tract 18163 Final Map

Agenda Item

Orange City Council

Item #: 3.13. 6/9/2026 **File #:** 25-0681

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Approval of Final Tract Map for Tract 18163 for the Mabury 22 project located at 6000 E. Mabury Avenue

2. SUMMARY

Tract Map 18163 is a subdivision of 22 single-family homes on the south side of East Mabury Avenue.

3. RECOMMENDED ACTION

Approve Final Map for Tract 18163.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

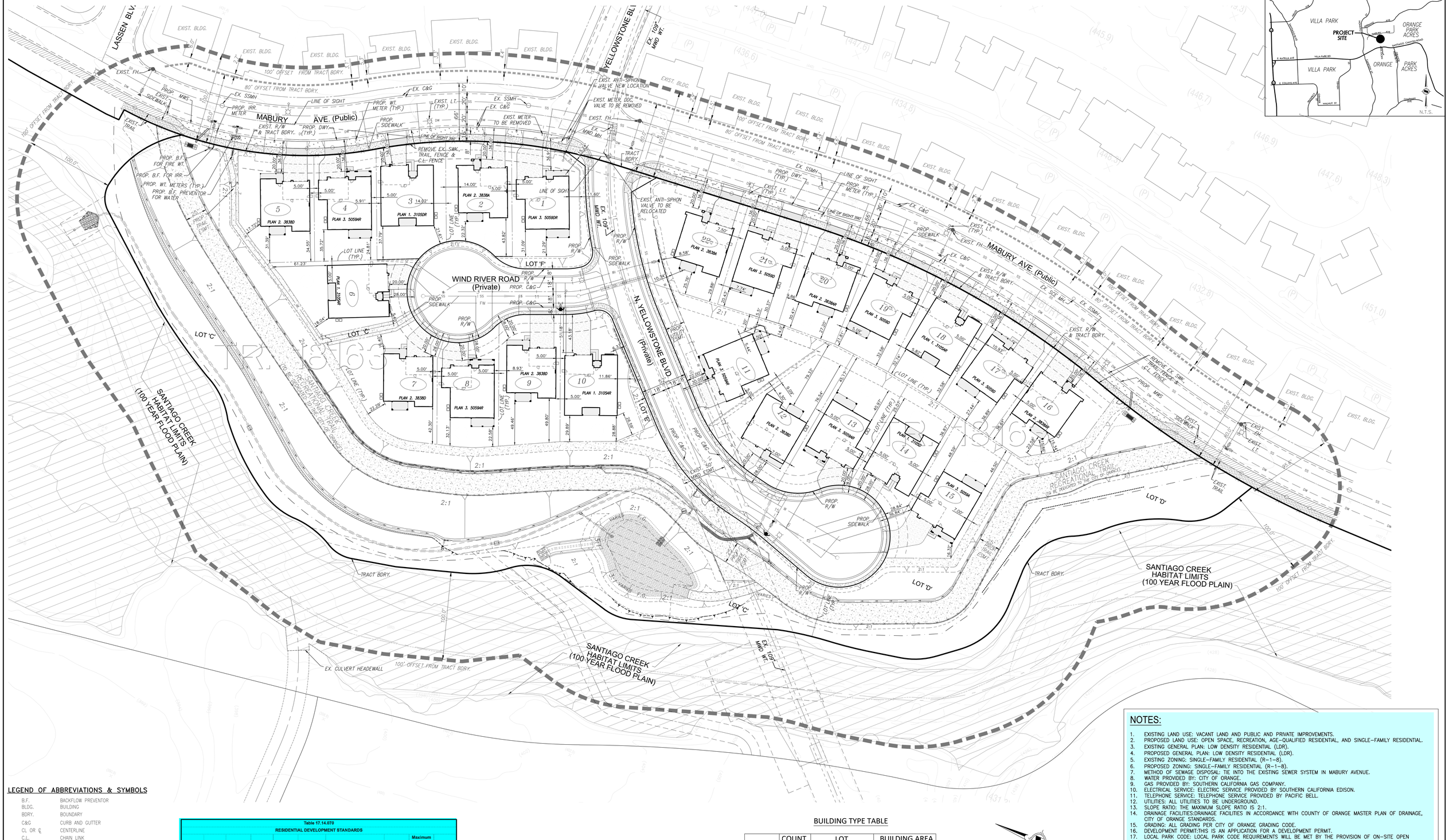
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The Final Map for Tract 18163 conforms to the approved Tentative Tract Map. The Final Map also includes dedication of easements for streets, fire access, utility and public trail purposes.

All required fees have been paid, and bonds have been posted to guarantee construction of on-site improvements, and off-site street improvements.

7. ATTACHMENTS

- Site Map
- Tract 18163 Final Map



LEGEND OF ABBREVIATIONS & SYMBOLS

B.F.	BACKFLOW PREVENTOR
BLDG.	BUILDING
BDRY.	BOUNDARY
C&G	CURB AND GUTTER
CL OR ℄	CENTERLINE
C.L.	CHAIN LINK
EX./EXIST.	EXISTING
F.H.	FIRE HYDRANT
FW.	FIRE WATER
IRR.	IRRIGATION
LT.	LIGHT
MWD	METROPOLITAN WATER DISTRICT
MWS	MODULAR WETLAND SYSTEM
PROP.	PROPOSED
R.	ROLLED
R/W	RIGHT OF WAY
SS	SEWER
SSMH	SEWER MANHOLE
SWK.	SIDEWALK
TR.	TRACT
UT.	UTILITY
WT.	WATER

100' OFFSET LINE FROM TRACT BOUNDARY

80' OFFSET LINE FROM TRACT BOUNDARY

Table 17.14.070
RESIDENTIAL DEVELOPMENT STANDARDS

District	Units Per Lot	Minimum Lot Area in sq. ft. (x)	Minimum Lot Area Per Unit In sq. ft.	Minimum Lot Frontage In feet (a)	Minimum Lot Depth in feet	Minimum Yard Setback In Feet (b,h)			Maximum Height (ft.-stories) whichever is less (g)	Maximum Floor Area Ratio (o) or Lot Coverage (p)	Minimum Usable Open Space in sq. ft. (q)
						Front	Side	Rear			
R1-8 (aa)	1	8,000	N/R	60(k)	100	20	5(c)	20(d,e,f)	32'—2 stories	(u)	1,000 sf

NOTES:
(c) The following exceptions apply:
1. Corner and reverse corner lots shall have a minimum 10-foot street side yard.
2. Wherever a garage opening faces onto a street, a minimum 20-foot side yard shall be provided.
3. When the main entrance to a building faces the side lot line, the entrance shall be located at least 10 feet from the property line.
4. When there is an existing legal nonconforming side yard setback, such setback shall be recognized as the acceptable side yard building setback for purposes of building additions.

(d) Extensions into the required rear yard are permitted subject to the conditions stated in Section **17.14.090(C).**

(e) Corner or reverse corner lots-extensions within five feet of the rear property line are permitted providing that all requirements for usable open space are met.

(f) Wherever rear lot line abuts and is common to the boundary of a street, alley, or permanent open space, the rear yard setback may be five feet. However, any garage opening onto a street shall be set back a minimum of 20 feet.

(k) Adjustment to minimum lot frontage requirements for cul-de-sac and knuckle lots shall be considered part of the discretionary approval of the subdivision

(u) Floor area ratio (FAR) shall vary according to lot area as follows:

Lot Area in Square Feet	Maximum FAR
<10,000	0.60
10,000-39,999	0.50
>40,000	0.40

(aa) constructed or lots created pursuant to SB 9, apply the development standards in Table 17.14.060.

BUILDING TYPE TABLE

	COUNT	LOT	BUILDING AREA
PLAN 1	5	3, 6, 10, 14, 18	3,105 SQ. FT
PLAN 2	8	2, 5, 7, 9,12 16, 20 ,22	3,838 SQ. FT
PLAN 3	9	1, 4, 8, 11, 13 15, 17, 19, 21	5,059 SQ. FT

SCALE: 1" = 40'

120 40 0 20 40

GRAPHIC SCALE: 1"=40'

NOTES:

1. EXISTING LAND USE: VACANT LAND AND PUBLIC AND PRIVATE IMPROVEMENTS.
2. PROPOSED LAND USE: OPEN SPACE, RECREATION, AGE-QUALIFIED RESIDENTIAL, AND SINGLE-FAMILY RESIDENTIAL.
3. EXISTING GENERAL PLAN: LOW DENSITY RESIDENTIAL (LDR).
4. PROPOSED GENERAL PLAN: LOW DENSITY RESIDENTIAL (LDR).
5. EXISTING ZONING: SINGLE-FAMILY RESIDENTIAL (R-1-8).
6. PROPOSED ZONING: SINGLE-FAMILY RESIDENTIAL (R-1-8).
7. METHOD OF SEWAGE DISPOSAL: TIE INTO THE EXISTING SEWER SYSTEM IN MABURY AVENUE.
8. WATER PROVIDED BY: CITY OF ORANGE.
9. GAS PROVIDED BY: SOUTHERN CALIFORNIA GAS COMPANY.
10. ELECTRICAL SERVICE: ELECTRIC SERVICE PROVIDED BY SOUTHERN CALIFORNIA EDISON.
11. TELEPHONE SERVICE: TELEPHONE SERVICE PROVIDED BY PACIFIC BELL.
12. UTILITIES: ALL UTILITIES TO BE UNDERGROUND.
13. SLOPE RATIO: THE MAXIMUM SLOPE RATIO IS 2:1.
14. DRAINAGE FACILITIES:DRAINAGE FACILITIES IN ACCORDANCE WITH COUNTY OF ORANGE MASTER PLAN OF DRAINAGE, CITY OF ORANGE STANDARDS.
15. GRADING: ALL GRADING PER CITY OF ORANGE GRADING CODE.
16. DEVELOPMENT PERMIT:THIS IS AN APPLICATION FOR A DEVELOPMENT PERMIT.
17. LOCAL PARK CODE: LOCAL PARK CODE REQUIREMENTS WILL BE MET BY THE PROVISION OF ON-SITE OPEN SPACE AND RECREATIONAL USES.
18. RECEIVING WATERS: THE RECEIVING WATERS FOR CONTROLLED RUNOFF FROM THIS SITE IS SANTIAGO CREEK.
19. MAINTENANCE: THE MAINTENANCE OF ALL DEDICATIONS SHALL BE BY THE ENTITY ACCEPTING THE DEDICATION.
20. FIRE MASTER PLAN: ALL DEVELOPMENT FOR THIS TRACT SHALL BE IN COMPLIANCE WITH THE FIRE MASTER PLAN FOR THIS TRACT APPROVED BY THE CITY OF ORANGE FIRE DEPARTMENT AND PER THE CALIFORNIA FIRE CODE, 2023 EDITION AS ADOPTED BY THE CITY OF ORANGE.
21. PRIVATE STREETS: ALL PRIVATE STREETS SHALL BE MAINTAINED BY THE HOA.
22. PRIVATE STORM DRAINS: ALL PRIVATE STORM DRAINS SHALL BE MAINTAINED BY THE HOA.

LEGAL DESCRIPTION:

REAL PROPERTY IN THE CITY OF ORANGE, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1 OF PARCEL MAP NO. 2021-187, IN THE CITY OF ORANGE, COUNTY OF ORANGE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 415, PAGES 38 THROUGH 47 INCLUSIVE OF PARCEL MAPS, RECORDS OF SAID COUNTY.

EXCEPTING THEREFROM ALL OIL, GAS, ASPHALTUM AND TAR, IN AND UNDER SAID LAND, 500 FEET BELOW THE SURFACE, BUT WITHOUT THE RIGHT TO USE THE SURFACE OF SAID LAND IN CONNECTION WITH THE DEVELOPMENT THEREOF, PROVIDED, HOWEVER, THE SAME SHALL NOT BE CONSTRUED TO PROHIBIT SLANT DRILLING OPERATIONS OR SUCH OTHER OPERATIONS WHICH IN NO WAY USE OR IN ANY WAY AFFECT THE SURFACE RIGHTS OF SAID LAND AND WHICH DO NOT ENTER SAID LAND AT A POINT LESS THAN 500 FEET TO SAID SURFACE, AS EXCEPTED AND RESERVED BY ANTHONY B. HEINSBERGEN AND NEDITH C. HEINSBERGEN, HUSBAND AND WIFE, IN A DEED RECORDED NOVEMBER 15, 1972 IN BOOK 10426, PAGE 541 OF OFFICIAL RECORDS.

APN: 370-225-02 AND PORTIONS OF 370-225-01, 370-213-01, 370-011-18, 370-011-21 AND 093-280-30

MABURY ESTATE
TRACT 18163
PROPOSED SITE PLAN

PREPARED FOR:
D.R. HORTON
980 MONTECITO DRIVE, SUITE 300
CORONA, CA. 92819
CONTACT: DEAN PERNICONE
PHONE: 951.739.5469 EMAIL: djpernicone@drhorton.com

PREPARED BY:
HUNSAKER & ASSOCIATES
IRVINE, INC
PLANNING • ENGINEERING • SURVEYING
157 Technology Drive • Irvine, CA 92618 • (949) 583-1010

PLOTTED BY: Tommy Cheung DATE: May. 08, 2026 05:20:08 PM FILE: F:\1236\Engineering\Exh_General\Exh_Site Plan\Mabury Estate Site Plan.DWG

W.O.: 1375-94X

SHEET 1 OF 6 SHEETS
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
DATE OF SURVEY: JUNE 2022
(ALL OF TENTATIVE
TRACT NO. 18163)

TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE, STATE OF CALIFORNIA

BEING A SUBDIVISION OF PARCEL 1 OF PARCEL MAP NO. 2021-187 AS SHOWN ON A PARCEL MAP FILED IN BOOK 415, PAGES 38 THROUGH 47, INCLUSIVE, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV. L.S. 8639

ACCEPTED AND FILED AT THE
REQUEST OF
CHICAGO TITLE COMPNAY

DATE: _____

TIME: _____ FEE: $_____

INSTRUMENT NO. _____

BOOK _____ PAGE _____

HUGH NGUYEN
COUNTY CLERK – RECORDER

BY _____
DEPUTY

OWNERSHIP CERTIFICATE:

WE, THE UNDERSIGNED, BEING ALL PARTIES HAVING ANY RECORD TITLE INTEREST IN THE LAND COVERED BY THIS MAP, DO HEREBY CONSENT TO THE PREPARATION AND RECORDATION OF SAID MAP, AS SHOWN WITHIN THE DISTINCTIVE BORDER LINE.

WE HEREBY DEDICATE TO THE CITY OF ORANGE AN EASEMENT FOR THE RIGHTS OF ACCESS FOR TRASH COLLECTION, POLICE SERVICES, FIRE SAFETY, HEALTH PROTECTION AND GENERAL WELFARE PURPOSES. THIS EASEMENT FOR THE RIGHT OF ACCESS SHALL INCLUDE A RIGHT OF ACCESS BY ANY VEHICLE AUTHORIZED BY THE CITY OF ORANGE TO PERFORM FUNCTIONS ON BEHALF OF THE CITY, SUCH AS TRASH COLLECTION AND PUBLIC UTILITY PURPOSES, AS SHOWN ON SAID MAP.

WE ALSO HEREBY DEDICATE TO THE CITY OF ORANGE A 25.00' WIDE EASEMENT FOR PUBLIC TRAIL USE AND MAINTENANCE PURPOSES, AS SHOWN ON SAID MAP.

WE ALSO HEREBY DEDICATE TO THE CITY OF ORANGE AN EASEMENT FOR ACCESS FOR EMERGENCY SERVICES AND FUEL MODIFICATION MAINTENANCE PURPOSES, OVER LOTS A, B, C AND D AS SHOWN ON SAID MAP.

WE ALSO HEREBY DEDICATE TO THE CITY OF ORANGE AN EASEMENT FOR LINE OF SIGHT PURPOSES, AS SHOWN ON SAID MAP.

WE HEREBY RESERVE TO OURSELVES, OUR HEIRS AND ASSIGNS, FOR FUTURE GRANT BY SEPARATE INSTRUMENT, THE EASEMENT FOR UTILITY PURPOSES FOR PRIVATE SEWER AND WATER LINE PURPOSES, AS SHOWN ON SAID MAP.

WE HEREBY RESERVE TO OURSELVES, OUR HEIRS AND ASSIGNS, FOR FUTURE GRANT BY SEPARATE INSTRUMENT, THE EASEMENT FOR UTILITY ACCESS PURPOSES, AS SHOWN ON SAID MAP.

D.R. HORTON LOS ANGELES HOLDING COMPANY, INC., A CALIFORNIA CORPORATION

BY: _____
NAME:
TITLE:

MILAN REI X, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY, BENEFICIARY UNDER A DEED OF TRUST RECORDED FEBRUARY 2, 2026 AS INSTRUMENT NO. 2026000025269 OF OFFICIAL RECORDS, COUNTY OF ORANGE.

BY: TIVOLI CAPITAL, INC., ITS MANAGING MEMBER

BY: _____
NAME:
TITLE:

NOTARY ACKNOWLEDGMENT:

A NOTARY PUBLIC OR OTHER OFFICER COMPLETING THIS CERTIFICATE VERIFIES ONLY THE IDENTITY OF THE INDIVIDUAL WHO SIGNED THE DOCUMENT TO WHICH THIS CERTIFICATE IS ATTACHED, AND NOT THE TRUTHFULNESS, ACCURACY, OR VALIDITY OF THAT DOCUMENT.

STATE OF CALIFORNIA }
COUNTY OF } ss.

ON _____, BEFORE ME, _____, NOTARY PUBLIC,

PERSONALLY APPEARED _____

WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND:

SIGNATURE_____
NOTARY PUBLIC IN AND FOR SAID STATE

_____
(NAME PRINTED)

MY PRINCIPAL PLACE OF BUSINESS IS IN _____ COUNTY.

MY COMMISSION EXPIRES: _____

MY COMMISSION NO.: _____

NOTARY ACKNOWLEDGMENT:

A NOTARY PUBLIC OR OTHER OFFICER COMPLETING THIS CERTIFICATE VERIFIES ONLY THE IDENTITY OF THE INDIVIDUAL WHO SIGNED THE DOCUMENT TO WHICH THIS CERTIFICATE IS ATTACHED, AND NOT THE TRUTHFULNESS, ACCURACY, OR VALIDITY OF THAT DOCUMENT.

STATE OF CALIFORNIA }
COUNTY OF } ss.

ON _____, BEFORE ME, _____, NOTARY PUBLIC,

PERSONALLY APPEARED _____

WHO PROVED TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND:

SIGNATURE_____
NOTARY PUBLIC IN AND FOR SAID STATE

_____
(NAME PRINTED)

MY PRINCIPAL PLACE OF BUSINESS IS IN _____ COUNTY.

MY COMMISSION EXPIRES: _____

MY COMMISSION NO.: _____

SURVEYOR'S STATEMENT:

THIS MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS BASED UPON A FIELD SURVEY IN CONFORMANCE WITH THE REQUIREMENTS OF THE SUBDIVISION MAP ACT AND LOCAL ORDINANCES AT THE REQUEST OF MILAN REI X, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY, IN JUNE, 2022. I HEREBY STATE THAT ALL MONUMENTS ARE OF THE CHARACTER AND OCCUPY THE POSITIONS INDICATED OR THAT THEY WILL BE SET IN SUCH POSITIONS WITHIN 90 DAYS AFTER ACCEPTANCE OF IMPROVEMENTS; AND THAT SAID MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED. I HEREBY STATE THAT THIS FINAL MAP SUBSTANTIALLY CONFORMS TO THE APPROVED OR CONDITIONALLY APPROVED TENTATIVE MAP.

2/23/2026
ROBERT L. WHEELER IV. L.S. 8639 DATE

LICENSED LAND SURVEYOR
ROBERT L. WHEELER IV
No. 8639
STATE OF CALIFORNIA

CITY ENGINEER'S STATEMENT:

I HEREBY STATE THAT I HAVE EXAMINED THIS MAP AND HAVE FOUND IT TO BE SUBSTANTIALLY IN CONFORMANCE WITH THE TENTATIVE MAP, IF REQUIRED, AS FILED WITH, AMENDED AND APPROVED BY THE CITY COUNCIL; THAT ALL PROVISIONS OF THE SUBDIVISION MAP ACT AND CITY SUBDIVISION REGULATIONS HAVE BEEN COMPLIED WITH.

DATED THIS_____DAY OF_____, 2026.

REGISTERED PROFESSIONAL ENGINEER
ALAN C. TROUNG
No. 76381
CIVIL
STATE OF CALIFORNIA

_____
ALAN C. TRUONG, R.C.E. 76381
CITY ENGINEER
CITY OF ORANGE

CITY CLERK'S STATEMENT:

I HEREBY CERTIFY THAT THIS MAP WAS PRESENTED FOR APPROVAL TO THE CITY COUNCIL OF THE CITY OF ORANGE AT A REGULAR MEETING THEREOF HELD ON THE ___ DAY OF _____, 2026 AND THAT THEREUPON SAID COUNCIL DID, BY AN ORDER DULY PASSED AND ENTERED, APPROVE SAID MAP AND DID ACCEPT ON BEHALF OF THE CITY, SUBJECT TO IMPROVEMENTS.

THE EASEMENT FOR THE RIGHTS OF ACCESS FOR TRASH COLLECTION, POLICE SERVICES, FIRE SAFETY, HEALTH PROTECTION AND GENERAL WELFARE AS DEDICATED. THIS EASEMENT FOR THE RIGHT OF ACCESS SHALL INCLUDE A RIGHT OF ACCESS BY ANY VEHICLE AUTHORIZED BY THE CITY OF ORANGE TO PERFORM FUNCTIONS ON BEHALF OF THE CITY, SUCH AS TRASH COLLECTION AND PUBLIC UTILITY.

THE 25.00' WIDE EASEMENT FOR PUBLIC TRAIL USE AND MAINTENANCE PURPOSES, AS DEDICATED.

THE EASEMENT FOR ACCESS FOR EMERGENCY SERVICES AND FUEL MODIFICATION MAINTENANCE PURPOSES OVER LOTS A, B, C AND D, AS DEDICATED.

THE EASEMENT FOR LINE OF SIGHT PURPOSES, AS DEDICATED.

AND DID ALSO APPROVED SUBJECT MAP PURSUANT TO THE PROVISIONS OF SECTION 66436(a)(3)(A) OF THE SUBDIVISION MAP ACT.

DATED THIS_____DAY OF_____, 2026.

_____
PAMELA COLEMAN
CITY CLERK OF THE CITY OF ORANGE

COUNTY SURVEYOR'S STATEMENT:

I HEREBY STATE THAT I HAVE EXAMINED THIS MAP AND HAVE FOUND THAT IT CONFORMS WITH MAPPING PROVISIONS OF THE SUBDIVISION MAP ACT AND I AM SATISFIED SAID MAP IS TECHNICALLY CORRECT.

DATED THIS_____DAY OF_____, 2026.

LICENSED LAND SURVEYOR
LILY M. N. SANDBERG
No. 8402
STATE OF CALIFORNIA

_____
LILY M. N. SANDBERG, COUNTY SURVEYOR
L.S. 8402

COUNTY TREASURER-TAX COLLECTOR'S CERTIFICATE:

STATE OF CALIFORNIA }
COUNTY OF ORANGE } ss.

I HEREBY CERTIFY THAT ACCORDING TO THE RECORDS OF MY OFFICE, THERE ARE NO LIENS AGAINST THE LAND COVERED BY THIS MAP OR ANY PART THEREOF FOR UNPAID STATE, COUNTY, MUNICIPAL OR LOCAL TAXES OR SPECIAL ASSESSMENTS COLLECTED AS TAXES, EXCEPT TAXES OR SPECIAL ASSESSMENTS COLLECTED AS TAXES NOT YET PAYABLE.

AND DO CERTIFY TO THE RECORDER OF ORANGE COUNTY THAT THE PROVISIONS OF THE SUBDIVISION MAP ACT HAVE BEEN COMPLIED WITH REGARDING DEPOSITS TO SECURE PAYMENT OF TAXES OR SPECIAL ASSESSMENTS COLLECTED AS TAXES ON THE LAND COVERED BY THIS MAP.

DATED THIS _____ DAY OF _____, 2026.

SHARI L. FREIDENRICH _____ BY: _____
COUNTY TREASURER–TAX COLLECTOR TREASURER–TAX COLLECTOR

SEE SIGNATURE OMISSION ON SHEET 2.

SHEET 2 OF 6 SHEETS
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
DATE OF SURVEY: JUNE 2022
(ALL OF TENTATIVE
TRACT NO. 18163)

TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE, STATE OF CALIFORNIA

BEING A SUBDIVISION OF PARCEL 1 OF PARCEL MAP NO. 2021-187 AS SHOWN ON A PARCEL MAP FILED IN BOOK 415, PAGES 38 THROUGH 47, INCLUSIVE, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV. L.S. 8639

SIGNATURE OMISSIONS:

PURSUANT TO THE PROVISIONS OF SECTION 66436 (a)(3)(A) OF THE SUBDIVISION MAP ACT, THE FOLLOWING SIGNATURES HAVE BEEN OMITTED:

JOHN T. CARPENTER, HOLDER OF AN EASEMENT FOR DITCH PURPOSES RECORDED NOVEMBER 1, 1873 IN BOOK 26, PAGE 426 OF DEEDS, RECORD OF LOS ANGELES COUNTY.

VICTOR MONTGOMERY, HOLDER OF AN EASEMENT FOR THE RIGHT TO CONSTRUCT AND USE IRRIGATION DITCHES ON SAID LAND, AS MAY BE NECESSARY TO IRRIGATE ADJOINING LANDS RECORDED JANUARY 6, 1881 IN BOOK 77, PAGE 22 OF DEEDS, RECORDS OF LOS ANGELES COUNTY.

HENRY SNYDER, HOLDER OF AN EASEMENT FOR IRRIGATION DITCHES PURPOSES RECORDED SEPTEMBER 21, 1921 IN BOOK 221, PAGE 115 OF DEEDS.

GRAY TRACT WELL COMPANY, HOLDER OF AN EASEMENT FOR AN UNDERGROUND PIPE LINE PURPOSES, WITH SURFACE GATES WITH REASONABLE RIGHTS OF INGRESS AND EGRESS RECORDED AUGUST 4, 1923 IN BOOK 482, PAGE 303 OF DEEDS.

JAMES R. RAGAN, ET. AL, HOLDERS OF AN EASEMENT FOR THE RIGHT TO USE ESTABLISHED ROAD RECORDED APRIL 19, 1927 IN BOOK 37, PAGE 228, OF OFFICIAL RECORDS.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION, HOLDER OF AN EASEMENT FOR WATER TRANSPORTATION PURPOSES RECORDED MARCH 27, 1995 AS INSTRUMENT NO. 95–0119382, OF OFFICIAL RECORDS.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION, HOLDER OF AN EASEMENT FOR WATER TRANSPORTATION PURPOSES RECORDED MARCH 27, 1995 AS INSTRUMENT NO. 95–0119383, OF OFFICIAL RECORDS.

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION, HOLDER OF AN EASEMENT FOR WATER TRANSPORTATION PURPOSES RECORDED FEBRUARY 2, 1981 IN BOOK 13935, PAGE 413, BOTH OF OFFICIAL RECORDS.

ANTHONY B. HEINSBERGEN AND NEDITH C. HEINSBERGEN, HUSBAND AND WIFE, HOLDER OF CERTAIN OIL, GAS, ASPHALTUM AND TAR AS RESERVED IN A DEED RECORDED NOVEMBER 15, 1972, AS IN BOOK 10426, PAGE 541, OF OFFICIAL RECORDS.

BERGUM CONSTRUCTION COMPANY, A CALIFORNIA CORPORATION, HOLDER OF ANY AND ALL OIL RIGHTS, MINERAL RIGHTS, NATURAL GAS RIGHTS, RIGHTS TO ALL OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN, GEOTHERMAL HEAT RIGHTS OR GEOTHERMAL SUBSTANCES THAT MAY BE PRODUCED FROM THE PROPERTY, WATER RIGHTS AND CLAIMS OR RIGHTS TO WATER AND ALL PRODUCTS DERIVED FROM ANY OF TEH FOREGOING LOCATED IN OR UNDER THAT CERTAIN REAL PROPERTY, THE PERPETUAL RIGHT TO DRILL, MINE, EXPLORE AND OPERATE FOR AND PRODUCE, STORE AND REMOVE ANY OF THE SUBSURFACE RESOURCES ON OR FROM THE PROPERTY, INCLUDING WITHOUT LIMITATION THE RIGHT TO WHIPSTOCK OR DIRECTIONALLY DRILL AND MINE, FROM LANDS OTHER THAN THE PROPERTY, WELLS, TUNNELS AND SHAFTS INTO, THROUGH OR ACROSS THE SUBSURFACE OF THE PROPERTY, AND TO BOTTOM SUCH WHIPSTOCKED OR DIRECTIONALLY DRILLED WELLS, TUNNELS AND SHAFTS WITHIN OR BEYOND THE EXTERIOR LIMITS OF THE PROPERTY, AND TO REDRILL, RETUNNEL, EQUIP, MAINTAIN, REPAIR, DEEPEN AND OPERATE ANY SUCH WELLS OR MINES, BUT WITHOUT THE RIGHT TO DRILL, MINE, EXPLORE, OPERATE, PRODUCE, STORE OR REMOVE ANY OF THE SUBSURFACE RESOURCES THROUGH OR IN THE SURFACE OF THE PROPERTY AS RESERVED IN A DEED RECORDED FEBRUARY 2, 2026 AS INSTRUMENT NO. 2026000025270, OF OFFICIAL RECORDS.

SHEET 3 OF 6 SHEETS
SCALE: 1" = 100'
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
DATE OF SURVEY: JUNE 2022
(ALL OF TENTATIVE
TRACT NO. 18163)

TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE, STATE OF CALIFORNIA

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV, L.S. 8639

BOUNDARY ESTABLISHMENT MAP AND SHEET INDEX MAP

(#) INDICATES SHEET NUMBER
– – – – – INDICATES SHEET LIMIT

BASIS OF BEARINGS:

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING OF THE CENTERLINE OF MABURY AVENUE, BEING NORTH 83°52'47" EAST PER PARCEL MAP NO. 2021-187 P.M.B. 415/38-47, WHOSE BASIS OF BEARINGS IS BETWEEN CONTINUOUS OPERATING GPS STATIONS (CGPS) GPS NO. OE0C AND GPS NO. CCCS PER RECORDS ON FILE IN THE OFFICE OF THE ORANGE COUNTY SURVEYOR.

ALL DISTANCES SHOWN ARE GROUND UNLESS OTHERWISE NOTED.

DATUM STATEMENT:

COORDINATES SHOWN ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE VI, 1983 NAD (2017.50 EPOCH O.C.S. GPS ADJUSTMENT).

ALL DISTANCES SHOWN ARE GROUND UNLESS OTHERWISE NOTED. TO OBTAIN GRID DISTANCE MULTIPLY GROUND DISTANCE BY 0.9999756710 (COMBINATION FACTOR IS PROJECT SPECIFIC).

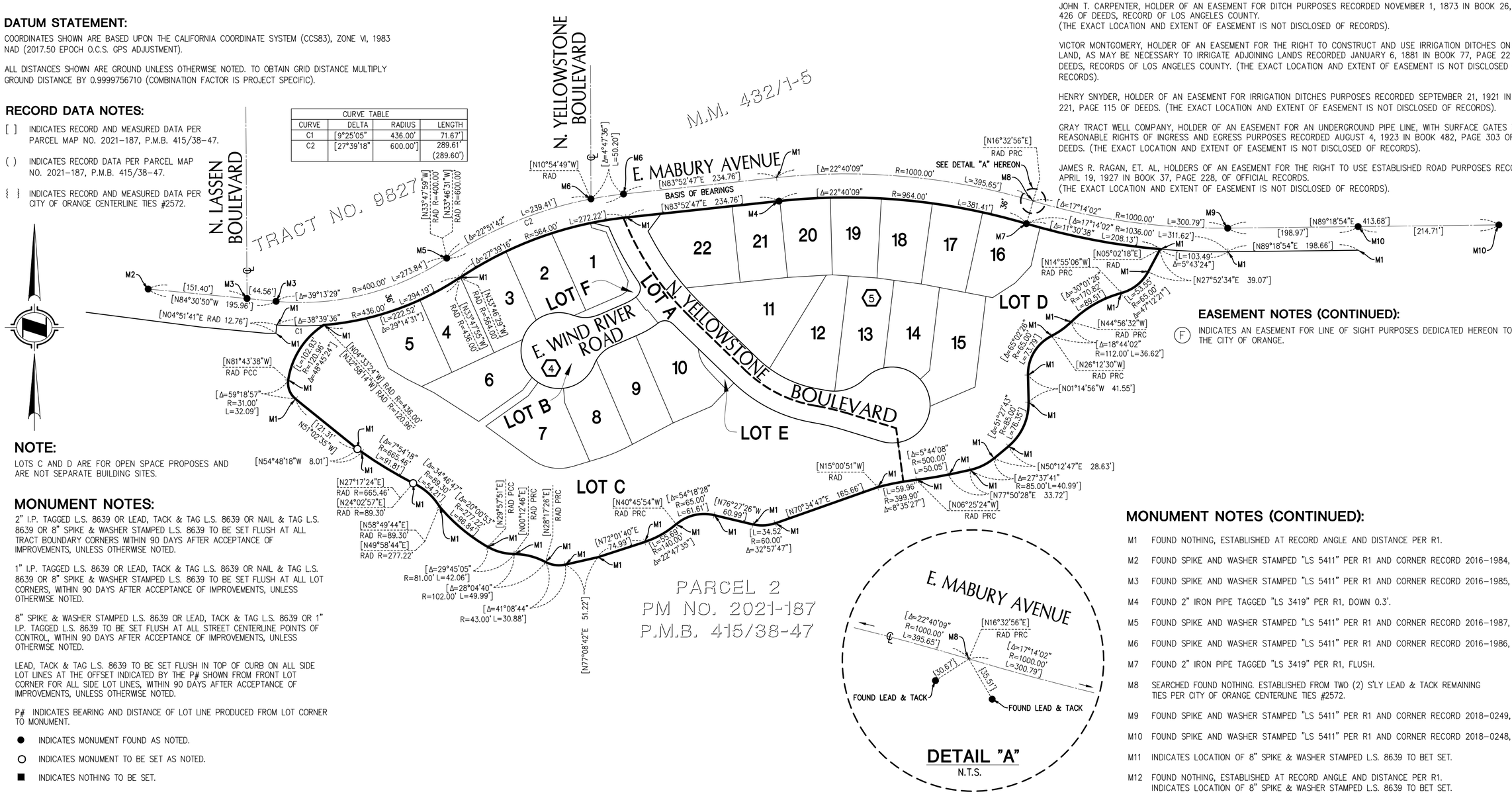
RECORD DATA NOTES:

[ ] INDICATES RECORD AND MEASURED DATA PER PARCEL MAP NO. 2021-187, P.M.B. 415/38-47.

( ) INDICATES RECORD DATA PER PARCEL MAP NO. 2021-187, P.M.B. 415/38-47.

{ } INDICATES RECORD AND MEASURED DATA PER CITY OF ORANGE CENTERLINE TIES #2572.

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	[9°25'05"	436.00'	71.67']
C2	[27°39'18"	600.00']	289.61' (289.60')



NOTE:

LOTS C AND D ARE FOR OPEN SPACE PROPOSES AND ARE NOT SEPARATE BUILDING SITES.

MONUMENT NOTES:

2" I.P. TAGGED L.S. 8639 OR LEAD, TACK & TAG L.S. 8639 OR NAIL & TAG L.S. 8639 OR 8" SPIKE & WASHER STAMPED L.S. 8639 TO BE SET FLUSH AT ALL TRACT BOUNDARY CORNERS WITHIN 90 DAYS AFTER ACCEPTANCE OF IMPROVEMENTS, UNLESS OTHERWISE NOTED.

1" I.P. TAGGED L.S. 8639 OR LEAD, TACK & TAG L.S. 8639 OR NAIL & TAG L.S. 8639 OR 8" SPIKE & WASHER STAMPED L.S. 8639 TO BE SET FLUSH AT ALL LOT CORNERS, WITHIN 90 DAYS AFTER ACCEPTANCE OF IMPROVEMENTS, UNLESS OTHERWISE NOTED.

8" SPIKE & WASHER STAMPED L.S. 8639 OR LEAD, TACK & TAG L.S. 8639 OR 1" I.P. TAGGED L.S. 8639 TO BE SET FLUSH AT ALL STREET CENTERLINE POINTS OF CONTROL, WITHIN 90 DAYS AFTER ACCEPTANCE OF IMPROVEMENTS, UNLESS OTHERWISE NOTED.

LEAD, TACK & TAG L.S. 8639 TO BE SET FLUSH IN TOP OF CURB ON ALL SIDE LOT LINES AT THE OFFSET INDICATED BY THE P# SHOWN FROM FRONT LOT CORNER FOR ALL SIDE LOT LINES, WITHIN 90 DAYS AFTER ACCEPTANCE OF IMPROVEMENTS, UNLESS OTHERWISE NOTED.

P# INDICATES BEARING AND DISTANCE OF LOT LINE PRODUCED FROM LOT CORNER TO MONUMENT.

● INDICATES MONUMENT FOUND AS NOTED.

○ INDICATES MONUMENT TO BE SET AS NOTED.

■ INDICATES NOTHING TO BE SET.

PARCEL 2
PM NO. 2021-187
P.M.B. 415/38-47

DETAIL "A"
N.T.S.

EASEMENT NOTES:

(A) INDICATES A 25.00' WIDE EASEMENT FOR PUBLIC TRAIL USE AND MAINTENANCE PURPOSES DEDICATED HEREON TO THE CITY OF ORANGE.

(B) INDICATES AN EASEMENT FOR UTILITY PURPOSES FOR PRIVATE SEWER AND WATER LINE PURPOSES RESERVED HEREON FOR FUTURE GRANT.

(C) INDICATES AN EASEMENT FOR WATER TRANSPORTATION PURPOSES IN FAVOR OF THE METROPOLITAN WATER DISTRICT OF CALIFORNIA, A PUBLIC CORPORATION, RECORDED MARCH 27, 1995 AS INSTRUMENT NO. 95-0119382, OF OFFICIAL RECORDS. SEE SHEET 6.

(D) INDICATES AN EASEMENT FOR WATER TRANSPORTATION PURPOSES IN FAVOR OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, A PUBLIC CORPORATION, RECORDED MARCH 27, 1995 AS INSTRUMENT NO. 95-0119383, AND RECORDED FEBRUARY 2, 1981 IN BOOK 13935, PAGE 413, BOTH OF OFFICIAL RECORDS. SEE SHEET 6.

(E) INDICATES AN EASEMENT FOR THE RIGHTS OF ACCESS FOR TRASH COLLECTION, POLICE SERVICES, FIRE SAFETY, HEALTH PROTECTION AND GENERAL WELFARE PURPOSES. THIS EASEMENT FOR THE RIGHT OF ACCESS SHALL INCLUDE A RIGHT OF ACCESS BY ANY VEHICLE AUTHORIZED BY THE CITY OF ORANGE TO PERFORM FUNCTIONS ON BEHALF OF THE CITY, SUCH AS TRASH COLLECTION AND PUBLIC UTILITY, DEDICATED HEREON TO THE CITY OF ORANGE.

INDICATES AN EASEMENT FOR ACCESS FOR EMERGENCY SERVICES AND FUEL MODIFICATION MAINTENANCE PURPOSES OVER LOTS A, B, C, AND D AS DEDICATED HEREON TO THE CITY OF ORANGE. (EASEMENT IS BLANKET OVER SAID LOTS).

JOHN T. CARPENTER, HOLDER OF AN EASEMENT FOR DITCH PURPOSES RECORDED NOVEMBER 1, 1873 IN BOOK 26, PAGE 426 OF DEEDS, RECORD OF LOS ANGELES COUNTY.
(THE EXACT LOCATION AND EXTENT OF EASEMENT IS NOT DISCLOSED OF RECORDS).

VICTOR MONTGOMERY, HOLDER OF AN EASEMENT FOR THE RIGHT TO CONSTRUCT AND USE IRRIGATION DITCHES ON SAID LAND, AS MAY BE NECESSARY TO IRRIGATE ADJOINING LANDS RECORDED JANUARY 6, 1881 IN BOOK 77, PAGE 22 OF DEEDS, RECORDS OF LOS ANGELES COUNTY. (THE EXACT LOCATION AND EXTENT OF EASEMENT IS NOT DISCLOSED OF RECORDS).

HENRY SNYDER, HOLDER OF AN EASEMENT FOR IRRIGATION DITCHES PURPOSES RECORDED SEPTEMBER 21, 1921 IN BOOK 221, PAGE 115 OF DEEDS. (THE EXACT LOCATION AND EXTENT OF EASEMENT IS NOT DISCLOSED OF RECORDS).

GRAY TRACT WELL COMPANY, HOLDER OF AN EASEMENT FOR AN UNDERGROUND PIPE LINE, WITH SURFACE GATES WITH REASONABLE RIGHTS OF INGRESS AND EGRESS PURPOSES RECORDED AUGUST 4, 1923 IN BOOK 482, PAGE 303 OF DEEDS. (THE EXACT LOCATION AND EXTENT OF EASEMENT IS NOT DISCLOSED OF RECORDS).

JAMES R. RAGAN, ET. AL, HOLDERS OF AN EASEMENT FOR THE RIGHT TO USE ESTABLISHED ROAD PURPOSES RECORDED APRIL 19, 1927 IN BOOK 37, PAGE 228, OF OFFICIAL RECORDS.
(THE EXACT LOCATION AND EXTENT OF EASEMENT IS NOT DISCLOSED OF RECORDS).

EASEMENT NOTES (CONTINUED):

(F) INDICATES AN EASEMENT FOR LINE OF SIGHT PURPOSES DEDICATED HEREON TO THE CITY OF ORANGE.

MONUMENT NOTES (CONTINUED):

M1 FOUND NOTHING, ESTABLISHED AT RECORD ANGLE AND DISTANCE PER R1.

M2 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2016-1984, FLUSH.

M3 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2016-1985, FLUSH.

M4 FOUND 2" IRON PIPE TAGGED "LS 3419" PER R1, DOWN 0.3'.

M5 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2016-1987, FLUSH.

M6 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2016-1986, FLUSH.

M7 FOUND 2" IRON PIPE TAGGED "LS 3419" PER R1, FLUSH.

M8 SEARCHED FOUND NOTHING. ESTABLISHED FROM TWO (2) S'LY LEAD & TACK REMAINING TIES PER CITY OF ORANGE CENTERLINE TIES #2572.

M9 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2018-0249, FLUSH.

M10 FOUND SPIKE AND WASHER STAMPED "LS 5411" PER R1 AND CORNER RECORD 2018-0248, FLUSH.

M11 INDICATES LOCATION OF 8" SPIKE & WASHER STAMPED L.S. 8639 TO BET SET.

M12 FOUND NOTHING, ESTABLISHED AT RECORD ANGLE AND DISTANCE PER R1. INDICATES LOCATION OF 8" SPIKE & WASHER STAMPED L.S. 8639 TO BET SET.

SHEET 4 OF 6 SHEETS
SCALE: 1" = 40'
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
DATE OF SURVEY: JUNE 2022
(ALL OF TENTATIVE
TRACT NO. 18163)

TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE,
STATE OF CALIFORNIA

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV. LS. 8639

TRACT NO. 9827
M.M. 432/1-5

N. LASSEN BOULEVARD (PUBLIC STREET)

E. MABURY AVENUE (PUBLIC STREET)

N. YELLOWSTONE BOULEVARD (PUBLIC STREET)

E. WIND RIVER ROAD (PRIVATE STREET)

N. YELLOWSTONE BOULEVARD (PRIVATE STREET)

LOT A 37,788 S.F.
LOT B 15,503 S.F.
LOT C (OPEN SPACE) 3.265 AC.
LOT E 914 S.F.
LOT F 2,532 S.F.

1 9,156 S.F.
2 9,041 S.F.
3 9,933 S.F.
4 8,670 S.F.
5 9,856 S.F.
6 9,957 S.F.
7 11,510 S.F.
8 8,550 S.F.
9 10,201 S.F.
10 11,230 S.F.

PARCEL 2
PM NO. 2021-187
P.M.B. 415/38-47

SEE SHEET 4

SEE SHEET 2 FOR BOUNDARY ESTABLISHMENT MAP AND SHEET INDEX MAP, BASIS OF BEARINGS, DATUM STATEMENT, RECORD DATA NOTES, MONUMENT NOTES AND EASEMENT NOTES.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N75°34'24"W	26.18'
L3	N36°26'09"E	24.24'
L4	N36°26'09"E	25.58'
L5	N05°05'06"W	22.44'
L6	N55°31'15"E	8.41'
L7	N10°27'39"E	16.86'
L8	N37°24'30"W RAD	26.00'
L9	N38°37'36"W RAD	26.00'
L10	N11°41'27"W	7.33'

MONUMENT OFFSET TABLE		
LINE	BEARING	LENGTH
P1	S06°07'13"E	7.75'
P11	N43°51'38"E	7.75'
P12	N02°47'34"W	11.32'
P13	N45°24'51"E	7.75'
P14	N38°37'36"W	7.75'
P15	N23°24'31"W	7.75'
P16	N23°07'53"W	9.40'
P17	N68°41'01"W	7.75'
P18	N05°05'06"W	7.75'
P19	N36°26'09"E	7.76'
P20	N36°26'09"E	7.85'
P21	N65°04'11"E	11.16'
P22	S23°53'21"E	7.98'
P23	S21°51'59"W	7.75'
P24	S66°35'29"W	11.62'
P25	S23°24'31"E	7.75'
P26	S37°24'30"E	7.75'
P27	N55°43'03"E	7.75'
P28	N67°33'45"E	7.75'
P29	N23°07'53"W	7.75'
P30	N04°33'24"W	15.75'
P31	N23°53'21"W	16.04'
P32	N23°53'21"W	15.75'
P33	N23°53'21"W	15.97'
P34	N23°53'21"W	15.76'
P35	N23°53'46"W	15.83'
P36	N11°41'27"W	15.75'
P37	N06°07'13"W	15.75'
P46	N03°59'18"W	15.64'

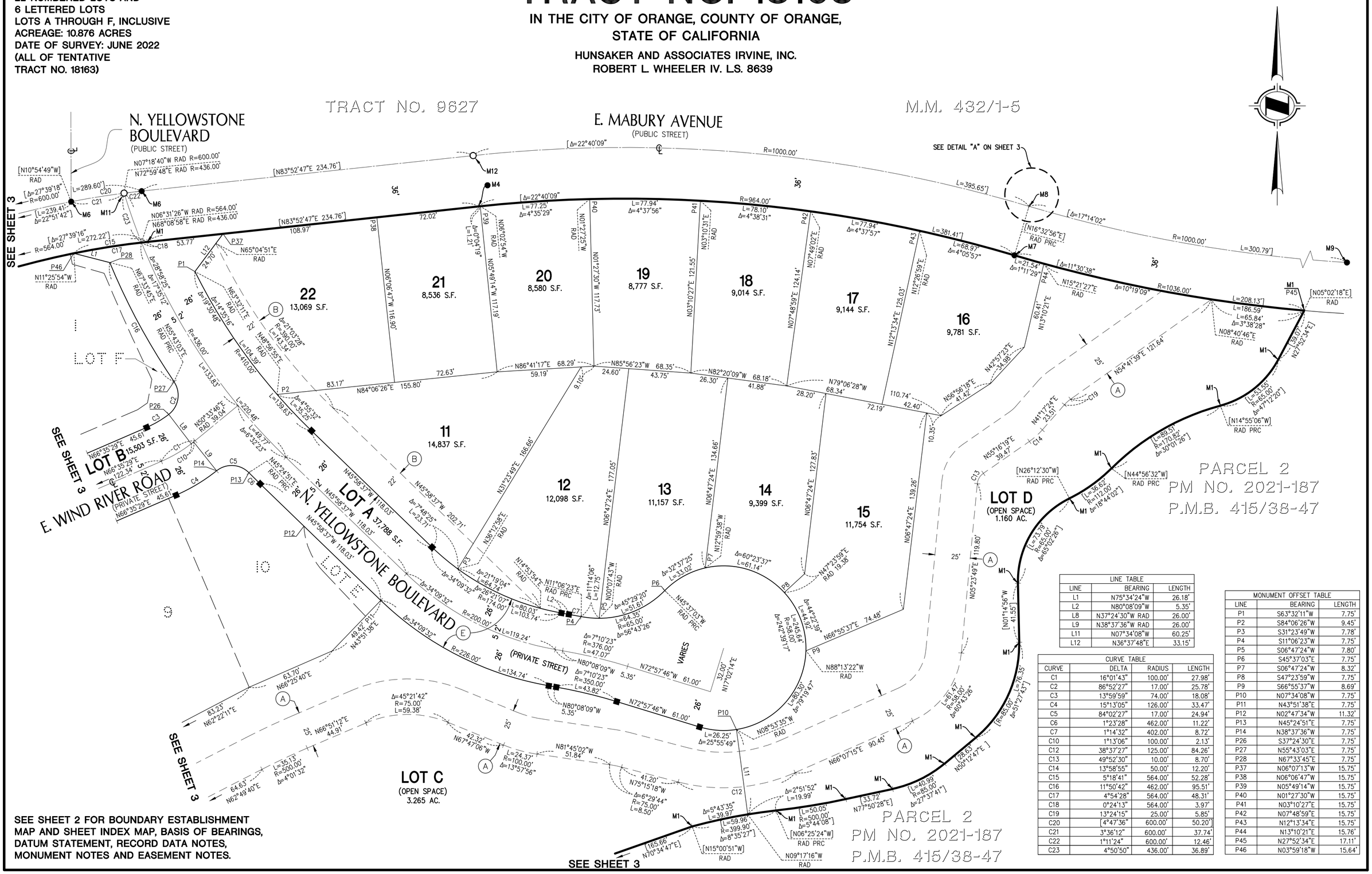
CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	16°01'43"	100.00'	27.98'
C2	86°52'27"	17.00'	25.78'
C3	13°59'59"	74.00'	18.08'
C4	15°13'05"	126.00'	33.47'
C5	84°02'27"	17.00'	24.94'
C6	1°23'28"	462.00'	11.22'
C8	11°53'20"	58.00'	12.04'
C9	43°56'44"	50.00'	38.35'
C10	1°13'06"	100.00'	2.13'
C11	4°28'46"	125.00'	9.77'
C15	5°18'41"	564.00'	52.28'
C16	11°50'42"	462.00'	95.51'
C17	4°47'36"	564.00'	48.31'
C18	0°24'13"	564.00'	3.97'
C19	0°15'33"	564.00'	2.55'
C20	[4°47'36"	600.00'	50.20']
C21	3°36'12"	600.00'	37.74'
C22	1°11'24"	600.00'	12.46'
C23	4°50'50"	436.00'	36.89'
C27	[41°08'44"	43.00'	30.88']
C28	[28°04'40"	102.00'	49.99']

SHEET 5 OF 6 SHEETS
SCALE: 1" = 40'
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
DATE OF SURVEY: JUNE 2022
(ALL OF TENTATIVE
TRACT NO. 18163)

TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE,
STATE OF CALIFORNIA

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV. LS. 8639



SEE SHEET 2 FOR BOUNDARY ESTABLISHMENT MAP AND SHEET INDEX MAP, BASIS OF BEARINGS, DATUM STATEMENT, RECORD DATA NOTES, MONUMENT NOTES AND EASEMENT NOTES.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N75°34'24"W	26.18'
L2	N80°08'09"W	5.35'
L8	N37°24'30"W RAD	26.00'
L9	N38°37'36"W RAD	26.00'
L11	N07°34'08"W	60.25'
L12	N36°37'48"E	33.15'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	16°01'43"	100.00'	27.98'
C2	86°52'27"	17.00'	25.78'
C3	13°59'59"	74.00'	18.08'
C4	15°13'05"	126.00'	33.47'
C5	84°02'27"	17.00'	24.94'
C6	1°23'28"	462.00'	11.22'
C7	1°14'32"	402.00'	8.72'
C10	1°13'06"	100.00'	2.13'
C12	38°37'27"	125.00'	84.26'
C13	49°52'30"	10.00'	8.70'
C14	13°58'55"	50.00'	12.20'
C15	5°18'41"	564.00'	52.28'
C16	11°50'42"	462.00'	95.51'
C17	4°54'28"	564.00'	48.31'
C18	0°24'13"	564.00'	3.97'
C19	13°24'15"	25.00'	5.85'
C20	[4°47'36"	600.00'	50.20']
C21	3°36'12"	600.00'	37.74'
C22	1°11'24"	600.00'	12.46'
C23	4°50'50"	436.00'	36.89'

MONUMENT OFFSET TABLE		
LINE	BEARING	LENGTH
P1	S63°32'11"W	7.75'
P2	S84°06'26"W	9.45'
P3	S31°23'49"W	7.78'
P4	S11°06'23"W	7.75'
P5	S06°47'24"W	7.80'
P6	S45°37'03"E	7.75'
P7	S06°47'24"W	8.32'
P8	S47°23'59"W	7.75'
P9	S66°55'37"W	8.69'
P10	N07°34'08"W	7.75'
P11	N43°51'38"E	7.75'
P12	N02°47'34"W	11.32'
P13	N45°24'51"E	7.75'
P14	N38°37'36"W	7.75'
P26	S37°24'30"E	7.75'
P27	N55°43'03"E	7.75'
P28	N67°33'45"E	7.75'
P37	N06°07'13"W	15.75'
P38	N06°06'47"W	15.75'
P39	N05°49'14"W	15.75'
P40	N01°27'30"W	15.75'
P41	N03°10'27"E	15.75'
P42	N07°48'59"E	15.75'
P43	N12°13'34"E	15.75'
P44	N13°10'21"E	15.76'
P45	N27°52'34"E	17.11'
P46	N03°59'18"W	15.64'

SHEET 6 OF 6 SHEETS
SCALE: 1" = 40'
22 NUMBERED LOTS AND
6 LETTERED LOTS
LOTS A THROUGH F, INCLUSIVE
ACREAGE: 10.876 ACRES
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TRACT NO. 18163

IN THE CITY OF ORANGE, COUNTY OF ORANGE,
STATE OF CALIFORNIA

HUNSAKER AND ASSOCIATES IRVINE, INC.
ROBERT L. WHEELER IV. L.S. 8639

DETAIL OF EASEMENTS Ⓒ AND Ⓓ

TRACT NO. 9627

M.M. 432/1-5

N. YELLOWSTONE BOULEVARD
(PUBLIC STREET)

E. MABURY AVENUE
(PUBLIC STREET)

E. WIND RIVER ROAD
(PRIVATE STREET)

N. YELLOWSTONE BOULEVARD

LOT A
(PRIVATE STREET)

LOT B
LOT C
LOT D
LOT E
LOT F

SEE SHEET 3

SEE DETAIL "A" ON SHEET 3

PARCEL 2
PM NO. 2021-187
P.M.B. 415/38-47

VARIES

SEE SHEET 2 FOR BOUNDARY ESTABLISHMENT MAP AND SHEET INDEX MAP, BASIS OF BEARINGS, DATUM STATEMENT, RECORD DATA NOTES, MONUMENT NOTES AND EASEMENT NOTES.

LINE TABLE–THIS SHEET ONLY		
LINE	BEARING	LENGTH
L1	N83°52'46"E	52.59'

CURVE TABLE–THIS SHEET ONLY			
CURVE	DELTA	RADIUS	LENGTH
C1	2°02'03"	415.00'	14.73'
C2	2°46'57"	564.00'	27.39'
C3	1°42'39"	465.00'	13.88'
C20	[4°47'36"	600.00'	50.20']
C21	3°36'12"	600.00'	37.74'
C22	1°11'24"	600.00'	12.46'

Agenda Item

Orange City Council

Item #: 3.14. 6/9/2026 **File #:** 26-0281

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Approval of the Fiscal Year 2026-2027 Pavement Management Program budget to incorporate a list of eight arterial streets to be funded by SB 1 (The Road Repair and Accountability Act) and appropriate Road Maintenance and Rehabilitation Account funding

2. SUMMARY

Resolution No. 11694 must be adopted as part of the application package for the Road Maintenance and Rehabilitation Account Funding Program for eight streets throughout the City. To be eligible for fiscal year program apportionments, cities and counties must submit an adopted list of projects to the California Transportation Commission. The total estimated new funding from Senate Bill 1 and Road Maintenance and Rehabilitation Account for Fiscal Year 2063-2027 is approximately $3,947,638.

3. RECOMMENDED ACTION

Adopt Resolution No. 11694. A Resolution of the City Council of the City of Orange approving the 2026-2027 Pavement Management Program budget to incorporate a list of eight streets to be funded by SB 1: the Road Repair and Accountability Act of 2017 and appropriate Road Maintenance and Rehabilitation Account (RMRA) funding.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

The Road Maintenance and Rehabilitation Account (RMRA) funding program was created on April 28, 2017, when the Governor signed Senate Bill (SB) 1 (Beall, Chapter 5, Statutes of 2017), known as the Road Repair and Accountability Act of 2017. The program addresses basic road maintenance, rehabilitation, and critical safety needs on both the state highway and local streets and road system. SB 1 is funded through fuel excise taxes, diesel fuel sales taxes, and vehicle registration fees.

The project list and resolution to establish eligibility for the RMRA Funding Program for Fiscal Year 2026-2027 (FY 27) will be submitted to the California Transportation Commission (CTC).

The exact amount of funding the City will receive for FY 27 is unknown. However, the Public Works

Department has identified a list of streets to present to CTC for funding approval. These streets were rated in the Citywide Pavement Management Program with a Pavement Condition Index (PCI) ranging from 48-74 (out of a maximum score of 100) indicating the need for street rehabilitation. The cost estimate for these improvements is approximately $4.8 million. Staff will only select the number of streets that can be funded by the amount of RMRA received.

The scope of rehabilitation consists of American with Disabilities Act compliant access ramps, localized removal and replacement of the existing pavement, asphalt concrete overlay, removal and replacement of failed sections of curb and gutter, driveways, sidewalks, cross gutters, spandrels, and adjustment of manholes and water valve covers to grade.

Because the City is receiving an apportionment of RMRA funds, staff is required to sustain a maintenance of effort (MOE) by spending at least the annual average of FY 2009-10 through FY 2011-12 general fund expenditures for street, road, and highway purposes. The City will be able to meet the MOE requirements going forward.

7. ATTACHMENTS

- Resolution No. 11694

Agenda Item

Orange City Council

Item #: 3.14. 6/9/2026 **File #:** 26-0281

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

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4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

The Road Maintenance and Rehabilitation Account (RMRA) funding program was created on April 28, 2017, when the Governor signed Senate Bill (SB) 1 (Beall, Chapter 5, Statutes of 2017), known as the Road Repair and Accountability Act of 2017. The program addresses basic road maintenance, rehabilitation, and critical safety needs on both the state highway and local streets and road system. SB 1 is funded through fuel excise taxes, diesel fuel sales taxes, and vehicle registration fees.

The project list and resolution to establish eligibility for the RMRA Funding Program for Fiscal Year 2026-2027 (FY 27) will be submitted to the California Transportation Commission (CTC).

The exact amount of funding the City will receive for FY 27 is unknown. However, the Public Works

Department has identified a list of streets to present to CTC for funding approval. These streets were rated in the Citywide Pavement Management Program with a Pavement Condition Index (PCI) ranging from 48-74 (out of a maximum score of 100) indicating the need for street rehabilitation. The cost estimate for these improvements is approximately $4.8 million. Staff will only select the number of streets that can be funded by the amount of RMRA received.

The scope of rehabilitation consists of American with Disabilities Act compliant access ramps, localized removal and replacement of the existing pavement, asphalt concrete overlay, removal and replacement of failed sections of curb and gutter, driveways, sidewalks, cross gutters, spandrels, and adjustment of manholes and water valve covers to grade.

Because the City is receiving an apportionment of RMRA funds, staff is required to sustain a maintenance of effort (MOE) by spending at least the annual average of FY 2009-10 through FY 2011-12 general fund expenditures for street, road, and highway purposes. The City will be able to meet the MOE requirements going forward.

7. ATTACHMENTS

- Resolution No. 11694

RESOLUTION NO. 11694

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE APPROVING THE 2026-2027 PAVEMENT MANAGEMENT PROGRAM BUDGET TO INCORPORATE A LIST OF EIGHT STREETS TO BE FUNDED BY SB 1: THE ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017 AND APPROPRIATE ROAD MAINTENANCE AND REHABILITATION ACCOUNT (RMRA) FUNDING

WHEREAS, the City of Orange (the City) is a municipal corporation which exercises governmental functions and powers, and is organized and existing under the laws of the State of California; and

WHEREAS, the City's local street and road system is critical for farm to market needs, interconnectivity, multimodal needs, and commerce; and

WHEREAS, maintaining and preserving the local street and road system in good condition reduces drive times and traffic congestion, improves bicycle safety, and makes the pedestrian experience safer and more appealing, which leads to reduced vehicle emissions helping the State achieve its air quality and greenhouse gas emissions reductions goals; and

WHEREAS, restoring roads before they fail also reduces construction time which results in less air pollution from heavy equipment and less water pollution from site run-off; and

WHEREAS, Senate Bill 1 (SB 1), the Road Repair and Accountability Act of 2017 (Chapter 5, Statutes of 2017) was passed by the Legislature and Signed into law by the Governor in April 2017 to address the significant multi-modal transportation funding shortfalls statewide; and

WHEREAS, SB 1 includes accountability and transparency provisions that will ensure the residents of City of Orange are aware of the projects proposed for funding in our community and which projects have been completed each fiscal year; and

WHEREAS, the City of Orange must include a list of all projects proposed to receive funding from the Road Maintenance and Rehabilitation Account (RMRA), created by SB 1, in the City of Orange budget, which must include a description and the location of each proposed project, a proposed schedule for the project's completion, and the estimated useful life of the improvement; and

WHEREAS, the City of Orange, will receive and estimated $3,947,638 in RMRA funding in Fiscal Year 2026-2027 from SB 1; and

WHEREAS, this is the ninth year in which the City is receiving SB 1 funding and will enable the City to continue essential road maintenance and rehabilitation projects, safety improvements, repairing and replacing aging bridges, and increasing access and mobility options for the traveling public that would not have otherwise been possible without SB 1; and

WHEREAS, the City of Orange Public Works Department used the Citywide Pavement Management Program to find streets rated with a Pavement Condition Index (PCI) ranging from 21 to 73 (out of a maximum score of 100) indicating the need for street rehabilitation to develop the SB 1 project list to ensure revenues are being used on the most high-priority and cost-effective projects that also meet the communities priorities for transportation investment; and

WHEREAS, the funding from SB 1 will help the City of Orange rehabilitate nine streets. The scope of rehabilitation in general consists of ADA compliant access ramps, localized removal and replacement of the existing pavement, asphalt concrete overlay, removal and replacement of failed sections of curb and gutter, driveways, sidewalks, cross gutters, spandrels, and adjustment of manholes and water valve covers to grade throughout the City of Orange this year and hundreds of similar projects into the future; and

WHEREAS, the City of Orange Public Works Department will select streets from the project list based on the available funding received; and

WHEREAS, the proposed street rehabilitation will extend the estimate useful life of the road system up to an additional 15 year lifespan; and

WHEREAS, the 2023 California Statewide Local Streets and Roads Needs Assessment found that the City of Orange streets and roads are in "Good" condition, and this revenue will help us increase the overall quality of our road system and over the next decade will bring our streets and roads into a "Good" condition; and

WHEREAS, the City Council has considered all of facts and circumstances of this project and finds the project to be exempt from the requirements of the California Environmental Quality Act ("CEQA") pursuant to Section 15301(c) of the CEQA Guidelines as the repair, maintenance, and minor alteration of existing streets involving negligible or no expansion of use beyond that existing at the time of the determination.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange, on the basis of the facts set forth in the agenda report presented to it and any testimony received at the meeting at which this matter was considered, as follows:

1. The City Council finds and determines that the foregoing recitals are true and correct and are incorporated herein by this reference.

2. The City Council finds that the Pavement Management Program projects listed herein are categorically exempt from CEQA under Section 15301(c) of the CEQA Guidelines.

3. The City Council hereby approves the amendment to the Pavement Management Program budget for fiscal year 2026-2027 to incorporate the following list of projects planned to be funded with RMRA revenues:

Road Maintenance and Rehabilitation Account
FY 26/27 Pavement Rehabilitation List
[Estimated Schedule for All Projects:
Start May 2027; Completion February 2028]

#		Street Name	From	To	PCI
1*		Walnut Avenue	Hewes Street	Rancho Santiago Boulevard	48
2		Taft Avenue	600' w/o Main Street	Main Street	55
3*	**a***	Cambridge Street	Taft Avenue	Trenton Avenue	57
	b*	Cambridge Street	Trenton Avenue	Katella Avenue	65
	c	Cambridge Street	Palm Avenue	Sycamore Avenue	74
	d	Cambridge Street	Sycamore Avenue	Walnut Avenue	58
4*		Meat Avenue	Breckenridge Street	Santiago Boulevard	62
5		Cannon Street	Cliffway Drive	Creekside Avenue	65
6		Eckhoff Street	Collins Avenue	370' S Collins Avenue	62
7*		La Veta Avenue	James Street	Esplanade Street	73
8*		Rancho Santiago Blvd	Orange Grove Avenue	35' s/o Sycamore Avenue	62

* relisted streets

4. The City Council authorizes the appropriation and expenditure of RMRA funds in accordance with this approval project list and directs staff to submit the list to the California Transportation Commission as required by SB 1.

ADOPTED this ____ day of _____, 2026

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the ____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

Agenda Item

Orange City Council

Item #: 3.15. 6/9/2026 **File #:** 26-0357

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Community Facilities District No. 06-1 Del Rio Public Improvements 2026 Special Tax Refunding Bonds

2. SUMMARY

The District proposes to issue 2026 Special Tax Refunding Bonds to refund its outstanding 2015 Special Tax Refunding Bonds (the "2015 Bonds"). Staff recommends adoption of the attached Resolution authorizing the issuance of the 2026 Bonds and approving related financing documents. The refunding will only proceed if it achieves a minimum net present value savings of 3%, with all savings used to reduce annual special taxes for property owners within the District. Pursuant to the Resolution, the principal amount of the 2026 Bonds will not exceed $20,000,000.

3. RECOMMENDED ACTION

Adopt Resolution No. 11701. A Resolution of the City Council of the City of Orange, acting as the Legislative Body of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements), authorizing the issuance of its 2026 Special Tax Refunding Bonds and approving certain documents and taking certain other actions in connection therewith.

4. FISCAL IMPACT

The issuance and sale of the 2026 Bonds to refinance the outstanding 2015 Bonds is not a direct obligation of the City. Neither the faith and credit nor the taxing power of the City, the State of California, or any political subdivision thereof other than the District is pledged to the payment of the 2026 Bonds. The 2026 Bonds are payable solely from Special Taxes levied on properties within the District. The refinancing will only proceed if it generates a minimum net present value savings of 3%. Any savings achieved through the refinancing will be passed through to property owners within the District through a reduction in the annual Special Tax levy. All issuance costs will be paid from bond proceeds.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability

6. DISCUSSION AND BACKGROUND

The City formed Community Facilities District ("CFD" or "District") 06-1 (Del Rio Public Improvements) on December 12, 2006. Subsequent to a noticed public hearing on December 12, 2006, the City Council adopted resolutions which established the District, authorized the levy of a

special tax within the District, determined the necessity to incur bonded indebtedness within the District, and called an election within the District on the proposition of incurring bonded indebtedness, levying a special tax and setting an appropriations limit within the District.

On the same date, an election was held within the District at which the landowners eligible to vote approved the issuance of bonds for the District in an amount not to exceed $47,000,000 and approved a rate and method of apportionment of special tax for the District.

The District previously issued its $23,920,000 2015 Special Tax Refunding Bonds (the "2015 Bonds") to refinance certain public facilities which the District was authorized to finance. The proposed 2026 Special Tax Refunding Bonds (the "2026 Bonds") will be issued to refund the 2015 Bonds to effect debt service savings.

The District is located in the northwestern portion of the City, adjacent to the City of Anaheim, west of Glassell Avenue and north of Lincoln Avenue. A portion of the boundary of the District runs along the bank of the Santa Ana River. The District is part of an area known as the Riverbend community and is fully built out. The District includes approximately 73.64 gross acres, within which there are approximately 43 acres of developed single family residential properties (comprising 597 parcels of taxable property), a 10.5 acre public sports park, six acres of bio-swale area and 13.5 acres of public streets.

The aggregate secured assessed value of the property within the District subject to the Special Tax levy is $391,322,037. Based on the estimated principal amount of the 2026 Bonds ($16,005,000) and including direct and overlapping debt, the value-to-lien ratio for the District is approximately 19.27 to 1.

The proposed 2026 Bonds would maintain the same final maturity as the 2015 Bonds listed above. In other words, there will be no extension of the original bond term for the refunding. Final interest rates will be determined if and when the 2026 Bonds are priced.

The 2026 Bonds are expected to qualify for an investment grade rating and bond insurance, which would lead to a lower cost of borrowing. Furthermore, the 2026 Bonds may also qualify for a reserve fund surety policy. With a reserve fund surety policy, the 2026 Bonds would not need to cash fund a debt service reserve (or a portion thereof) as part of the issuance. This would enable the City to downsize the 2026 Bonds.

As established in the Resolution, the 2026 Bonds will only be sold if the District is able to realize at least 3% net present value savings by refunding the 2015 Bonds. The savings generated will be used to reduce the special tax levy on homeowners within the District, estimated to be approximately $257 saving per unit. Interest rates have remained volatile in 2026, and the final savings will be determined when the bonds are priced and sold.

As required under Section 5852.1 of the California Government Code, good faith estimates have been provided to the City by Fieldman Rolapp & Associates, Inc., the Municipal Advisor, in consultation with Stifel, Nicolaus & Company, Incorporated, as underwriter of the 2026 Bonds as Attachment A.

7. ATTACHMENTS

- Attachment 1 - Resolution No. 11701
- Attachment 2 - Bond Indenture

- Attachment 3 - Bond Purchase Agreement
- Attachment 4 - Preliminary Official Statement
- Attachment 5 - Escrow Agreement

Agenda Item

Orange City Council

Item #: 3.15. 6/9/2026 **File #:** 26-0357

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Community Facilities District No. 06-1 Del Rio Public Improvements 2026 Special Tax Refunding Bonds

2. SUMMARY

The District proposes to issue 2026 Special Tax Refunding Bonds to refund its outstanding 2015 Special Tax Refunding Bonds (the "2015 Bonds"). Staff recommends adoption of the attached Resolution authorizing the issuance of the 2026 Bonds and approving related financing documents. The refunding will only proceed if it achieves a minimum net present value savings of 3%, with all savings used to reduce annual special taxes for property owners within the District. Pursuant to the Resolution, the principal amount of the 2026 Bonds will not exceed $20,000,000.

3. RECOMMENDED ACTION

Adopt Resolution No. 11701. A Resolution of the City Council of the City of Orange, acting as the Legislative Body of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements), authorizing the issuance of its 2026 Special Tax Refunding Bonds and approving certain documents and taking certain other actions in connection therewith.

4. FISCAL IMPACT

The issuance and sale of the 2026 Bonds to refinance the outstanding 2015 Bonds is not a direct obligation of the City. Neither the faith and credit nor the taxing power of the City, the State of California, or any political subdivision thereof other than the District is pledged to the payment of the 2026 Bonds. The 2026 Bonds are payable solely from Special Taxes levied on properties within the District. The refinancing will only proceed if it generates a minimum net present value savings of 3%. Any savings achieved through the refinancing will be passed through to property owners within the District through a reduction in the annual Special Tax levy. All issuance costs will be paid from bond proceeds.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability

6. DISCUSSION AND BACKGROUND

The City formed Community Facilities District ("CFD" or "District") 06-1 (Del Rio Public Improvements) on December 12, 2006. Subsequent to a noticed public hearing on December 12, 2006, the City Council adopted resolutions which established the District, authorized the levy of a

special tax within the District, determined the necessity to incur bonded indebtedness within the District, and called an election within the District on the proposition of incurring bonded indebtedness, levying a special tax and setting an appropriations limit within the District.

On the same date, an election was held within the District at which the landowners eligible to vote approved the issuance of bonds for the District in an amount not to exceed $47,000,000 and approved a rate and method of apportionment of special tax for the District.

The District previously issued its $23,920,000 2015 Special Tax Refunding Bonds (the "2015 Bonds") to refinance certain public facilities which the District was authorized to finance. The proposed 2026 Special Tax Refunding Bonds (the "2026 Bonds") will be issued to refund the 2015 Bonds to effect debt service savings.

The District is located in the northwestern portion of the City, adjacent to the City of Anaheim, west of Glassell Avenue and north of Lincoln Avenue. A portion of the boundary of the District runs along the bank of the Santa Ana River. The District is part of an area known as the Riverbend community and is fully built out. The District includes approximately 73.64 gross acres, within which there are approximately 43 acres of developed single family residential properties (comprising 597 parcels of taxable property), a 10.5 acre public sports park, six acres of bio-swale area and 13.5 acres of public streets.

The aggregate secured assessed value of the property within the District subject to the Special Tax levy is $391,322,037. Based on the estimated principal amount of the 2026 Bonds ($16,005,000) and including direct and overlapping debt, the value-to-lien ratio for the District is approximately 19.27 to 1.

The proposed 2026 Bonds would maintain the same final maturity as the 2015 Bonds listed above. In other words, there will be no extension of the original bond term for the refunding. Final interest rates will be determined if and when the 2026 Bonds are priced.

The 2026 Bonds are expected to qualify for an investment grade rating and bond insurance, which would lead to a lower cost of borrowing. Furthermore, the 2026 Bonds may also qualify for a reserve fund surety policy. With a reserve fund surety policy, the 2026 Bonds would not need to cash fund a debt service reserve (or a portion thereof) as part of the issuance. This would enable the City to downsize the 2026 Bonds.

As established in the Resolution, the 2026 Bonds will only be sold if the District is able to realize at least 3% net present value savings by refunding the 2015 Bonds. The savings generated will be used to reduce the special tax levy on homeowners within the District, estimated to be approximately $257 saving per unit. Interest rates have remained volatile in 2026, and the final savings will be determined when the bonds are priced and sold.

As required under Section 5852.1 of the California Government Code, good faith estimates have been provided to the City by Fieldman Rolapp & Associates, Inc., the Municipal Advisor, in consultation with Stifel, Nicolaus & Company, Incorporated, as underwriter of the 2026 Bonds as Attachment A.

7. ATTACHMENTS

- Attachment 1 - Resolution No. 11701
- Attachment 2 - Bond Indenture

- Attachment 3 - Bond Purchase Agreement
- Attachment 4 - Preliminary Official Statement
- Attachment 5 - Escrow Agreement

RESOLUTION NO.11701

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE, ACTING AS THE LEGISLATIVE BODY OF CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS), AUTHORIZING THE ISSUANCE OF ITS 2026 SPECIAL TAX REFUNDING BONDS AND APPROVING CERTAIN DOCUMENTS AND TAKING CERTAIN OTHER ACTIONS IN CONNECTION THEREWITH

WHEREAS, the City Council (the "City Council" or the "legislative body of the District") of the City of Orange (the "City") has previously undertaken proceedings to establish City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "District") and declared the necessity to issue bonds on behalf of the District pursuant to the terms and provisions of the Mello-Roos Community Facilities Act of 1982, as amended, being Chapter 2.5, Part 1, Division 2, Title 5, of the Government Code of the State of California (the "Act"); and

WHEREAS, pursuant to proceedings taken and an election held on December 12, 2006 to authorize the issuance of bonds of the District, the levy of special taxes within the District and the establishment of an appropriations limit for the District, the District was authorized to issue bonds in one or more series, pursuant to the Act, in an aggregate principal amount not to exceed $47,000,000; and

WHEREAS, the District has previously issued its 2015 Special Tax Refunding Bonds in the aggregate principal amount of $23,920,000, of which $18,795,000 is currently outstanding (the "2015 Bonds"), to refinance certain public improvements serving the District; and

WHEREAS, in order to benefit taxpayers within the District by lowering the annual special taxes to be levied for debt service, the City Council, acting as the legislative body of the District, now desires to refund and defease the 2015 Bonds maturing on and after October 1, 2026 through the issuance of bonds in an aggregate principal amount not to exceed $20,000,000 designated as the "City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds" (the "2026 Bonds"); and

WHEREAS, in order to effect the issuance of the 2026 Bonds, the City Council, acting as the legislative body of the District, desires to approve the forms of and authorize the execution and delivery of: (i) a Bond Indenture (the "Indenture") with U.S. Bank Trust Company, National Association, as Trustee; (ii) an Escrow Agreement (2015 Bonds) (the "Escrow Agreement") with U.S. Bank Trust Company, National Association, as escrow agent; (iii) a Preliminary Official Statement for the 2026 Bonds (the "Preliminary Official Statement"), which the Underwriter (as such term is defined herein) will use to market the 2026 Bonds; (iv) a Bond Purchase Agreement (the "Bond Purchase Agreement") with the Underwriter; and (v) a Continuing Disclosure Agreement of the District relating to the 2026 Bonds (the "Continuing Disclosure Agreement"), all in substantially the forms presented herewith, and to authorize such changes and additions

thereto as the Authorized Officers (as such term is defined herein) deem necessary or desirable; and

WHEREAS, the City Council, acting in its capacity as the legislative body of the District, finds that the issuance of the 2026 Bonds will achieve debt service savings and will benefit taxpayers within the District, and has determined that it is prudent in the management of the District's fiscal affairs to issue the 2026 Bonds; and

WHEREAS, the legislative body of the District has determined, in consultation with its municipal advisor, in accordance with Government Code Section 53360.4, that a negotiated sale of the 2026 Bonds to Stifel, Nicolaus & Company, Incorporated, as underwriter (the "Underwriter") in accordance with the terms of the Bond Purchase Agreement approved as to form by the City Council herein will result in a lower overall cost to the District than a public sale, in that a negotiated sale will allow for the timing of the sale of the 2026 Bonds to be accomplished at a time of the District's choosing; and

WHEREAS, the aggregate assessed value of the real property in the District that is subject to the special tax to pay debt service on the 2026 Bonds is not less than three times the principal amount of the 2026 Bonds and the principal amount of all other bonds outstanding that are secured by a special tax levied pursuant to the Act or a special assessment levied on property within the District, which fact is required as a precondition to the issuance of the 2026 Bonds.

NOW, THEREFORE, the City Council of the City of Orange does hereby resolve as follows:

SECTION 1 - RECITALS TRUE AND CORRECT

Each of the above recitals is true and correct and is adopted by the City Council, acting in its capacity as the legislative body of the District.

SECTION 2 – FINDINGS

The City Council, acting in its capacity as the legislative body of the District: (i) finds that the issuance of the 2026 Bonds as described in the Preliminary Official Statement will provide significant public benefits by reducing the total amount of special taxes to be levied for debt service within the District; and (ii) finds and determines that the issuance and sale of the 2026 Bonds are consistent with the District's financing policy with respect to community facilities district financings adopted pursuant to Government Code Section 53312.7 and currently in effect. In satisfaction of the requirements contained in Government Code Section 53363.2, the City Council hereby determines that:

(a) it is anticipated that the purchase of the 2026 Bonds will occur no later than July 30, 2026 and that the refunding of the 2015 Bonds will occur on October 1, 2026, or as soon thereafter as practicable and permitted by the terms of the 2015 Bonds (subject to change at the discretion of any of the Authorized Officers);

(b) the 2026 Bonds shall be dated their date of issuance, and be in the denominations, have the maturity dates (which do not exceed the latest maturity date of the 2015 Bonds being refunded), be payable at the place and be in the form specified in the Bond Purchase Agreement to be executed by the District in accordance with Section 6;

(c) the 2026 Bonds will bear interest at the minimum rate of 0.05% per annum;

(d) the 2015 Bonds shall be payable at the place specified in the Escrow Agreement to be executed by the District in accordance with Section 4; and

(e) the designated cost of issuing the 2026 Bonds, as defined by Government Code Section 53363.8, shall include all of the costs specified in Government Code Section 53363.8(a), (b)(2) and (c).

SECTION 3 – AUTHORIZATION OF BONDS; APPROVAL OF INDENTURE

If the District is able to realize at least 3% net present value savings by refunding the 2015 Bonds, the issuance of the 2026 Bonds in a principal amount not to exceed $20,000,000 is hereby authorized and approved pursuant to the Act. The 2026 Bonds shall mature on the dates and pay interest at the rates set forth in the Bond Purchase Agreement to be executed on behalf of the District and otherwise shall be substantially in the form set forth in the Indenture on file with the City Clerk of the City. All other provisions of the 2026 Bonds shall be governed by the terms and conditions set forth in the Indenture prepared by Bond Counsel to the District and executed by the Mayor of the City, the City Manager of the City and the Assistant City Manager/Administrative Services Director of the City, or the written designee thereof (each, an "Authorized Officer"). The Indenture is hereby approved substantially in the form on file with the City Clerk of the City. Each Authorized Officer is hereby authorized and directed to execute and deliver the Indenture with such changes, insertions and omissions as may be recommended by the City Attorney or Bond Counsel to the District and approved by the officer executing the same, said execution being conclusive evidence of such approval. Capitalized terms that are used in this Resolution and not defined have the meaning ascribed to them in the form of the Indenture.

SECTION 4 – APPROVAL OF ESCROW AGREEMENT

The Escrow Agreement is hereby approved substantially in the form on file with the City Clerk of the City. Each Authorized Officer is hereby authorized and directed to execute and deliver the Escrow Agreement with such changes, insertions and omissions as may be recommended by the City Attorney or Bond Counsel to the District and approved by the officer executing the same, said execution being conclusive evidence of such approval.

SECTION 5 – APPROVAL OF PRELIMINARY OFFICIAL STATEMENT

The Preliminary Official Statement is hereby approved in substantially in the form on file with the City Clerk of the City, and the Authorized Officers are each hereby authorized and directed, for and in the name and on behalf of the District, to deliver such Preliminary Official Statement to the Underwriter to be used in connection with the offering and sale of the 2026 Bonds. The Authorized

Officers are each hereby authorized and directed, for and in the name and on behalf of the District, to deem the Preliminary Official Statement "final" pursuant to Rule 15c2-12 of the Securities Exchange Act of 1934 prior to its distribution and to execute and deliver to the Underwriter a final Official Statement substantially in the form of the Preliminary Official Statement, with such changes therein, deletions therefrom and modifications thereto as the Authorized Officer executing the same shall approve (the "Official Statement"). The Underwriter is hereby authorized to distribute copies of the Preliminary Official Statement to persons who may be interested in the purchase of the 2026 Bonds and is directed to deliver copies of the Official Statement to the purchasers of the 2026 Bonds. Execution of the Official Statement shall conclusively evidence the District's approval of the Official Statement.

SECTION 6 – APPROVAL OF BOND PURCHASE AGREEMENT

The Bond Purchase Agreement is hereby approved substantially in the form on file with the City Clerk of the City. Each Authorized Officer is hereby authorized and directed to execute and deliver the Bond Purchase Agreement with such changes, insertions and omissions as may be recommended by the City Attorney or Bond Counsel to the District and approved by the officer executing the same, said execution being conclusive evidence of such approval; provided, however, that: (i) the principal amount of the 2026 Bonds shall not exceed $20,000,000; (ii) the net present value savings realized by refunding the 2015 Bonds shall not be less than 3%; and (iii) the Underwriter's discount for the 2026 Bonds shall not exceed 1.00% of the principal amount thereof.

SECTION 7 – APPROVAL OF CONTINUING DISCLOSURE AGREEMENT

The Continuing Disclosure Agreement is hereby approved substantially in the form on file with the City Clerk of the City. Each Authorized Officer is hereby authorized and directed to execute and deliver the Continuing Disclosure Agreement with such changes, insertions and omissions as may be recommended by the City Attorney or Bond Counsel to the District and approved by the officer executing the same, said execution being conclusive evidence of such approval.

SECTION 8 – GOOD FAITH ESTIMATES

The good faith estimates of costs related to the 2026 Bonds which are required by California Government Code Section 5852.1 are disclosed in Exhibit A hereto and are available to the public at the meeting at which this Resolution is approved.

SECTION 9 – FINDINGS RELATED TO ASSESSED VALUE

In accordance with the requirements of Government Code Section 53345.8, the City Council hereby determines that the aggregate assessed value of the real property in the District that is subject to the special tax to pay debt service on the 2026 Bonds is not less than three times the principal amount of the 2026 Bonds and the principal amount of all other bonds outstanding that are secured by a special tax levied pursuant to the Act or a special assessment levied on property within the District. This determination is based on the assessed value of the real property within the District as set forth in the fiscal year 2025-26 County Assessor's roll.

SECTION 10 – AUTHORIZATION RELATING TO BOND INSURANCE

The City Council hereby authorizes the Authorized Officers: (i) to solicit bids on a municipal bond insurance policy and/or reserve surety policy for the 2026 Bonds; (ii) to negotiate the terms of such policy or policies; (iii) to finalize, if appropriate, the form of such policy or policies with a municipal bond insurer; and (iv) if it is determined that the policy or policies will result in net savings for the District, to pay the insurance premium of such policy or policies from the proceeds of the issuance and sale of the 2026 Bonds. The City Council hereby authorizes such changes to the Indenture and Preliminary Official Statement as are necessary to reflect the purchase of municipal bond insurance and/or a reserve surety.

SECTION 11 – OTHER ACTIONS AUTHORIZED

All actions heretofore taken by officers and agents of the City and the District with respect to the sale and issuance of the 2026 Bonds are hereby approved, confirmed and ratified, and the Authorized Officers and the other officers of the City and the District who are responsible for the fiscal affairs of the District are hereby authorized and directed to take any actions and execute and deliver any and all documents as are necessary to accomplish the issuance, sale and delivery of the 2026 Bonds in accordance with the provisions of this Resolution, including but not limited to the solicitation and acceptance of bond insurance and/or a reserve surety policy for the 2026 Bonds, the preparation of escrow or redemption instructions with respect to the 2015 Bonds, the approval of the investment of the moneys deposited under the Escrow Agreement in federal securities, State and Local Government Series or other investments as permitted under the Escrow Agreement and the fiscal agent agreement pursuant to which the 2015 Bonds were issued, the retention of a bidding agent with respect to such escrow investments, the retention of a verification agent to verify the sufficiency of the escrow deposit and the fulfillment of all other purposes of the 2026 Bonds as described in the Indenture.

SECTION 12 – EFFECTIVE DATE

This Resolution shall take effect immediately upon its adoption by the City Council, and the City Clerk of the City shall certify the vote adopting this Resolution.

ADOPTED this 9th day of June 2026.

_____

Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____

Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
CITY OF ORANGE) ss.
COUNTY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the ____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

EXHIBIT A

GOOD FAITH ESTIMATES

The good faith estimates set forth herein are provided with respect to the 2026 Bonds in accordance with California Government Code Section 5852.1.

Principal Amount. Based on the District's financing plan and current market conditions, a good faith estimate of the principal amount of the 2026 Bonds is $16,005,000 (the "Estimated Principal Amount").

True Interest Cost. Assuming that the 2026 Bonds are issued in the Estimated Principal Amount, and based on market interest rates prevailing at the time of preparation of such estimate, a good faith estimate of the true interest cost of the 2026 Bonds, which means the rate necessary to discount the amounts payable on the respective principal and interest payment dates to the purchase price received for the 2026 Bonds, is 3.59%.

Finance Charge. Assuming that the 2026 Bonds are issued in the Estimated Principal Amount, and based on market interest rates prevailing at the time of preparation of such estimate, a good faith estimate of the finance charge for the 2026 Bonds, which means the sum of all fees and charges paid to third parties (or costs associated with the 2026 Bonds), is $468,305.

Amount of Proceeds to be Received. Assuming that the 2026 Bonds are issued in the Estimated Principal Amount, and based on market interest rates prevailing at the time of preparation of such estimate, a good faith estimate of the amount of proceeds expected to be received by the District from the 2026 Bonds (including original issue premium), less the finance charge of the 2026 Bonds, as estimated above, and any reserves or capitalized interest paid or funded with proceeds of the 2026 Bonds, is $16,531,951.

Total Payment Amount. Assuming that the 2026 Bonds are issued in the Estimated Principal Amount, and based on market interest rates prevailing at the time of preparation of such estimate, a good faith estimate of the total payment amount, which means the sum total of all payments the District will make to pay debt service on the 2026 Bonds, plus the finance charge for the 2026 Bonds, as described above, not paid with the proceeds of the 2026 Bonds, calculated to the final maturity of the 2026 Bonds, is $23,360,437.

The foregoing estimates constitute good faith estimates only. The actual principal amount of the 2026 Bonds, the true interest cost thereof, the finance charges thereof, the amount of proceeds received therefrom and total payment amount with respect thereto may differ from such good faith estimates due to: (a) the actual date of the issuance of the 2026 Bonds being different than the date assumed for purposes of such estimates; (b) the actual principal amount of the 2026 Bonds being different from the Estimated Principal Amount; (c) the actual amortization of the 2026 Bonds being different than the amortization assumed for purposes of such estimates; (d) the actual market interest rates at the time of issuance of the 2026 Bonds being different than those estimated for purposes of such estimates; (e) other market conditions; or (f) alterations in the District's financing plan, delays in the financing, additional legal work or a combination of such factors and additional finance charges, if any, attributable thereto. The actual issuance date and principal amount of the 2026 Bonds will be determined by the District based on the timing of the need for proceeds of the 2026 Bonds and other factors.

BOND INDENTURE

By and Between

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

and

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION,
as Trustee

Relating to

$_____
COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
OF THE
CITY OF ORANGE
2026 SPECIAL TAX REFUNDING BONDS

Dated as of July 1, 2026

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EXHIBIT A FORM OF 2026 SPECIAL TAX REFUNDING BOND A-1

BOND INDENTURE

THIS BOND INDENTURE, dated as of July 1, 2026 (the "**Indenture**"), by and between CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS) (the "**District**") and U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as trustee (the "**Trustee**"), governs the terms of the Bonds and any Parity Bonds issued in accordance herewith from time to time.

RECITALS

A. The City Council of the City of Orange (the "**legislative body of the District**" or the "**The City**"), as the legislative body of the District, has previously undertaken proceedings and declared the necessity for the District to issue bonds pursuant to the terms and provisions of the Mello-Roos Community Facilities Act of 1982, as amended, being Chapter 2.5, Part 1, Division 2, Title 5, of the Government Code of the State of California (the "**Act**").

B. Based upon certain resolutions adopted by the legislative body of the District and an election held on December 12, 2006, authorizing the levy of a special tax and the issuance of bonds by the District, the District was authorized to issue bonds for one or more series, pursuant to the Act, in an aggregate principal amount not to exceed $47,000,000.

C. The District previously issued the $23,920,000 City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds (the "**2015 Bonds**") for the purpose of refinancing certain public facilities within the District.

D. The legislative body of the District has determined to redeem the outstanding 2015 Bonds through the issuance of its $_____ 2026 Special Tax Refunding Bonds (the "**Bonds**").

E. The District has determined that all requirements of the Act for the issuance of the Bonds have been satisfied.

In order to establish the terms and conditions upon and subject to which the Bonds are to be issued, and in consideration of the promises and the mutual covenants contained herein and the purchase and acceptance of the Bonds by the Owners thereof, and for other valuable consideration, the receipt of which is hereby acknowledged, the District does hereby covenant and agree, for the benefit of the Owners of the Bonds and any Parity Bonds (as such term is defined herein) which may be issued hereunder from time to time, as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Defined Terms. Unless the context otherwise requires, the following terms shall have the following meanings:

"**Account**" means any account created pursuant to this Indenture.

"**Act**" means the Mello-Roos Community Facilities Act of 1982, as amended, being Sections 53311 *et seq.* of the California Government Code.

"**Administrative Costs**" means reasonable charges, fees, costs, losses, liabilities and expenses that the Bond Insurer may pay or incur, including, but not limited to, reasonable fees and expenses of the Bond Insurer's agents, attorneys, accountants, consultants, appraisers and auditors and reasonable costs of investigations, in connection with the administration (including waivers and consents, if any), enforcement, defense, exercise or preservation of any rights and remedies in respect of this Indenture and any other document executed in connection with the Bonds.

"**Administrative Expenses**" means the administrative costs with respect to the calculation and collection of the Special Taxes, including all attorneys' fees and other costs related thereto, the fees and expenses of the Trustee, any fees and related costs for credit enhancement for the Bonds or any Parity Bonds which are not otherwise paid as Costs of Issuance, any costs related to the District's compliance with state and federal laws requiring continuing disclosure of information concerning the Bonds and the District, and any other costs otherwise incurred by the City staff on behalf of the District in order to carry out the purposes of the District as set forth in the Resolution of Formation and any obligation of the District hereunder.

"**Administrative Expenses Account**" means the account by that name created and established in the Special Tax Fund pursuant to Section 3.1.

"**Administrative Expenses Cap**" means an amount equal to $_____ for the first Bond Year, increasing by 2% per annum for each subsequent Bond Year, or such lesser amount as may be designated in written instructions from an Authorized Representative of the City.

"**Alternative Credit Instrument**" has the meaning given for such term as provided in Section 3.6 hereof.

"**Alternative Penalty Account**" means the account by that name created and established in the Rebate Fund pursuant to Section 3.1.

"**Annual Debt Service**" means the principal amount of any Outstanding Bonds or Parity Bonds payable in a Bond Year either at maturity or pursuant to a Sinking Fund Payment and any interest payable on any Outstanding Bonds or Parity Bonds in such Bond Year, if the Bonds and any Parity Bonds are retired as scheduled.

"**Authorized Representative of the City**" means the Mayor, the City Manager, the City Treasurer, the Assistant City Manager and the Financial Services Officer of the City or any other officer or employee of the City authorized by the City Council or by an Authorized Officer to undertake the action referenced in this Agreement as required to be undertaken by an Authorized Officer, acting on behalf of the District.

["**Bond Insurer**" means _____, or any successor thereto.

"**Bond Insurer Policy Payment**" has the meaning given for such term as provided in Section 10.15 hereof.

"**Bond Insurer Policy Payment Account**" has the meaning given for such term as provided in Section 10.14 hereof.

"**Bond Insurer Reimbursement Amounts**" has the meaning given for such term as provided in Section 10.15 hereof.]

"**Bond Counsel**" means an attorney at law or a firm of attorneys selected by the District of nationally recognized standing in matters pertaining to the tax-exempt nature of interest on bonds issued by states and their political subdivisions duly admitted to the practice of law before the highest court of any state of the United States of America or the District of Columbia.

"**Bond Register**" means the books which the Trustee shall keep or cause to be kept on which the registration and transfer of the Bonds and any Parity Bonds shall be recorded.

"**Bondowner**" or "**Owner**" means the person or persons in whose name or names any Bond or Parity Bond is registered on the Bond Register.

"**Bonds**" means the City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds issued under this Indenture.

"**Bond Year**" means the twelve month period commencing on September 2 of each year and ending on October 1 of the following year, except that the first Bond Year for the Bonds or an issue of Parity Bonds shall begin on the Delivery Date and end on the first October 1 which is not more than 12 months after the Delivery Date.

"**Business Day**" means a day which is not a Saturday or Sunday or a day of the year on which banks or trust companies in New York, New York, Los Angeles, California, or the city where the corporate trust office of the Trustee is located is required or authorized by law, regulation or executive order to close or to remain closed, or a day on which the New York Stock Exchange or the payment system of the Federal Reserve System is not operational.

"**Certificate of an Authorized Representative**" means a written certificate executed by an Authorized Representative of the City.

"**City**" means the City of Orange, County of Orange, California.

"**City Council**" means the City Council of the City.

"**Claim**" means any claim or enforcement proceeding in connection with an Insolvency Proceeding.

"**Code**" means the Internal Revenue Code of 1986, as amended, and any Regulations, rulings, judicial decisions, and notices, announcements, and other releases of the United States Treasury Department or Internal Revenue Service interpreting and construing it.

"**Continuing Disclosure Agreement**" means the Continuing Disclosure Agreement, dated as of the date of this Indenture, by and between the District and the Dissemination Agent named therein, as amended.

"**Costs of Issuance**" means the costs and expenses incurred in connection with the issuance and sale of the Bonds or any Parity Bonds, including the acceptance and initial annual fees and expenses of the Trustee, legal fees and expenses, costs of printing the Bonds and Parity Bonds and the preliminary and final official statements for the Bonds and Parity Bonds, fees of financial consultants and all other related fees and expenses, as set forth in a Certificate of an Authorized Representative of the City.

"**Costs of Issuance Fund**" means the fund by that name established pursuant to Section 3.1.

"**Delivery Date**" means, with respect to the Bonds and each issue of Parity Bonds, the date on which the bonds of such issue were issued and delivered to the initial purchasers thereof.

"**Depository**" means The Depository Trust Company, New York, New York, and its successors and assigns as securities depository for the Bonds, or any other securities depository acting as Depository under Article II.

"**District**" means City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) established pursuant to the Act and the Resolution of Formation.

"**Escrow Agent**" means U.S. Bank Trust Company, National Association, as escrow agent under the Escrow Agreement.

"**Escrow Agreement**" means the Escrow Agreement (2015 Bonds), dated as of the date of this Indenture, by and between the Escrow Agent and the District.

"**Escrow Fund**" means the fund by that name established under the Escrow Agreement.

"**Event of Default**" means an event described in Section 8.1.

"**Federal Securities**" means any of the following, which shall in all circumstances be non-callable: (a) Treasuries; and (b) evidence of ownership of proportionate interests in future interest and principal payments on Treasuries held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor and the underlying Treasuries are not available to any person claiming through the custodian or to whom the custodian may be obligated.

"**Fiscal Year**" means the period beginning on July 1 of each year and ending on June 30 of the following year.

"**Governmental Authority**" means any governmental or quasi-governmental entity, including any court, department, commission, board, bureau, agency, administration, central bank, service, district or other instrumentality of any governmental entity or other entity exercising executive, legislative, judicial, taxing, regulatory, fiscal, monetary or administrative powers or functions of or pertaining to government, or any arbitrator, mediator or other person with authority to bind a party at law.

"**Independent Financial Consultant**" means a financial consultant or firm of such consultants generally recognized to be well qualified in the financial consulting field, appointed and paid by the District, who, or each of whom: (a) is in fact independent and not under the domination of the District; (b) does not have any substantial interest, direct or indirect, in the District; and (c) is not connected with the District as a member, officer or employee of the District, but who may be regularly retained to make annual or other reports to the District.

"**Indenture**" means this Bond Indenture, together with any Supplemental Indenture approved pursuant to Article 6.

"**Insolvency Proceeding**" means any proceeding by or against the District under the United States Bankruptcy Code or any other applicable bankruptcy, insolvency, receivership, rehabilitation or similar law.

"**Insured Bonds**" means the Bonds maturing on October 1, 20__ through 20__, inclusive.

"**Insurer Default**" means: (A) the Bond Insurer has failed to make any payment under the Policy when due and owing in accordance with its terms; (B) the Bond Insurer shall: (i) voluntarily commence any proceeding or file any petition seeking relief under the United States Bankruptcy Code or any other Federal, state or foreign bankruptcy, insolvency or similar law; (ii) consent to the institution of or fail to controvert in a timely and appropriate manner, any such proceeding or the filing of any such petition; (iii) apply for or consent to the appointment of a receiver, trustee, custodian, sequestrator or similar official for such party or for a substantial part of its property; (iv) file an answer admitting the material allegations of a petition filed against it in any such proceeding; (v) make a general assignment for the benefit of creditors; or (vi) take action for the purpose of effecting any of the foregoing; or (C) any state or federal agency or instrumentality shall order the suspension of payments on the Policy or shall obtain an order or grant approval for the rehabilitation, liquidation, conservation or dissolution of the Bond Insurer (including without limitation under the New York Insurance Law).]

"**Interest Account**" means the account by that name created and established in the Special Tax Fund pursuant to Section 3.1.

"**Interest Payment Date**" means October 1, 2026 and each April 1 and October 1 thereafter; provided, however, that, if any such day is not a Business Day, interest up to the Interest Payment Date will be paid on the following Business Day.

["**Late Payment Rate**" means the lesser of: (a) the greater of: (i) the per annum rate of interest, publicly announced from time to time by JPMorgan Chase Bank, N.A., at its principal office in The City of New York, New York, as its prime or base lending rate (the "**Prime Rate**") (any change in such Prime Rate to be effective on the date that such change is announced by JPMorgan Chase Bank, N.A.) plus _%; and (ii) the then-applicable highest rate of interest on the Insured Bonds; and (b) the maximum rate permissible under applicable usury or similar laws limiting interest rates. In the event that JPMorgan Chase Bank, N.A., ceases to announce its Prime Rate, the Prime Rate shall be the prime or base lending rate of such other bank, banking association or trust company as the Bond Insurer, in its sole and absolute discretion, shall designate. Interest at the Late Payment Rate on any amount owing to the Bond Insurer shall be computed on the basis of the actual number of days elapsed in a year of 360 days.]

"**Maximum Annual Debt Service**" means the maximum sum obtained for any Bond Year prior to the final maturity of the Bonds and any Parity Bonds by adding the following for each Bond Year: (a) the principal amount of all Outstanding Bonds and Parity Bonds payable in such Bond Year either at maturity or pursuant to a Sinking Fund Payment; and (b) the interest payable on the aggregate principal amount of all Bonds and Parity Bonds Outstanding in such Bond Year if the Bonds and Parity Bonds are retired as scheduled.

"**Moody's**" means Moody's Investors Service, Inc., and its successors and assigns.

"**Net Taxes**" means Special Taxes less amounts set aside to pay Administrative Expenses not to exceed the Administrative Expenses Cap.

"**Nominee**" means the nominee of the Depository, which may be the Depository, as determined from time to time pursuant to Article II.

"**Ordinance**" means Ordinance No. 17-06 adopted by the legislative body of the District on January 9, 2007, providing for the levying of the Special Tax.

"**Outstanding**" or "**Outstanding Bonds and Parity Bonds**" means all Bonds and Parity Bonds theretofore issued by the District, except: (a) Bonds and Parity Bonds cancelled or surrendered for cancellation in accordance with Section 10.1; (b) Bonds and Parity Bonds for the payment or redemption of which moneys shall have been deposited in trust (whether upon or prior to the maturity or the redemption date of such Bonds or Parity Bonds), provided that, if such Bonds or Parity Bonds are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as provided in this Indenture or any applicable Supplemental Indenture for Parity Bonds; and (c) Bonds and Parity Bonds that have been surrendered to the Trustee for transfer or exchange pursuant to Section 2.9 or for which a replacement has been issued pursuant to Section 2.10.

"**Parity Bonds**" means all bonds, notes or other similar evidences of indebtedness hereafter issued, payable out of the Net Taxes and which, as provided in this Indenture or any Supplemental Indenture, rank on a parity with the Bonds.

"**Participants**" means those broker-dealers, banks and other financial institutions from time to time for which the Depository holds Bonds or Parity Bonds as securities depository.

"**Permitted Investments**" means:

(a) Federal Securities;

(b) Bonds, debentures, notes or other evidence issued or guaranteed by any of the following federal agencies and provided that such obligations are backed by the full faith and credit of the United States of America (stripped securities are only permitted if they have been stripped by the agency itself): (i) U.S. Export-Import Bank (Direct obligations or fully guaranteed certificates of beneficial ownership); (ii) Farmers Home Administration (Certificates of beneficial ownership); (iii) Federal Financing Bank; (iv) Federal Housing Administration Debentures; (v) General Services Administration Participation certificates; (vi) Government National Mortgage Association (guaranteed mortgage-backed bonds or guaranteed pass-through obligations); (vii) U.S. Maritime Administration (Guaranteed Title XI financing); and (viii) U.S. Department of Housing and Urban Development (Project Notes, Local Authority Bonds, New Communities Debentures – United States government guaranteed debentures and U.S. Public Housing Notes and Bonds – United States government guaranteed public housing notes and bonds);

(c) Bonds, debentures, notes or other evidence of indebtedness issued or guaranteed by any of the following non-full faith and credit United States government agencies (stripped securities are only permitted if they have been stripped by the agency itself): (i) Federal Home Loan Bank System (Senior debt obligations); (ii) Federal Home Loan Mortgage Corporation (Participation Certificates and Senior debt obligations); (iii) Federal National Mortgage Association (Mortgage-backed securities and senior debt obligations); (iv) Student Loan Marketing Association

(Senior debt obligations); (v) Resolution Funding Corporation obligations; and (vi) Farm Credit System (Consolidated systemwide bonds and notes);

(d) Money market mutual funds that constitute "Government Funds" under Rule 2a-7 promulgated by the Securities and Exchange Commission and that are registered under the Federal Investment Company Act of 1940 the shares of which are registered under the Federal Securities Act of 1933, and having a rating in the highest investment category granted thereby from Standard & Poor's or Moody's, with a minimum of $500 million in assets under management, including funds for which the Trustee or its affiliates receive and retain a fee for services provided to the fund, whether as a custodian, transfer agent, investment advisor or otherwise;

(e) Certificates of deposit (including those placed by a third party pursuant to a separate agreement between the District and the Trustee) secured at all times by collateral described in clauses (a) and/or (b) above. Such certificates must be issued by commercial banks, savings and loan associations or mutual savings banks of which the short-term obligations are rated A-1 or better and P1 or better by Moody's or Standard & Poor's, respectively, which may include the Trustee and its affiliates. The collateral must be held by a third party and the Trustee on behalf of the Owners of the Bonds must have a perfected first security interest in the collateral;

(f) Certificates of deposit (including those placed by a third party pursuant to a separate agreement between the District and the Trustee), demand deposits, savings accounts, deposit accounts, time deposits, other deposit products, trust funds, trust accounts, interest bearing deposits, overnight bank deposits, interest-bearing money market accounts, bankers acceptances or money market deposits which are insured by Federal Deposit Insurance Corporation, including BIF and SAIF; or

(g) Investment agreements with domestic or foreign banks, insurance companies other than a life or property casualty insurance company, or corporations the long-term debt or claims paying ability of which or, in the case of a guaranteed corporation, the long-term debt of the guarantor, or, in the case of a monoline financial guaranty insurance company, claims paying ability or financial strength, of the guarantor is rated in at least the AA category by Standard & Poor's and Moody's; provided that, by the terms of the investment agreement:

(i) interest payments are to be made to the Trustee at times and in amounts as necessary to pay debt service on the Bonds (if the funds invested pursuant to the investment agreement are from the Reserve Account);

(ii) the invested funds are available for withdrawal without penalty or premium, upon not more than seven (7) days' prior notice;

(iii) the investment agreement shall provide that it is the unconditional and general obligation of, and is not subordinated to any other obligation of, the provider thereof;

(iv) the District and the Trustee receive the opinion of domestic counsel (which opinion shall be addressed to the District) that such investment agreement is legal, valid, binding and enforceable upon the provider in accordance with its terms and of foreign counsel (if applicable) in form and substance acceptable, and addressed to, the District;

(v) the investment agreement shall provide that if during its term: (1) the provider's rating by either Standard & Poor's or Moody's falls below AA- or Aa3, respectively, the provider shall, at its option, within ten (10) Business Days after the provider's receipt of a written request from the Trustee to satisfy the foregoing, either: (I) collateralize the investment agreement by delivering or transferring in accordance with the applicable state and federal laws (other than by means of entries on the provider's books) to the District, the Trustee or a third party acting solely as agent therefor (the "**Holder of the Collateral**") collateral free and clear of any third-party liens or claims, the market value of which collateral is maintained at one hundred five percent (105%) of securities identified in clauses (a) and (b) of this definition; or (II) assign the investment agreement and all of its obligations thereunder to, or enter into a repurchase agreement or such other agreement with, a financial institution that is mutually acceptable to the provider and the District which is rated either in the first or second highest category by Standard & Poor's and Moody's; and (2) the provider's rating by either Standard & Poor's or Moody's is withdrawn or suspended or falls below A- or A3, respectively, the provider must, at the direction of the District or the Trustee, within ten (10) days of receipt of such direction, repay the principal of and accrued but unpaid interest on the invested funds, in either case with no penalty or premium to the District or the Trustee;

(vi) the investment agreement shall provide and an opinion of counsel shall be rendered, in the event that collateral is required to be pledged by the provider under the terms of the investment agreement at the time such collateral is delivered, that the Holder of the Collateral has a perfected first priority security interest in the collateral, any substituted collateral and all proceeds thereof (in the case of bearer securities, this shall mean that the Holder of the Collateral is in possession of such collateral); and

(vii) the investment agreement shall provide that if during its term: (1) the provider shall default in its payment obligations, the provider's obligations under the investment agreement shall, at the direction of the District or the Trustee, be accelerated and amounts invested and accrued but unpaid interest thereon shall be paid to the District or the Trustee, as appropriate; and (2) the provider shall become insolvent, not pay its debts as they become due, be declared or petition to be declared bankrupt, etc., the provider's obligations shall automatically be accelerated and amounts invested and accrued but unpaid interest thereon shall be paid to the District or the Trustee, as appropriate;

(h) Commercial paper rated, at the time of purchase, Prime - 1 by Moody's and A-1 or better by Standard & Poor's having original maturity of not more than 180 days issued by a domestic corporation having assets in excess of $500 million;

(i) Bonds or notes issued by any state or municipality which are rated by Moody's or Standard & Poor's in one of the two highest rating categories assigned by them;

(j) Federal funds or bankers acceptances with a maximum term of 270 days of any bank which has an unsecured, uninsured and unguaranteed obligation rating of Prime - 1 or A3 or better by Moody's and A-1 or better by Standard & Poor's;

(k) Repurchase agreements that satisfy the following criteria:

(i) Repurchase agreements must be between the District or the Trustee and a dealer bank or securities firm which is: (1) A primary dealer on the Federal Reserve reporting dealer list which is rated A or better by two of the following Standard & Poor's, Moody's, or Fitch Ratings;

or (2) A domestic bank or a domestic branch of a foreign bank rated A or above by two of the following: Standard & Poor's, Moody's or Fitch Ratings; or (3) Corporations the long-term debt or claims paying ability of which, or in the case of a guaranteed corporation, the long-term debt of the guarantor, or, in the case of a monoline financial guaranty insurance company, claims paying ability or financial strength, is rated in at least the double A category by Standard & Poor's and Moody's; and

(ii) The written agreement must include the following: (1) Securities which are acceptable for transfer are: (I) direct obligations of the United States government; or (II) obligations of federal agencies backed by the full faith and credit of the United States of America (or the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation; (2) The collateral must be delivered to the Trustee (if the Trustee is not supplying the collateral) or a third party acting as agent for the Trustee (if the Trustee is supplying the collateral) before or simultaneous with payment (perfection by possession of certificated securities); and (3) (I) The securities must be valued weekly, marked-to-market at current market price plus accrued interest; (II) The value of the collateral must be at least equal to one hundred five percent (105%) of the amount of money transferred by the Trustee to the dealer, bank or security firm under the agreement plus accrued interest. If the value of the securities held as collateral is reduced below one hundred five percent (105%) of the value of the amount of money transferred by the Trustee, then additional acceptable securities and/or cash must be provided as collateral to bring the value of the collateral to one hundred five percent (105%); provided, however, that if the securities used as collateral are those of the Federal National Mortgage Association or the Federal Home Loan Mortgage Corporation, then the value of the collateral must be at least equal to one hundred five percent (105%) of the amount of money transferred by the Trustee; and (III) A legal opinion must be delivered to the District and the Trustee that the repurchase agreement meets the requirements of California law with respect to the investment of public funds; and (IV) Should the provider's rating by either Standard & Poor's or Moody's be withdrawn or suspended or fall below A- or A3, respectively, the provider must, at the direction of the District or the Trustee (acting at the direction of the District), within ten (10) days of receipt of such direction, repay the principal of and accrued but unpaid interest on the invested funds, in either case with no penalty or premium to the District or the Trustee;

(l) the Local Agency Investment Fund in the State Treasury of the State of California as permitted by the State Treasurer pursuant to Section 16429.1 of the California Government Code;

(m) forward delivery agreements or forward purchase and sale agreements with a domestic or foreign bank or corporation the long-term debt or claims paying ability of which, or in the case of a guaranteed corporation, the long-term debt of the guarantor, or, in the case of a monoline financial guaranty insurance company, claims paying ability or financial strength, of the guarantor is rated at least in the A category by Standard & Poor's and Moody's; provided that, by the terms of the agreement; the underlying investment property consists of those investments which are listed in (a), (b), (c) and (h) above; and

(n) the City's pooled investment fund invested pursuant to the City's investment policy.

"**Person**" means natural persons, firms, corporations, partnerships, associations, trusts, public bodies and other entities.

["**Policy**" means the Municipal Bond Insurance Policy No. _____ issued by the Bond Insurer that guarantees the scheduled payment of principal of and interest on the Insured Bonds when due.

"**Policy Costs**" has the meaning given for such term as provided in Section 3.6 hereof.]

"**Prepayments**" means any amounts paid by the District to the Trustee and designated by the District as a prepayment of Special Taxes for one or more parcels in the District made in accordance with the Rate and Method.

"**Principal Account**" means the account by that name created and established in the Special Tax Fund pursuant to Section 3.1.

"**Principal Office of the Trustee**" means the office of the Trustee located in Los Angeles, California (currently 633 West Fifth Street, 24th Floor, Los Angeles, California 90071, Attention: Global Corporate Trust), or such other office or offices as the Trustee may designate from time to time, or the office of any successor Trustee where it principally conducts its business of serving as trustee under indentures pursuant to which municipal or governmental obligations are issued; provided, however, that for purposes of the surrender or presentation of Bonds for payment, transfer or exchange, the Principal Office of the Trustee shall be the designated corporate trust operations or agency office of the Trustee.

"**Project**" means those public facilities described in the Resolution of Formation which were refinanced with the proceeds of the 2015 Bonds, including all engineering, planning and design services and other incidental expenses related to such facilities and other facilities, if any, authorized by the qualified electors within the District from time to time.

"**Rate and Method**" means the Rate and Method of Apportionment of Special Tax for the District approved by the qualified electors of the District on December 12, 2006 and recorded on December 26, 2006 as Document No. 2006000863536.

"**Rating Agency**" means Moody's and Standard & Poor's, or both, as the context requires.

"**Rebate Account**" means the account by that name created and established in the Rebate Fund pursuant to Section 3.1.

"**Rebate Fund**" means the fund by that name established pursuant to Section 3.1 in which there are established the Accounts described in Section 3.1.

"**Rebate Regulations**" means any final, temporary or proposed Regulations promulgated under Section 148(f) of the Code.

"**Record Date**" means the fifteenth day of the month preceding an Interest Payment Date, regardless of whether such day is a Business Day.

"**Redemption Account**" means the account by that name created and established in the Special Tax Fund pursuant to Section 3.1.

"**Regulations**" means the regulations adopted or proposed by the Department of Treasury from time to time with respect to obligations issued pursuant to Section 103 of the Code.

"**Representation Letter**" means the Blanket Representation Letter from the District to the Depository as described in Article II.

"**Reserve Account**" means the account by that name created and established in the Special Tax Fund pursuant to Section 3.1.

"**Reserve Policy**" means Municipal Bond Debt Service Reserve Insurance Policy No. _____ issued by the Bond Insurer for deposit into the Reserve Account.

"**Reserve Requirement**" means, as of the date of calculation: (a) with respect to the Bonds, an amount equal to the least of: (i) Maximum Annual Debt Service with respect to the Bonds; (ii) 125% of average Annual Debt Service on the then-Outstanding Bonds; or (iii) ten percent (10%) of the initial outstanding principal amount of the Bonds; provided that the Reserve Requirement shall never exceed the amount established pursuant to the foregoing calculation at the time of issuance of the Bonds; and (b) with respect to such Parity Bonds, an amount equal to the least of: (i) Maximum Annual Debt Service with respect to such Parity Bonds; (ii) 125% of average Annual Debt Service on such Parity Bonds; or (iii) ten percent (10%) of the initial outstanding principal amount of such Parity Bonds; provided that the Reserve Requirement shall never exceed the amount established pursuant to the foregoing calculation at the time of issuance of such Parity Bonds.

"**Resolution of Formation**" means Resolution No. 10139 adopted by the City Council of the City on December 12, 2006, pursuant to which the City formed the District.

"**Responsible Officer**," means, when used with respect to the Trustee, any managing director, president, vice president, senior associate, associate or other officer of the Trustee within the Principal Office of the Trustee (or any successor corporate trust office) customarily performing functions similar to those performed by the persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred at the corporate trust office specified in Section 10.8 because of such person's knowledge of and familiarity with the particular subject and having direct responsibility for the administration of this Indenture.

"**Sinking Fund Payment**" means the annual payment to be deposited in the Redemption Account to redeem a portion of the Term Bonds in accordance with the schedules set forth in Section 4.1(b) and any annual sinking fund payment schedule to retire any Parity Bonds that are designated as Term Bonds.

"**Six-Month Period**" means the period of time beginning on the Delivery Date of each issue of Bonds or Parity Bonds, as applicable, and ending six consecutive months thereafter, and each six-month period thereafter until the latest maturity date of the Bonds and the Parity Bonds (and any obligations that refund an issue of the Bonds or Parity Bonds).

"**Special Tax Fund**" means the fund by that name created and established pursuant to Section 3.1.

"**Special Taxes**" means the taxes authorized to be levied by the District on property within the District in accordance with the Ordinance, the Resolution of Formation, the Act, the Rate and Method, and the voter approval obtained at the December 12, 2006 special election in the District, including any scheduled payments and any Prepayments thereof, and the net proceeds of the redemption or sale

of property sold as a result of foreclosure of the lien of the Special Taxes to the amount of said lien and penalties and interest thereon.

"**Standard & Poor's**" means S&P Global Ratings, a Standard & Poor's Financial Services LLC business, and its successors and assigns.

"**Supplemental Indenture**" means any supplemental indenture amending or supplementing this Indenture.

"**Surplus Fund**" means the fund by that name created and established pursuant to Section 3.1.

"**Tax Certificate**" means the certificate by that name to be executed by the District on a Delivery Date to establish certain facts and expectations and which contains certain covenants relevant to compliance with the Code.

"**Tax-Exempt**" means, with reference to a Permitted Investment, a Permitted Investment the interest earnings on which are excludable from gross income for federal income tax purposes pursuant to Section 103(a) of the Code, other than one described in Section 57(a)(5)(C) of the Code.

"**Term Bonds**" means any term maturities of an issue of Parity Bonds as specified in a Supplemental Indenture.

"**Treasuries**" means non-callable direct obligations of the United States of America, including United States Treasury Notes, Certificates and Bonds and State and Local Government Series.

"**Trustee**" means U.S. Bank Trust Company, National Association, a national banking association duly organized and existing under and by virtue of the laws of the United States, having a principal corporate trust office in Los Angeles, California, and its successors or assigns, or any other bank, national banking association or trust company which may at any time be substituted in its place as provided in Sections 7.2 or 7.3 and any successor thereto.

"**Underwriter**" means Stifel, Nicolaus & Company, Incorporated, as the underwriter of the Bonds.

"**Verification Report**" has the meaning given for such term as provided in Section 9.1 hereof.

"**2015 Bonds**" means the City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds issued on March 18, 2015 in the original aggregate principal amount of $23,920,000.

ARTICLE II

GENERAL AUTHORIZATION AND BOND TERMS

Section 2.1. Amount, Issuance, Purpose and Nature of Bonds and Parity Bonds. Under and pursuant to the Act, the Bonds in the aggregate principal amount of $_____ shall be issued for the purpose of refunding the outstanding 2015 Bonds, funding a reserve fund for the Bonds and paying Costs of Issuance. The Bonds and any Parity Bonds shall be and are limited obligations of the District and shall be payable as to the principal thereof and interest thereon and any premiums upon the redemption thereof solely from the Net Taxes and the other amounts in the Special Tax Fund (other

than amounts in the Administrative Expenses Account of the Special Tax Fund). The aggregate principal amount of the Bonds and any Parity Bonds shall not exceed the total indebtedness presently authorized or subsequently authorized by the qualified electors of the District in accordance with the Act.

Section 2.2. Type and Nature of Bonds and Parity Bonds. Neither the faith and credit nor the taxing power of the City, the State of California or any political subdivision thereof is pledged to the payment of the Bonds or any Parity Bonds. Except for the Net Taxes, no other taxes are pledged to the payment of the Bonds or any Parity Bonds. The Bonds and any Parity Bonds are neither general or special obligations of the City nor general obligations of the District, but are limited obligations of the District payable solely from certain amounts deposited by the District in the Special Tax Fund (exclusive of the Administrative Expenses Account), as more fully described herein. The District's limited obligation to pay the principal of, premium, if any, and interest on the Bonds and any Parity Bonds from amounts in the Special Tax Fund (exclusive of the Administrative Expenses Account) is absolute and unconditional, free of deductions and without any abatement, offset, recoupment, diminution or set-off whatsoever. No Owner of the Bonds or any Parity Bonds may compel the exercise of the taxing power by the District (except as pertains to the Special Taxes) or the City or the forfeiture of any of their property. The principal of and interest on the Bonds and any Parity Bonds and premiums upon the redemption thereof, if any, are not a debt of the City, the State of California or any of its political subdivisions within the meaning of any constitutional or statutory limitation or restriction. The Bonds and any Parity Bonds are not a legal or equitable pledge, charge, lien or encumbrance upon any of the District's property, or upon any of its income, receipts or revenues except the Net Taxes and other amounts in the Special Tax Fund (exclusive of the Administrative Expenses Account) which are, under the terms of this Indenture and the Act, set aside for the payment of the Bonds, any Parity Bonds and interest thereon. Neither the members of the City Council of the City nor any persons executing the Bonds or any Parity Bonds are liable personally on the Bonds or any Parity Bonds by reason of their issuance.

Notwithstanding anything to the contrary contained in this Indenture, the District shall not be required to advance any money derived from any source of income other than the Net Taxes for the payment of the interest on or the principal of the Bonds and any Parity Bonds, or for the performance of any covenants contained herein. The District may, however, advance funds for any such purpose, provided that such funds are derived from a source legally available for such purpose.

Section 2.3. Equality of Bonds and Parity Bonds and Pledge of Net Taxes. Pursuant to the Act and this Indenture, the Bonds and any Parity Bonds shall be equally payable from and secured by a pledge and lien upon the Net Taxes and other amounts in the Special Tax Fund (exclusive of the Reserve Account, which shall only secure the Bonds, and the Administrative Expenses Account), without priority for number, date of the Bonds or Parity Bonds, date of sale, date of execution or date of delivery, and the payment of the interest on and principal of the Bonds and any Parity Bonds and any premiums upon the redemption thereof shall be exclusively paid from the Net Taxes and other amounts in the Special Tax Fund (exclusive of the Administrative Expenses Account), which are hereby set aside for the payment of the Bonds and any Parity Bonds. Amounts in the Special Tax Fund (other than the Administrative Expenses Account therein) shall constitute a trust fund held for the benefit of the Owners to be applied to the payment of the interest on and principal of the Bonds and any Parity Bonds; and, so long as any of the Bonds and any Parity Bonds or interest thereon remains Outstanding, amounts in the Special Tax Fund shall not be used for any other purpose, except as permitted by this Indenture or any Supplemental Indenture. Notwithstanding any provision contained in this Indenture to the contrary, Net Taxes deposited in the Rebate Fund and the Surplus Fund shall

no longer be considered to be pledged to the Bonds or any Parity Bonds, and none of the Rebate Fund, the Surplus Fund, the Costs of Issuance Fund or the Administrative Expenses Account of the Special Tax Fund shall be construed as a trust fund held for the benefit of the Owners.

Nothing in this Indenture or any Supplemental Indenture shall preclude: (a) subject to the limitations contained hereunder, the redemption prior to maturity of any Bonds or Parity Bonds subject to call and redemption, and the payment of said Bonds or Parity Bonds from proceeds of refunding bonds issued under the Act as the same now exists or as hereafter amended, or under any other law of the State of California; or (b) the issuance, subject to the limitations contained herein, of Parity Bonds which shall be payable from Net Taxes.

Section 2.4. Description of Bonds; Interest Rates. The Bonds and any Parity Bonds shall be issued in fully registered form in denominations of $5,000 or any integral multiple thereof. The Bonds and any Parity Bonds shall be initially issued in the form of a single certificated fully registered bond for each maturity.

The Bonds shall be designated "City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds." The Bonds shall be dated as of their Delivery Date and shall mature and be payable on October 1 in the years and in the aggregate principal amounts and shall be subject to and shall bear interest at the rates set forth in the table below payable on each Interest Payment Date:

Maturity Date (October 1)	***Principal Amount***	***Interest Rate***

_____

The District and the Trustee may treat and consider the person in whose name each Bond is registered in the Bond Register as the holder and absolute owner of such Bond for the purpose of

payment of principal, premium, if any, and interest on such Bond, for the purpose of giving notices of redemption and other matters with respect to such Bond, for the purpose of registering transfers with respect to such Bond, and for all other purposes whatsoever. The Trustee shall pay all principal of, premium, if any, and interest on the Bonds only to or upon the order of the respective Owners or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the District's obligations with respect to payment of principal of, premium, if any, and interest on the Bonds to the extent of the sum or sums so paid. No person other than an Owner shall receive a certificated Bond evidencing the obligation of the District to make payments of principal, premium, if any, and interest pursuant to this Indenture.

Interest shall be payable on each Bond and Parity Bond from the date established in accordance with Section 2.5 below on each Interest Payment Date thereafter until the principal sum of such Bond or Parity Bond has been paid; provided, however, that if at the maturity date of any Bond or Parity Bond (or if the same is redeemable and shall be duly called for redemption, then at the date fixed for redemption) funds are available for the payment or redemption thereof in full, in accordance with the terms of this Indenture, such Bonds and Parity Bonds shall then cease to bear interest. Interest due on the Bonds and Parity Bonds shall be calculated on the basis of a 360-day year comprised of twelve 30-day months.

Section 2.5. Place and Form of Payment. The Bonds and Parity Bonds shall be payable both as to principal and interest, and as to any premiums upon the redemption thereof, in lawful money of the United States of America. The principal of the Bonds and Parity Bonds and any premiums due upon the redemption thereof shall be payable upon presentation and surrender thereof at the Principal Office of the Trustee, or at the designated office of any successor Trustee. Interest on any Bond or Parity Bond shall be payable from the Interest Payment Date next preceding the date of authentication of such Bond or Parity Bond, unless: (a) such date of authentication is an Interest Payment Date, in which event interest shall be payable from such date of authentication; (b) the date of authentication is after a Record Date but prior to the immediately succeeding Interest Payment Date, in which event interest shall be payable from the Interest Payment Date immediately succeeding the date of authentication; or (c) the date of authentication is prior to the close of business on the first Record Date occurring after the issuance of such Bond or Parity Bond, in which event interest shall be payable from the dated date of such Bond or Parity Bond, as applicable; provided, however, that if at the time of authentication of such Bond or Parity Bond, interest is in default, interest on such Bond or Parity Bond shall be payable from the last Interest Payment Date to which the interest has been paid or made available for payment or, if no interest has been paid or made available for payment on such Bond or Parity Bond, interest on such Bond or Parity Bond shall be payable from its dated date. Interest on any Bond or Parity Bond shall be paid to the person whose name shall appear in the Bond Register as the Owner of such Bond or Parity Bond as of the close of business on the Record Date. Such interest shall be paid by check of the Trustee mailed on the applicable Interest Payment Date by first class mail, postage prepaid, to such Bondowner at his or her address as it appears on the Bond Register. In addition, upon a request in writing received by the Trustee on or before the applicable Record Date from an Owner of $1,000,000 or more in principal amount of the Bonds or of any issue of Parity Bonds, payment shall be made on the Interest Payment Date by wire transfer in immediately available funds to an account designated in writing by such Owner. Notwithstanding the foregoing, as long as the Depository is the Owner of all or part of the Bonds or Parity Bonds, said interest payments shall be made to the Depository in accordance with the procedures of such Depository, which as of the date of this Indenture are by wire transfer in immediately available funds.

Section 2.6. Form of Bonds and Parity Bonds. The definitive Bonds may be printed from steel engraved or lithographic plates or may be typewritten. The Bonds and the certificate of authentication shall be substantially in the form set forth in Exhibit A, which form is hereby approved and adopted as the form of such Bonds and of the certificate of authentication. Each issue of Parity Bonds and the certificate of authentication therefor shall be in the form provided in the Supplemental Indenture for such issue of Parity Bonds.

Until definitive Bonds or Parity Bonds, as applicable, are prepared, the District may cause to be executed and delivered in lieu of such definitive Bonds or Parity Bonds temporary bonds in typed, printed, lithographed or engraved form and in fully registered form, subject to the same provisions, limitations and conditions as are applicable in the case of definitive Bonds or Parity Bonds, except that they may be in any denominations authorized by the District. Until exchanged for definitive Bonds or Parity Bonds, as applicable, any temporary bond shall be entitled and subject to the same benefits and provisions of this Indenture as definitive Bonds and Parity Bonds. If the District issues temporary Bonds or Parity Bonds, it shall execute and furnish definitive Bonds or Parity Bonds, as applicable, without unnecessary delay and thereupon any temporary Bond or Parity Bond may be surrendered to the Trustee at its office, without expense to the Owner, in exchange for a definitive Bond or Parity Bond of the same issue, maturity, interest rate and principal amount in any authorized denomination. All temporary Bonds or Parity Bonds so surrendered shall be cancelled by the Trustee and shall not be reissued.

Section 2.7. Execution and Authentication. The Bonds and Parity Bonds shall be signed on behalf of the District by the manual or facsimile signature of the Mayor of the City and countersigned by the manual or facsimile signature of the City Clerk of the City, or any duly appointed deputy City Clerk, in their capacity as officers of the City, and the seal of the City (or a facsimile thereof) may be impressed, imprinted, engraved or otherwise reproduced thereon, and attested by the signature of the City Clerk of the City. In case any one or more of the officers who shall have signed or sealed any of the Bonds or Parity Bonds shall cease to be such officer before the Bonds or Parity Bonds so signed and sealed have been authenticated and delivered by the Trustee (including new Bonds or Parity Bonds delivered pursuant to the provisions hereof with reference to the transfer and exchange of Bonds or Parity Bonds or to lost, stolen, destroyed or mutilated Bonds or Parity Bonds), such Bonds and Parity Bonds shall nevertheless be valid and may be authenticated and delivered as herein provided, and may be issued as if the person who signed or sealed such Bonds or Parity Bonds had not ceased to hold such office.

Only the Bonds that bear a certificate of authentication in the form set forth in Exhibit A shall be entitled to any right or benefit under this Indenture, and no Bond shall be valid or obligatory for any purpose until such certificate of authentication shall have been duly executed by the Trustee.

Section 2.8. Bond Register. The Trustee will keep or cause to be kept, at its office, sufficient books for the registration and transfer of the Bonds and any Parity Bonds which shall upon reasonable prior written notice be open to inspection by the District during all regular business hours, and, subject to the limitations set forth in Section 2.9 below, upon presentation for such purpose, the Trustee shall, under such reasonable regulations as it may prescribe, register, transfer or cause to be transferred on said Bond Register, Bonds and any Parity Bonds as herein provided.

The District and the Trustee may treat the Owner of any Bond or Parity Bond whose name appears on the Bond Register as the absolute Owner thereof for any and all purposes, and the District and the Trustee shall not be affected by any notice to the contrary. The District and the Trustee may

rely on the address of the Bondowner as it appears in the Bond Register for any and all purposes. It shall be the duty of the Bondowner to give written notice to the Trustee of any change in the Bondowner's address so that the Bond Register may be revised accordingly.

Section 2.9. Registration of Exchange or Transfer. Subject to the limitations set forth in the following paragraph, the registration of any Bond or Parity Bond may, in accordance with its terms, be transferred upon the Bond Register by the person in whose name it is registered, in person or by his or her duly authorized attorney, upon surrender of such Bond or Parity Bond for cancellation at the Principal Office of the Trustee, accompanied by delivery of a written instrument of transfer in a form acceptable to the Trustee and duly executed by the Bondowner or his or her duly authorized attorney.

The transferor shall also provide or cause to be provided to the Trustee all information necessary to allow the Trustee to comply with any applicable tax reporting obligations, including without limitation any cost basis reporting obligations under Internal Revenue Code Section 6045. The Trustee may rely on the information provided to it and shall have no responsibility to verify or ensure the accuracy of such information.

Bonds or Parity Bonds may be exchanged at the Principal Office of the Trustee for a like aggregate principal amount of Bonds or Parity Bonds for other authorized denominations of the same maturity and issue. The Trustee shall not collect from the Owner any charge for any new Bond or Parity Bond issued upon any exchange or transfer, but shall require the Bondowner requesting such exchange or transfer to pay any tax or other governmental charge required to be paid with respect to such exchange or transfer. Whenever any Bonds or Parity Bonds shall be surrendered for registration of transfer or exchange, the District shall execute and the Trustee shall authenticate and deliver a new Bond or Bonds or a new Parity Bond or Parity Bonds, as applicable, of the same issue and maturity, for a like aggregate principal amount; provided that the Trustee shall not be required to register transfers or make exchanges of: (a) Bonds or Parity Bonds for a period of 15 days next preceding any selection of the Bonds or Parity Bonds to be redeemed; or (b) any Bonds or Parity Bonds chosen for redemption.

Prior to any transfer of the Bonds outside the book-entry system (including, but not limited to, the initial transfer outside the book-entry system) the transferor shall provide or cause to be provided to the Trustee all information necessary to allow the Trustee to comply with any applicable tax reporting obligations, including without limitation any cost basis reporting obligations under Internal Revenue Code Section 6045, as amended. The Trustee shall conclusively rely on the information provided to it and shall have no responsibility to verify or ensure the accuracy of such information.

Section 2.10. Mutilated, Lost, Destroyed or Stolen Bonds or Parity Bonds. If any Bond or Parity Bond shall become mutilated, the District shall execute, and the Trustee shall authenticate and deliver, a new Bond or Parity Bond of like tenor, date, issue and maturity in exchange and substitution for the Bond or Parity Bond so mutilated, but only upon surrender to the Trustee of the Bond or Parity Bond so mutilated. Every mutilated Bond or Parity Bond so surrendered to the Trustee shall be cancelled by the Trustee pursuant to Section 10.1. If any Bond or Parity Bond is lost, destroyed or stolen, evidence of such loss, destruction or theft may be submitted to the Trustee and, if such evidence is satisfactory to the Trustee and, if any indemnity satisfactory to the Trustee shall be given, the District shall execute and the Trustee shall authenticate and deliver a new Bond or Parity Bond, as applicable, of like tenor, maturity and issue, numbered and dated as the Trustee shall determine in lieu of and in substitution for the Bond or Parity Bond so lost, destroyed or stolen. Any Bond or Parity Bond issued in lieu of any Bond or Parity Bond alleged to be mutilated, lost, destroyed or stolen, shall

be equally and proportionately entitled to the benefits hereof with all other Bonds and Parity Bonds issued hereunder. The Trustee shall not treat both the original Bond or Parity Bond and any replacement Bond or Parity Bond as being Outstanding for the purpose of determining the principal amount of Bonds or Parity Bonds which may be executed, authenticated and delivered hereunder or for the purpose of determining any percentage of Bonds or Parity Bonds Outstanding hereunder, but both the original and replacement Bond or Parity Bond shall be treated as one and the same. Notwithstanding any other provision of this Section, in lieu of delivering a new Bond or Parity Bond which has been mutilated, lost, destroyed or stolen, and which has matured, the Trustee may make payment with respect to such Bonds or Parity Bonds.

Section 2.11. Validity of Bonds and Parity Bonds. The validity of the authorization and issuance of the Bonds and any Parity Bonds shall not be affected in any way by any defect in any proceedings taken by the District for the refunding of the 2015 Bonds, or by the invalidity, in whole or in part, of any contracts made by the District in connection therewith, and shall not be dependent upon the completion of the refunding of the 2015 Bonds or upon the performance by any Person of such Person's obligation with respect to the Project, and the recital contained in the Bonds or any Parity Bonds that the same are issued pursuant to the Act and other applicable laws of the State of California shall be conclusive evidence of their validity and of the regularity of their issuance.

Section 2.12. Book Entry System.

(a) Election of Book Entry System. Prior to the issuance of the Bonds and any Parity Bonds, the District may provide that such Bonds and Parity Bonds shall be initially issued as book entry bonds. If the District shall elect to deliver any Bonds or Parity Bonds in book entry form, then the District shall cause the delivery of a separate single fully registered bond (which may be typewritten) for each maturity date of such Bonds or Parity Bonds in an authorized denomination corresponding to that total principal amount of the Bonds or Parity Bonds designated to mature on such date. Upon initial issuance, the ownership of each such Bond or Parity Bond shall be registered in the Bond Register in the name of the Nominee, as nominee of the Depository, and ownership of the Bonds or Parity Bonds, or any portion thereof may not thereafter be transferred except as provided in subsection (e).

With respect to book entry Bonds or Parity Bonds, the District and the Trustee shall have no responsibility or obligation to any Participant or to any person on behalf of which such a Participant holds an interest in such book entry bonds. Without limiting the immediately preceding sentence, the District and the Trustee shall have no responsibility or obligation with respect to: (i) the accuracy of the records of the Depository, the Nominee, or any Participant with respect to any ownership interest in book entry bonds; (ii) the delivery to any Participant or any other person, other than an Owner as shown in the Bond Register, of any notice with respect to book entry bonds, including any notice of redemption; (iii) the selection by the Depository and its Participants of the beneficial interests in book entry bonds to be redeemed in the event that the District redeems the Bonds or Parity in part; (iv) the payment by the Depository or any Participant or any other person, of any amount of principal of, premium, if any, or interest on book entry bonds; or (v) any consent given or other action taken by the Depository as Bondowner. The District and the Trustee may treat and consider the person in whose name each book entry bond is registered in the Bond Register as the absolute Owner of such book entry bond for the purpose of payment of principal of, premium and interest on such Bond or Parity Bond, for the purpose of giving notices of redemption and other matters with respect to such Bond or Parity Bond, for the purpose of registering transfers with respect to such Bond or Parity Bonds, and for all other purposes whatsoever. The Trustee shall pay all principal of, premium, if any, and interest on the

Bonds or Parity Bonds only to or upon the order of the respective Owner, as shown in the Bond Register, or such Owner's respective attorney duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the District's obligations with respect to payment of principal of, premium, if any, and interest on the Bonds or Parity Bonds to the extent of the sum or sums so paid. No person other than an Owner, as shown in the Bond Register, shall receive a Bond or Parity Bond evidencing the obligation to make payments of principal of, premium, if any, and interest on the Bonds or Parity Bonds. Upon delivery by the Depository to the District and the Trustee, of written notice to the effect that the Depository has determined to substitute a new nominee in place of the Nominee, and subject to the provisions herein with respect to Record Dates, the word Nominee in the Indenture shall refer to such nominee of the Depository.

(b) Delivery of Representation Letter. In order to qualify the book entry bonds for the Depository's book entry system, the District and the Trustee (if required by the Depository) shall execute and deliver to the Depository a Representation Letter. The execution and delivery of a Representation Letter shall not in any way impose upon the District or the Trustee any obligation whatsoever with respect to persons having interests in such book entry bonds other than the Owners, as shown on the Bond Register. By executing a Representation Letter, the Trustee shall agree to take all action necessary at all times so that the Trustee will be in compliance with all representations of the Trustee in such Representation Letter. In addition to the execution and delivery of a Representation Letter, the District and the Trustee shall take such other actions, not inconsistent with the Indenture, as are reasonably necessary to qualify book entry bonds for the Depository's book entry program.

(c) Selection of Depository. In the event that: (i) the Depository determines not to continue to act as securities depository for book entry bonds; or (ii) the District determines that continuation of the book entry system is not in the best interest of the beneficial owners of the Bonds, the Parity Bonds or the District, then the District will discontinue the book entry system with the Depository. If the District determines to replace the Depository with another qualified securities depository, the District shall prepare or direct the preparation of a new single, separate, fully registered bond for each of the maturity dates of such book entry bonds, registered in the name of such successor or substitute qualified securities depository or its Nominee as provided in subsection (e). If the District fails to identify another qualified securities depository to replace the Depository, then the Bonds or Parity Bonds shall no longer be restricted to being registered in such Bond Register in the name of the Nominee, but shall be registered in whatever name or names the Owners transferring or exchanging such Bonds or Parity Bonds shall designate, in accordance with the provisions of this Indenture.

(d) Payments To Depository. Notwithstanding any other provision of the Indenture to the contrary, so long as all Outstanding Bonds or Parity Bonds are held in book entry form and registered in the name of the Nominee, all payments of principal of, redemption premium, if any, and interest on such Bonds or Parity Bonds and all notices with respect thereto shall be made and given, respectively to the Nominee, as provided in the Representation Letter or as otherwise instructed by the Depository and agreed to by the Trustee notwithstanding any inconsistent provisions herein.

(e) Transfer of Bonds to Substitute Depository.

(1) The Bonds shall be initially issued as provided in Section 2.1. Registered ownership of such Bonds, or any portions thereof, may not thereafter be transferred except:

(i) to any successor of the Depository or its nominee, or of any substitute depository designated pursuant to clause (ii) below (a "**Substitute Depository**"); provided

that any successor of the Depository or Substitute Depository shall be qualified under any applicable laws to provide the service proposed to be provided by it;

(ii) to any Substitute Depository, upon: (I) the resignation of the Depository or its successor (or any Substitute Depository or its successor) from its functions as depository; or (II) a determination by the District that the Depository (or its successor) is no longer able to carry out its functions as depository; provided that any such Substitute Depository shall be qualified under any applicable laws to provide the services proposed to be provided by it; or

(iii) to any person as provided below, upon: (I) the resignation of the Depository or its successor (or any Substitute Depository or its successor) from its functions as depository; or (II) a determination by the District that the Depository or its successor (or Substitute Depository or its successor) is no longer able to carry out its functions as depository.

(2) In the case of any transfer pursuant to clauses (i) or (ii) of subsection (1), upon receipt of all Outstanding Bonds by the Trustee, together with a written request of the District to the Trustee designating the Substitute Depository, a single new Bond, which the District shall prepare or cause to be prepared, shall be issued for each maturity of Bonds then Outstanding, registered in the name of such successor or such Substitute Depository or their Nominees, as the case may be, all as specified in such written request of the District. In the case of any transfer pursuant to clause (iii) of subsection (1), upon receipt of all Outstanding Bonds by the Trustee, together with a written request of the District to the Trustee, new Bonds, which the District shall prepare or cause to be prepared, shall be issued in such denominations and registered in the names of such persons as are requested in such written request of the District, subject to the limitations of Section 2.1; provided that the Trustee shall not be required to deliver such new Bonds within a period of less than sixty (60) days from the date of receipt of such written request from the District.

(3) In the case of a partial redemption or an advance refunding of any Bonds evidencing a portion of the principal maturing in a particular year, the Depository or its successor (or any Substitute Depository or its successor) shall make an appropriate notation on such Bonds indicating the date and amounts of such reduction in principal, in form acceptable to the Trustee, all in accordance with the Representation Letter. The Trustee shall not be liable for such Depository's failure to make such notations or errors in making such notations and the records of the Trustee as to the Outstanding principal amount of such Bonds shall be controlling.

(4) The District and the Trustee shall be entitled to treat the person in whose name any Bond is registered as the Owner thereof for all purposes of the Indenture and any applicable laws, notwithstanding any notice to the contrary received by the Trustee or the District; and the District and the Trustee shall not have responsibility for transmitting payments to, communicating with, notifying, or otherwise dealing with any beneficial owners of the Bonds. Neither the District nor the Trustee shall have any responsibility or obligation, legal or otherwise, to any such beneficial owners or to any other party, including the Depository or its successor (or Substitute Depository or its successor), except to the Owner of any Bonds, and the Trustee may rely conclusively on its records as to the identity of the Owners of the Bonds.

Section 2.13. Initial Depository and Nominee. The initial Depository under this Article shall be The Depository Trust Company, New York, New York. The initial Nominee shall be Cede & Co., as Nominee of The Depository Trust Company, New York, New York.

ARTICLE III

CREATION OF FUNDS AND APPLICATION OF PROCEEDS

Section 3.1. Creation of Funds; Application of Proceeds.

(a) There are hereby created and established and shall be maintained by the Trustee the following funds and accounts:

(1) The City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds Special Tax Fund (the "**Special Tax Fund**") (in which there shall be established and created an Interest Account, a Principal Account, a Redemption Account, a Reserve Account and an Administrative Expenses Account).

(2) The City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds Rebate Fund (the "**Rebate Fund**") (in which there shall be established a Rebate Account and an Alternative Penalty Account).

(3) The City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds Costs of Issuance Fund (the "**Costs of Issuance Fund**").

(4) The City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds Surplus Fund (the "**Surplus Fund**").

The amounts on deposit in the foregoing funds, accounts and subaccounts shall be held by the Trustee and the Trustee shall invest and disburse the amounts in such funds, accounts and subaccounts in accordance with the provisions of this Article 3 and shall disburse investment earnings thereon in accordance with the provisions of Section 3.10 hereof. The Trustee may, in its discretion, establish temporary funds or accounts in its books and records to facilitate such transfers.

In connection with the issuance of any Parity Bonds, the Trustee, at the direction of an Authorized Representative of the City, may create new funds, accounts or subaccounts, or may create additional accounts and subaccounts within any of the foregoing funds and accounts for the purpose of separately accounting for the proceeds of the Bonds and any Parity Bonds.

(b) The proceeds of the sale of the Bonds received by the Trustee in the amount of $_____ (representing the initial aggregate principal amount of the Bonds of $_____, [plus/less] $_____ of [net original issue premium/discount], less $_____ of Underwriter's discount and less $_____ paid directly to the Bond Insurer by the Underwriter) shall be received on behalf of the District and deposited and transferred as follows:

(1) $_____ shall be transferred to the Costs of Issuance Fund to pay the Costs of Issuance of the Bonds;

(2) $_____ shall be transferred to the Escrow Agent for deposit in the Escrow Fund.

(3) $_____ shall be transferred to the Reserve Account, representing 50% of the Reserve Requirement, and will be credited to the Reserve Account as provided in Section 3.6 hereof.

The Trustee shall deposit in the Reserve Account the Reserve Policy, which amount represents 50% of the Reserve Requirement as of the Closing Date of the Bonds and will be credited to the various accounts in the Reserve Account as provided in Section 3.6 hereof.

(c) $_____ on deposit in the Fiscal Agent Agreement pursuant to which the 2015 Bonds shall be transferred to the Trustee and received on behalf of the District and shall be transferred to the Escrow Agent for deposit in the Escrow Fund.

(d) $_____ on deposit with the City shall be transferred to the Trustee and received on behalf of the District and transferred to the Escrow Agent for deposit in the Escrow Fund.

The Trustee may, in its discretion, establish temporary funds, accounts or subaccounts in its books and records to facilitate such transfers.

Section 3.2. Deposits to and Disbursements from Special Tax Fund.

(a) Except for the portion of any Prepayment to be deposited in the Redemption Account as specified in a Certificate of an Authorized Representative, the Trustee shall, on each date on which the Special Taxes are received from the District, deposit the Special Taxes in the Special Tax Fund to be held in trust for the Owners. The Trustee shall transfer the Special Taxes on deposit in the Special Tax Fund on the dates and in the amounts set forth in the following Sections, in the following order of priority, to:

(1) the Administrative Expenses Account of the Special Tax Fund up to the Administrative Expenses Cap;

(2) the Interest Account of the Special Tax Fund;

(3) the Principal Account of the Special Tax Fund;

(4) the Redemption Account of the Special Tax Fund;

(5) the Reserve Account of the Special Tax Fund and any reserve account established in connection with the issuance of any Parity Bonds;

(6) the Administrative Expenses Account of the Special Tax Fund to the extent that Administrative Expenses exceed or are expected to exceed the Administrative Expenses Cap;

(7) the Rebate Fund; and

(8) the Surplus Fund.

(b) Upon the maturity of all of the Bonds and Parity Bonds and, after all principal and interest then due on the Bonds and Parity Bonds then Outstanding has been paid or provided for and

any amounts owed to the Trustee have been paid in full, moneys in the Special Tax Fund and any accounts therein may be used by the District for any lawful purpose.

Section 3.3. Administrative Expenses Account of the Special Tax Fund. The Trustee shall transfer from the Special Tax Fund and deposit in the Administrative Expenses Account of the Special Tax Fund from time to time amounts necessary to make timely payment of Administrative Expenses as set forth in a Certificate of an Authorized Representative of the City; provided, however, that, except as set forth in the following sentence, the total amount transferred in a Bond Year shall not exceed the Administrative Expenses Cap until such time as there has been deposited to the Interest Account and the Principal Account an amount, together with any amounts already on deposit therein, that is sufficient to pay the interest and principal on all Bonds and Parity Bonds due in such Bond Year and to restore the Reserve Account and any reserve account established in connection with the issuance of such Parity Bonds to the Reserve Requirement, all as determined by the District. Notwithstanding the foregoing, amounts in excess of the Administrative Expenses Cap may be transferred to the Administrative Expenses Account to the extent necessary to collect delinquent Special Taxes, as directed in writing by an Authorized Representative of the City. Moneys in the Administrative Expenses Account of the Special Tax Fund may be invested in any Permitted Investments as directed in writing by an Authorized Representative of the City and shall be disbursed as directed in a Certificate of an Authorized Representative.

Section 3.4. Interest Account and Principal Account of the Special Tax Fund. The principal of (including any Sinking Fund Payment) and interest due on the Bonds and any Parity Bonds until maturity, other than principal due upon redemption under Sections 4.1(a) and (c), shall be paid by the Trustee from the Principal Account and the Interest Account of the Special Tax Fund, respectively. For the purpose of assuring that the payment of principal of (including any Sinking Fund Payment) and interest on the Bonds and any Parity Bonds will be made when due, after making the transfer required by Section 3.3, at least one Business Day prior to each April 1 and October 1, the Trustee shall make the following transfers from the Special Tax Fund first to the Interest Account and then to the Principal Account; provided, however, that to the extent that deposits have been made in the Interest Account or the Principal Account from the proceeds of the sale of an issue of the Bonds, any Parity Bonds, or otherwise, the transfer from the Special Tax Fund need not be made; and provided, further, that, if amounts in the Special Tax Fund (exclusive of the Reserve Account and any reserve account established in connection with any Parity Bonds) are inadequate to make the foregoing transfers, then any deficiency shall be made up by an immediate transfer from the Reserve Account and any reserve account established in connection with the issuance of any Parity Bonds:

(a) To the Interest Account, an amount such that the balance in the Interest Account one Business Day prior to each Interest Payment Date shall be equal to the installment of interest due on the Bonds and any Parity Bonds on said Interest Payment Date and any installment of interest due on a previous Interest Payment Date that remains unpaid. Moneys in the Interest Account shall be used for the payment of interest on the Bonds and any Parity Bonds as the same become due.

(b) To the Principal Account, an amount such that the balance in the Principal Account one Business Day prior to October 1 of each year shall equal the principal payment (including any Sinking Fund Payment) due on the Bonds and any Parity Bonds maturing on such October 1 and any principal payment due on a previous October 1 which remains unpaid. Moneys in the Principal Account shall be used for the payment of the principal (including any Sinking Fund Payment) of such Bonds and any Parity Bonds as the same become due at maturity.

Section 3.5. Redemption Account of the Special Tax Fund.

(a) After making the deposits to the Administrative Expenses Account, the Interest Account and the Principal Account of the Special Tax Fund pursuant to Sections 3.3 and 3.4, or to call Parity Bonds for optional redemption as set forth in any Supplemental Indenture for Parity Bonds, the Trustee shall transfer from the Special Tax Fund and deposit in the Redemption Account moneys available for the purpose and sufficient to pay the principal and the premiums, if any, payable on the Bonds or Parity Bonds called for optional redemption; provided, however, that amounts in the Special Tax Fund (other than the Administrative Expenses Account therein) may be applied to optionally redeem Bonds and Parity Bonds only if immediately following such redemption the amount in the Reserve Account and any reserve account established in connection with the issuance of such Parity Bonds will equal the Reserve Requirement, as determined by the District.

(b) Prepayments deposited to the Redemption Account shall be applied on the redemption date established pursuant to Section 4.1(c) for the use of such Prepayments to the payment of the principal of, premium, and interest on the Bonds and Parity Bonds to be redeemed with such Prepayments.

(c) Moneys set aside in the Redemption Account shall be used solely for the purpose of redeeming Bonds and Parity Bonds, shall be applied on or after the redemption date to the payment of principal of and premium, if any, on the Bonds or Parity Bonds to be redeemed upon presentation and surrender (if required) of such Bonds or Parity Bonds and, in the case of an optional redemption or an extraordinary redemption from Prepayments, to pay the interest thereon; provided, however, that in lieu or partially in lieu of such call and redemption, moneys deposited in the Redemption Account may be used to purchase Outstanding Bonds or Parity Bonds in the manner hereinafter provided. Purchases of Outstanding Bonds or Parity Bonds may be made by the District at public or private sale as and when and at such prices as the District may in its discretion determine, but only at prices (including brokerage or other expenses) not more than par plus accrued interest, plus, in the case of moneys set aside for an optional redemption or an extraordinary redemption, the premium applicable at the next following call date according to the premium schedule established pursuant to Sections 4.1(a) or 4.1(c), as applicable, or in the case of Parity Bonds the premium established in any Supplemental Indenture. Any accrued interest payable upon the purchase of Bonds or Parity Bonds may be paid from the amount reserved in the Interest Account of the Special Tax Fund for the payment of interest on the next following Interest Payment Date.

Section 3.6. Reserve Account of the Special Tax Fund. There shall be maintained in the Reserve Account of the Special Tax Fund an amount equal to the Reserve Requirement. The Reserve Policy shall be drawn upon solely for the purpose of paying the principal of, including Sinking Fund Payments, and interest on the Bonds when due in the event that the moneys in the Interest Account and the Principal Account of the Special Tax Fund are insufficient therefor or moneys in the Redemption Account of the Special Tax Fund are insufficient to make a Sinking Fund Payment when due, and for the purpose of making any required transfer to the Rebate Fund pursuant to Section 3.7 upon written direction from the District. If the amounts in the Interest Account, the Principal Account or the Redemption Account of the Special Tax Fund are insufficient to pay the principal of, including Sinking Fund Payments, or interest on any Bonds when due, or amounts in the Special Tax Fund are insufficient to make transfers to the Rebate Fund when required, the Trustee shall draw upon the Reserve Policy for deposit in the Interest Account, the Principal Account or the Redemption Account of the Special Tax Fund or the Rebate Fund, as applicable, moneys necessary for such purposes. 50% of the Reserve Requirement will initially be satisfied by the Reserve Policy and 50% will initially be satisfied with

the deposit from proceeds of the Bonds pursuant to Section 3.1(b) hereof. Notwithstanding anything in this Indenture to the contrary, for so long as the Bonds remain outstanding, 50% of the Reserve Requirement shall be satisfied with cash, unless the Bond Insurer provides its prior written consent. The prior written consent of the Bond Insurer shall be a condition precedent to the deposit of any credit instrument provided in lieu of a cash deposit into the Reserve Account, if any. Amounts on deposit in the Reserve Account shall be applied solely to the payment of debt service due on the Bonds.

The following provisions govern the Reserve Policy and the Reserve Account:

(a) The District shall repay the Bond Insurer any draws under the Reserve Policy and pay all related Administrative Costs that the Bond Insurer may pay or incur. Interest shall accrue and be payable on such draws and Administrative Costs from the date of payment by the Bond Insurer at the Late Payment Rate.

Repayment of draws and payment of Administrative Costs and interest accrued thereon at the Late Payment Rate (collectively, the "**Policy Costs**") shall commence in the first month following each draw and each such monthly payment shall be in an amount at least equal to 1/12th of the aggregate of Policy Costs related to such draw.

Amounts in respect of Policy Costs paid to the Bond Insurer shall be credited first to interest due, then to the expenses due and then to principal due. As and to the extent that payments are made to the Bond Insurer on account of principal due, the coverage under the Reserve Policy will be reinstated by a like amount, subject to the terms of the Reserve Policy.

All cash and investments in the Reserve Account and the Surplus Fund shall be transferred to the Special Tax Fund for payment of the debt service on the Insured Bonds before any drawing may be made on the Reserve Policy or on any alternative credit instrument on deposit in the Reserve Account in lieu of cash (each, an "**Alternative Credit Instrument**").

Payment of any Policy Cost shall be made prior to replenishment of any cash amounts. Draws on all Alternative Credit Instruments (including the Reserve Policy) on which there is available coverage shall be made on a pro-rata basis (calculated by reference to the available coverage under each such Alternative Credit Instrument) after applying all available cash and investments in the Reserve Account. Payment of Policy Costs and reimbursement of amounts with respect to other Alternative Credit Instruments shall be made on a pro-rata basis prior to replenishment of any cash drawn from the Reserve Account. For the avoidance of doubt, "**available coverage**" means the coverage then available for disbursement pursuant to the terms of the applicable Alternative Credit Instrument without regard to the legal or financial ability or willingness of the provider of such instrument to honor a claim or draw thereon or the failure of such provider to honor any such claim or draw.

(b) Draws on the Reserve Policy may only be used to make payments of principal of and interest on the Bonds (and for the avoidance of doubt, not any other obligations of the District, whether issued on parity with the Bonds, or otherwise).

(c) If the District shall fail to pay any Policy Costs in accordance with the requirements of paragraph (a) above, the Bond Insurer shall be entitled to exercise any and all legal and equitable remedies available to it, including those provided under this Indenture other than: (i) acceleration of the maturity of the Bonds; or (ii) remedies which would adversely affect Bondowners.

(d) In order to secure the District's payment obligations with respect to the Policy Costs, there is hereby granted and perfected in favor of the Bond Insurer a security interest (subordinate only to that of the Bondowners) in all revenues and collateral pledged as security for the Bonds.

(e) The Trustee shall ascertain the necessity for a claim upon the Reserve Policy in accordance with the provisions of paragraph (a) above and shall provide notice to the Bond Insurer in accordance with the terms of the Reserve Policy at least five (5) Business Days prior to each date upon which interest or principal is due on the Bonds. Where deposits are required to be made by the District with the Trustee to the debt service fund for the Bonds more often than semi-annually, the Trustee shall give notice to the Bond Insurer of any failure of the District to make timely payment in full of such deposits within two (2) Business Days of the date due.

(f) The Reserve Policy shall expire on the earlier of the date that the Bonds are no longer outstanding and the final maturity date of the Bonds.

Section 3.7. Rebate Fund.

(a) The Trustee shall establish and maintain a fund separate from any other fund established and maintained hereunder designated as the Rebate Fund and shall establish a separate Rebate Account and Alternative Penalty Account therein. All money at any time deposited in the Rebate Account or the Alternative Penalty Account of the Rebate Fund shall be held by the Trustee in trust, for payment to the United States Treasury. A separate subaccount of the Rebate Account and the Alternative Penalty Account shall be established for the Bonds and each issue of Parity Bonds the interest on which is excluded from gross income for federal income tax purposes. All amounts on deposit in the Rebate Fund with respect to the Bonds or an issue of Parity Bonds shall be governed by this Section 3.7 and the Tax Certificate for such issue, unless the District obtains an opinion of Bond Counsel that the exclusion from gross income for federal income tax purposes of interest payments on the Bonds and Parity Bonds will not be adversely affected if such requirements are not satisfied.

(1) Rebate Account. The following requirements shall be satisfied with respect to each subaccount of the Rebate Account:

(i) Annual Computation. Within 55 days of the end of each fifth Bond Year, the District shall calculate or cause to be calculated the amount of rebatable arbitrage for the Bonds and each issue of Parity Bonds to which this Section 3.7 is applicable, in accordance with Section 148(f)(2) of the Code and Section 1.148-3 of the Rebate Regulations (taking into account any applicable exceptions with respect to the computation of the rebatable arbitrage described in the Tax Certificate for each issue (e.g., the temporary investments exceptions of Section 148(f)(4)(B) and (C) of the Code), and taking into account whether the election pursuant to Section 148(f)(4)(C)(vii) of the Code (the "**1½% Penalty**") has been made), for this purpose treating the last day of the applicable Bond Year as a computation date, within the meaning of Section 1.148-1(b) of the Rebate Regulations (the "**Rebatable Arbitrage**"). The District shall obtain expert advice as to the amount of the Rebatable Arbitrage to comply with this Section.

(ii) Annual Transfer. Within 55 days of the end of each Bond Year for which Rebatable Arbitrage must be calculated as required by the Tax Certificate for each issue, upon the written direction of an Authorized Representative of the City, an amount shall be deposited to each subaccount of the Rebate Account by the Trustee from any funds so designated by the District if and to the extent required, so that the balance in the Rebate Account shall equal the amount of Rebatable

Arbitrage so calculated by or on behalf of the District in accordance with subsection (a)(1)(i) with respect to the Bonds and each issue of Parity Bonds to which this Section 3.7 is applicable. In the event that immediately following any transfer required by the previous sentence, or the date on which the District determines that no transfer is required for such Bond Year, the amount then on deposit to the credit of the applicable subaccount of the Rebate Account exceeds the amount required to be on deposit therein, upon written instructions from an Authorized Representative of the City, the Trustee shall withdraw the excess from the appropriate subaccount of the Rebate Account and then credit the excess to the Special Tax Fund.

(iii) Payment to the Treasury. The Trustee shall pay, as directed in writing by an Authorized Representative of the City, to the United States Treasury, out of amounts in each subaccount of the Rebate Account: (X) not later than 60 days after the end of: (A) the fifth Bond Year for the Bonds and each issue of Parity Bonds to which this Section 3.7 is applicable; and (B) each applicable fifth Bond Year thereafter, an amount equal to at least 90% of the Rebatable Arbitrage calculated as of the end of such Bond Year for the Bonds and each issue of Parity Bonds, as applicable; and (Y) not later than 60 days after the payment or redemption of all of the Bonds or an issue of Parity Bonds, as applicable, an amount equal to 100% of the Rebatable Arbitrage calculated as of the end of such applicable Bond Year, and any income attributable to the Rebatable Arbitrage, computed in accordance with Section 148(f) of the Code.

In the event that, prior to the time that any payment is required to be made from the Rebate Account, the amount in the Rebate Account is not sufficient to make such payment when such payment is due, the District shall calculate or cause to be calculated the amount of such deficiency and deposit an amount received from any legally available source equal to such deficiency prior to the time such payment is due. Each payment required to be made pursuant to this subsection (a)(1) shall be made to the Internal Revenue Service Center, Ogden, Utah 84201 on or before the date on which such payment is due, and shall be accompanied by Internal Revenue Service Form 8038-T prepared and signed by the District, or shall be made in such other manner as provided under the Code. The Trustee may rely conclusively upon the District's determinations, calculations and certifications required by this Section. The Trustee shall have no responsibility to independently make any calculation or determination or to review the District's calculations hereunder.

(2) Alternative Penalty Account.

(i) Six-Month Computation. If the 1½% Penalty has been elected for the Bonds or an issue of Parity Bonds, within 85 days of each particular Six-Month Period, the District shall determine or cause to be determined whether the 1½% Penalty is payable (and the amount of such penalty) as of the close of the applicable Six-Month Period. The District shall obtain expert advice in making such determinations.

(ii) Six-Month Transfer. Within 85 days of the close of each Six-Month Period, the Trustee, at the written direction of an Authorized Representative of the City, shall deposit an amount in the appropriate subaccounts of the Alternative Penalty Account from any source of funds held by the Trustee pursuant to this Indenture and designated by the District in such written directions or provided to it by the District, if and to the extent required, so that the balance in each subaccount of the Alternative Penalty Account equals the amount of 1½% Penalty due and payable to the United States Treasury determined as provided in subsection (a)(2)(i). In the event that immediately following any transfer provided for in the previous sentence, or the date on which the District determines that no transfer is required for such Bond Year, the amount then on deposit in a subaccount of the Alternative

Penalty Account exceeds the amount required to be on deposit therein to make the payments required by subsection (a)(2)(iii), the Trustee, at the written direction of an Authorized Representative of the City, may withdraw the excess from the applicable subaccount of the Alternative Penalty Account and credit the excess to the Special Tax Fund.

(iii) Payment to the Treasury. The Trustee shall pay, as directed in writing by an Authorized Representative of the City, to the United States Treasury, out of amounts in a subaccount of the Alternative Penalty Account, not later than 90 days after the close of each Six-Month Period the 1½% Penalty, if applicable and payable, computed with respect to the Bonds and any issue of Parity Bonds in accordance with Section 148(f)(4) of the Code. In the event that, prior to the time that any payment is required to be made from a subaccount of the Alternative Penalty Account, the amount in such subaccount is not sufficient to make such payment when such payment is due, the District shall calculate the amount of such deficiency and direct the Trustee, in writing, to deposit an amount equal to such deficiency into such subaccount of the Alternative Penalty Account from any funds held by the Trustee pursuant to this Indenture and designated by the District in such written directions prior to the time such payment is due. Each payment required to be made pursuant to this subsection (a)(2) shall be made to the Internal Revenue Service, Ogden, Utah 84201 on or before the date on which such payment is due, and shall be accompanied by Internal Revenue Service Form 8038-T, prepared and signed by the District, or shall be made in such other manner as provided under the Code.

(b) Disposition of Unexpended Funds. Any funds remaining in the Accounts of the Rebate Fund with respect to the Bonds or an issue of Parity Bonds after redemption and payment of such issue and after making the payments described in subsections (a)(1)(iii) or (a)(2)(iii) (whichever is applicable), may be withdrawn by the Trustee at the written direction of the District and utilized in any manner by the District.

(c) Survival of Defeasance and Final Payment. Notwithstanding anything in this Section or this Indenture to the contrary, the obligation to comply with the requirements of this Section shall survive the defeasance and final payment of the Bonds and any Parity Bonds with respect to which an Account has been created in the Rebate Fund.

(d) Amendment Without Consent of Owners. This Section 3.7 may be deleted or amended in any manner without the consent of the Owners, provided that prior to such event there is delivered to the District and the Trustee an opinion of Bond Counsel to the effect that such deletion or amendment will not adversely affect the exclusion from gross income for federal income tax purposes of interest on the Bonds and any issue of Parity Bonds issued on a tax-exempt basis, in addition to any opinions required by the Trustee under Section 6.3 hereof.

Section 3.8. Surplus Fund. After making the transfers required by Sections 3.3, 3.4, 3.5, 3.6 and 3.7, as soon as practicable after each October 1, and in any event prior to each November 1, the Trustee shall transfer all remaining amounts in the Special Tax Fund to the Surplus Fund, unless on or prior to such date, it has received a Certificate of an Authorized Representative of the City directing that certain amounts be retained in the Special Tax Fund because the District has included such amounts as being available in the Special Tax Fund in calculating the amount of the levy of Special Taxes for such Fiscal Year pursuant to Section 5.2(b). Moneys deposited in the Surplus Fund will be transferred by the Trustee at the direction of an Authorized Representative of the City: (a) to the Interest Account, the Principal Account or the Redemption Account of the Special Tax Fund to pay the principal of, including Sinking Fund Payments, premium, if any, and interest on the Bonds and any

Parity Bonds when due in the event that moneys in the Special Tax Fund and the Reserve Account of the Special Tax Fund are insufficient therefor; (b) to the Reserve Account in order to replenish the Reserve Account to the Reserve Requirement; (c) to the Administrative Expenses Account of the Special Tax Fund to pay Administrative Expenses to the extent that the amounts on deposit in the Administrative Expenses Account of the Special Tax Fund are insufficient to pay Administrative Expenses; or (d) for any other lawful purpose of the District.

The amounts in the Surplus Fund are not pledged to the repayment of the Bonds or the Parity Bonds and may be used by the District for any lawful purpose. In the event that the District reasonably expects to use any portion of the moneys in the Surplus Fund to pay debt service on any Outstanding Bonds or Parity Bonds, the District will notify the Trustee in a Certificate of an Authorized Representative and the Trustee will segregate such amount into a separate subaccount and the moneys on deposit in such subaccount of the Surplus Fund shall be invested at the written direction of the District in Permitted Investments the interest on which is excludable from gross income under Section 103 of the Code (other than bonds the interest on which is a tax preference item for purposes of computing the alternative minimum tax of individuals and corporations under the Code) or in Permitted Investments at a yield not in excess of the yield on the issue of Bonds or Parity Bonds to which such amounts are to be applied, unless, in the opinion of Bond Counsel, investment at a higher yield will not adversely affect the exclusion from gross income for federal income tax purposes of interest on the Bonds or any Parity Bonds which were issued on a tax-exempt basis for federal income tax purposes.

Section 3.9. Costs of Issuance Fund. The moneys in the Costs of Issuance Fund shall be disbursed by the Trustee pursuant to a Certificate of an Authorized Representative of the City, and any balance therein shall be transferred by the Trustee to the Interest Account as directed in writing by an Authorized Representative of the City or 90 days following the issuance of the Bonds, whichever is earlier. The Costs of Issuance Fund shall thereafter be closed.

Section 3.10. Investments. Moneys held in any of the funds, Accounts and subaccounts under this Indenture shall be invested at the written direction of the District in accordance with the limitations set forth below only in Permitted Investments which shall be deemed at all times to be a part of such funds, Accounts and subaccounts. Any loss resulting from such Permitted Investments shall be credited or charged to the fund, Account or subaccount from which such investment was made, and any investment earnings on a fund, Account or subaccount shall be applied as follows: (i) investment earnings on all amounts deposited in the Costs of Issuance Fund, the Special Tax Fund, the Surplus Fund and the Rebate Fund and each Account therein (other than the Reserve Account of the Special Tax Fund) shall be deposited in those respective funds and Accounts; and (ii) investment earnings on all amounts deposited in the Reserve Account shall be deposited therein to be applied as set forth in Section 3.6. Moneys in the funds, Accounts and subaccounts held under this Indenture may be invested by the Trustee as directed in writing (filed by the District with the Trustee two (2) Business Days in advance of the making of the investment) from time to time, in Permitted Investments subject to the following restrictions:

(a) Moneys in the Costs of Issuance Fund and the Interest Account, the Principal Account and the Redemption Account of the Special Tax Fund shall be invested only in Permitted Investments which will by their terms mature, or in the case of an investment agreement are available for withdrawal without penalty, on such dates so as to ensure the payment of principal of, premium, if any, and interest on the Bonds and any Parity Bonds as the same become due.

(b) Moneys in the Reserve Account of the Special Tax Fund may be invested only in Permitted Investments which, taken together, have a weighted average maturity not in excess of five years; provided that such amounts may be invested in an investment agreement to the later of the final maturity of the Bonds or any Parity Bonds so long as such amounts may be withdrawn at any time, without penalty, for application in accordance with Section 3.6; and provided that no such Permitted Investment of amounts in the Reserve Account allocable to the Bonds or an issue of Parity Bonds shall mature later than the respective final maturity date of the Bonds or the issue of Parity Bonds, as applicable.

(c) Moneys in the Rebate Fund shall be invested only in Permitted Investments of the type described in clause (a) of the definition thereof which by their terms will mature, as nearly as practicable, on the dates such amounts are needed to be paid to the United States Government pursuant to Section 3.7, or in Permitted Investments of the type described in clause (g) of the definition thereof.

(d) In the absence of written investment directions from the District, the Trustee shall hold such moneys uninvested.

The Trustee shall sell, or present for redemption, any Permitted Investment as directed in writing by the District whenever it may be necessary to do so in order to provide moneys to meet any payment or transfer to such funds and Accounts or from such funds and Accounts. For the purpose of determining at any given time the balance in any such funds and Accounts, any such investments constituting a part of such funds and Accounts shall be valued at their cost, except that amounts in the Reserve Account shall be valued at the market value thereof at least semiannually on or before each Interest Payment Date. In making any valuations hereunder, the Trustee may utilize and conclusively rely on, without liability, such generally recognized pricing information services (including brokers and dealers in securities) as may be available to it, including, without limitation, those available through its regular accounting system, and conclusively rely thereon. Notwithstanding anything herein to the contrary, the Trustee shall not be liable for the selection of investments or for investment losses incurred thereon. The Trustee shall have no liability in respect of losses incurred as a result of the liquidation of any investment prior to its stated maturity or the failure of the District to provide timely written investment direction. The Trustee may conclusively rely upon the District's written instructions as to both suitability and legality of the directed investments.

The Trustee or an affiliate may act as principal or agent in the making or disposing of any investment and shall be entitled to its customary fee for such investment, including account maintenance fees. The Trustee may sell, or present for redemption, any Permitted Investment so purchased whenever it shall be necessary to provide moneys to meet any required payment, transfer, withdrawal or disbursement from the fund or account to which such Permitted Investment is credited, and, subject to the provisions of Section 7.4, the Trustee shall not be liable or responsible for any loss resulting from such investment. For investment purposes, the Trustee may commingle the funds and accounts established hereunder, but shall account for each separately. The Trustee may make any and all such investments through its own investment department or that of its affiliates or subsidiaries, and may charge its ordinary and customary fees for such trades, including account maintenance fees. Ratings of Permitted Investments shall be determined at the time of purchase of such Permitted Investments and without regard to ratings subcategories.

The District acknowledges that, to the extent that regulations of the Comptroller of the Currency or other applicable regulatory entity grant the District the right to receive brokerage confirmations of security transactions as they occur, the District specifically waives receipt of such

confirmations to the extent permitted by law. The Trustee will furnish the District periodic cash transaction statements which include detail for all investment transactions made by the Trustee hereunder.

Ratings of Permitted Investments referred to herein shall be determined at the time of purchase of such Permitted Investments and without regard to rating subcategories. The Trustee shall have no responsibility to monitor ratings of Permitted Investments after the initial purchase of such Authorized Investments or the responsibility to validate the ratings of Permitted Investments prior to the initial purchase.

ARTICLE IV

REDEMPTION OF BONDS AND PARITY BONDS

Section 4.1. Redemption of Bonds.

(a) Optional Redemption. The Bonds with stated maturities on or after October 1, 20__ are subject to redemption prior to their respective stated maturities, as a whole or in part, as directed by the District in a written request provided to the Trustee at least 35 days (or such lesser number of days acceptable to the Trustee in the sole discretion of the Trustee, such notice for the convenience of the Trustee) prior to redemption, by lot within each maturity in integral multiples of $5,000, on October 1, 20__ or any date thereafter, at a redemption price equal to the principal amount thereof plus accrued interest thereon to the date fixed for redemption, without premium.

(b) Mandatory Sinking Fund Redemption. The Term Bonds shall be called before maturity and redeemed, from the Sinking Fund Payments that have been deposited into the Redemption Account, on October 1, 20___, and October 1, 20___, in accordance with the schedule of Sinking Fund Payments set forth below. The Term Bonds so called for redemption shall be selected by the Trustee by lot and shall be redeemed at a redemption price for each redeemed Term Bond equal to the principal amount thereof, plus accrued interest to the redemption date, without premium, as follows:

TERM BONDS MATURING OCTOBER 1, 20___

Redemption Date (October 1)	***Principal Amount***
	$
*	

_____
* Maturity.

If, during the Fiscal Year immediately preceding one of the redemption dates specified above, the District purchases Bonds, at least 45 days prior to the redemption date the District shall notify the Trustee as to the principal amount purchased and the amount of Bonds so purchased shall be credited at the time of purchase, to the extent of the full principal amount thereof, to reduce such upcoming Sinking Fund Payment for the Bonds so purchased. All Bonds purchased pursuant to this subsection shall be cancelled pursuant to Section 10.1.

In the event of a partial optional redemption or extraordinary redemption of the Bonds, each of the remaining Sinking Fund Payments for such Bonds, as described above, will be reduced, as nearly as practicable, on a pro rata basis, in integral multiples of $5,000, as directed by the District.

(c) Extraordinary Redemption. The Bonds are subject to extraordinary redemption as a whole, or in part by lot, on any Interest Payment Date, and shall be redeemed by the Trustee, from Prepayments deposited to the Redemption Account pursuant to Section 3.5(b), plus amounts transferred from the Reserve Account pursuant to Section 3.6, among maturities as directed in writing by the District, at the following redemption prices, expressed as a percentage of the principal amount to be redeemed, together with accrued interest to the redemption date:

Redemption Date	***Redemption Price***
Any Interest Payment Date from (and including) October 1, 20__ through (and including) April 1, 20__	___%
October 1, 20__ and April 1, 20__	___
October 1, 20__ and April 1, 20__	___
October 1, 20__ and any Interest Payment Date thereafter	___

The District shall notify the Trustee of any extraordinary redemption at least 45 days prior to the Interest Payment Date on which such redemption shall occur.

(d) The redemption provisions for Parity Bonds shall be set forth in a Supplemental Indenture.

Section 4.2. Selection of Bonds and Parity Bonds for Redemption. If less than all of the Bonds or Parity Bonds Outstanding are to be redeemed, the portion of any Bond or Parity Bond of a denomination of more than $5,000 to be redeemed shall be in the principal amount of $5,000 or an integral multiple thereof; provided, however, that Bonds held by the Depository shall be subject to the procedures and requirements of the Depository. The Trustee shall promptly notify the District in writing of the Bonds or Parity Bonds, or portions thereof, selected for redemption.

Section 4.3. Notice of Redemption. When Bonds or Parity Bonds are due for redemption under Section 4.1 or the terms of a Supplemental Indenture, respectively, subject in the case of optional redemption to its receipt of timely notice from the District of its election to exercise optional redemption, the Trustee shall give notice, in the name of the District, of the redemption of such Bonds or Parity Bonds; provided, however, that a notice of a redemption to be made from other than from Sinking Fund Payments shall be conditioned on there being on deposit on the redemption date sufficient money to pay the redemption price of the Bonds or Parity Bonds to be redeemed. Such notice of redemption shall: (a) specify the CUSIP numbers (if any) and the maturity date or dates of the Bonds or Parity Bonds selected for redemption; (b) state the date fixed for redemption and surrender of the Bonds or Parity Bonds to be redeemed; (c) state the redemption price; (d) state the place or places where the Bonds or Parity Bonds are to be redeemed; (e) in the case of Bonds or Parity Bonds to be redeemed only in part, state the portion of such Bond or Parity Bond that is to be redeemed; (f) state the date of issue of the Bonds or Parity Bonds as originally issued; (g) state the rate of interest borne by each Bond or Parity Bond being redeemed; and (h) state any other descriptive information needed to identify accurately the Bonds or Parity Bonds being redeemed as shall be specified by the Trustee (the Trustee having no duty to state such additional descriptive information). Such notice shall further state that on the date fixed for redemption, there shall become due and payable on each Bond,

Parity Bond or portion thereof called for redemption, the principal thereof, together with any premium, and interest accrued to the redemption date, and that from and after such date, interest thereon shall cease to accrue and be payable. At least 30 days but no more than 45 days prior to the redemption date, the Trustee shall mail a copy of such notice, by first class mail, postage prepaid, to the respective Owners thereof at their addresses appearing on the Bond Register. The actual receipt by the Owner of any Bond or Parity Bond or the original purchaser of any Bond or Parity Bond of notice of such redemption shall not be a condition precedent to redemption, and neither the failure to receive nor any defect in such notice shall affect the validity of the proceedings for the redemption of such Bonds or Parity Bonds, or the cessation of interest on the redemption date. A certificate by the Trustee that notice of such redemption has been given as herein provided shall be conclusive as against all parties, and the Owner shall not be entitled to show that he or she failed to receive notice of such redemption. Redemption notices may state that no representation is made as to the accuracy or correctness of the CUSIP numbers printed therein or on the Bonds.

In addition to the foregoing notice, further notice shall be given by the Trustee as set out below, but no defect in said further notice nor any failure to give all or any portion of such further notice shall in any manner defeat the effectiveness of a call for redemption if notice thereof is given as above prescribed. In addition to providing any notice of redemption to the Bondowners, if the Bonds are held in book-entry form, each further notice of redemption shall be sent not later than the date that notice of redemption is mailed to the Bondowners by registered or certified mail or overnight delivery service to the Depository and by electronic notice to the Municipal Securities Rulemaking Board.

Upon the payment of the redemption price of any Bonds and Parity Bonds being redeemed, each check or other transfer of funds issued for such purpose shall to the extent practicable bear the CUSIP number (if any) identifying, by issue and maturity, the Bonds and Parity Bonds being redeemed with the proceeds of such check or other transfer.

With respect to any notice of optional redemption or extraordinary redemption of Bonds or Parity Bonds, such notice may state that such redemption shall be conditional upon the receipt by the Trustee on or prior to the date fixed for such redemption of moneys sufficient to pay the principal of, premium, if any, and interest on such Bonds or Parity Bonds to be redeemed and that, if such moneys shall not have been so received, said notice shall be of no force and effect and the Trustee shall not be required to redeem such Bonds or Parity Bonds. In the event that such notice of redemption contains such a condition and such moneys are not so received, the redemption shall not be made, and the Trustee shall within a reasonable time thereafter give notice, in the manner in which the notice of redemption was given, that such moneys were not so received.

Section 4.4. Partial Redemption of Bonds or Parity Bonds. Upon surrender by the Owner of a Bond, at the option of such Owner, for mandatory redemption at the Principal Office of the Trustee, payment of such mandatory redemption of the principal amount of a Bond will be paid to such Owner. Upon surrender of any Bond or Parity Bond to be redeemed in part only, the District shall execute and the Trustee shall authenticate and deliver to the Bondowner, at the expense of the District, a new Bond or Bonds or a new Parity Bond or Parity Bonds of authorized denominations equal in aggregate principal amount to the unredeemed portion of the Bonds surrendered, with the same interest rate and the same maturity or, in the case of surrender of a Parity Bond, a new Parity Bond or Parity Bonds subject to the foregoing limitations. Such mandatory redemption shall be valid upon payment of the amount thereby required to be paid to such Owner, and the District and the Trustee shall be released and discharged from all liability to the extent of such payment.

Section 4.5. Effect of Notice and Availability of Redemption Money. Notice of redemption having been duly given, as provided in Section 4.3, and the amount necessary for the redemption having been made available to the Trustee for that purpose and being available to the Trustee therefor on the date fixed for such redemption:

(a) the Bonds and Parity Bonds, or portions thereof, designated for redemption shall, on the date fixed for redemption, become due and payable at the redemption price thereof as provided in this Indenture or in any Supplemental Indenture with respect to any Parity Bonds, anything in this Indenture or in the Bonds or the Parity Bonds to the contrary notwithstanding;

(b) upon presentation and surrender thereof at the Principal Office of the Trustee, the redemption price of such Bonds and Parity Bonds shall be paid to the Owners thereof;

(c) as of the redemption date, the Bonds or the Parity Bonds, or portions thereof so designated for redemption shall be deemed to be no longer Outstanding and such Bonds or Parity Bonds, or portions thereof, shall cease to bear further interest; and

(d) as of the date fixed for redemption, no Owner of any of the Bonds, Parity Bonds or portions thereof so designated for redemption shall be entitled to any of the benefits of this Indenture or any Supplemental Indenture, or to any other rights, except with respect to payment of the redemption price and interest accrued to the redemption date from the amounts so made available.

ARTICLE V

COVENANTS AND WARRANTY

Section 5.1. Security. The District shall preserve and protect the security pledged hereunder to the Bonds and any Parity Bonds against all claims and demands of all persons.

Section 5.2. Covenants. So long as any of the Bonds or Parity Bonds issued hereunder are Outstanding and unpaid, the District makes the following covenants with the Bondowners under the provisions of the Act and this Indenture (to be performed by the District or its proper officers, agents or employees), which covenants are necessary and desirable to secure the Bonds and Parity Bonds and tend to make them more marketable; provided, however, that said covenants do not require the District to expend any funds or moneys other than the Special Taxes and other amounts deposited to the Special Tax Fund:

(a) Punctual Payment; Against Encumbrances. The District covenants that it will receive all Special Taxes in trust for the Owners and will instruct the Finance Director of the City to deposit all Special Taxes with the Trustee immediately upon their apportionment to the District, and the District shall have no beneficial right or interest in the amounts so deposited except as provided by this Indenture. All such Special Taxes shall be disbursed, allocated and applied solely to the uses and purposes set forth herein, and shall be accounted for separately and apart from all other money, funds, accounts or other resources of the District.

The District covenants that it will duly and punctually pay or cause to be paid the principal of and interest on every Bond and Parity Bond issued hereunder, together with the premium, if any, thereon on the date, at the place and in the manner set forth in the Bonds and the Parity Bonds and in accordance with this Indenture to the extent that Net Taxes and other amounts pledged hereunder are

available therefor, and that the payments into the funds and Accounts created hereunder will be made, all in strict conformity with the terms of the Bonds, any Parity Bonds, this Indenture and any Supplemental Indenture, and that it will faithfully observe and perform all of the conditions, covenants and requirements of this Indenture and all Supplemental Indentures and of the Bonds and any Parity Bonds issued hereunder.

The District will not mortgage or otherwise encumber, pledge or place any charge upon any of the Net Taxes except as provided in this Indenture, and will not issue any obligation or security having a lien or charge upon the Net Taxes superior to or on a parity with the Bonds, other than Parity Bonds. Nothing herein shall prevent the District from issuing or incurring indebtedness that is payable from a pledge of Net Taxes which is subordinate in all respects to the pledge of Net Taxes to repay the Bonds and the Parity Bonds.

(b) Levy of Special Tax. Beginning in Fiscal Year 2026-27 and continuing so long as any Bonds or Parity Bonds are Outstanding, the legislative body of the District covenants to levy the Special Tax in an amount sufficient, together with other amounts on deposit in the Special Tax Fund and available for such purpose, to pay: (i) the principal of and interest on the Bonds and any Parity Bonds when due; (ii) the Administrative Expenses; and (iii) any amounts required to replenish the Reserve Account of the Special Tax Fund and any reserve account established in connection with the issuance of such Parity Bonds to the Reserve Requirement. The District further covenants that it will take no actions that would discontinue or cause the discontinuance of the Special Tax levy or the District's authority to levy the Special Tax for so long as the Bonds and any Parity Bonds are Outstanding.

(c) Commence Foreclosure Proceedings. [The District covenants for the benefit of the Owners of the Bonds and any Parity Bonds that it will commence judicial foreclosure proceedings against parcels with delinquent Special Taxes in excess of $10,000 by the October 1 following the close of each Fiscal Year in which such Special Taxes were due and will diligently pursue such foreclosure proceedings until the delinquent Special Taxes are paid; provided, however, that the District shall not be required to undertake any such foreclosure proceedings if: (i) the amount of Special Taxes collected by the October 1 for the most recent Fiscal Year was equal to 95% or more of the total Special Tax levied in such Fiscal Year; and (ii) the amount on deposit in the Reserve Account and any reserve account established in connection with the issuance of such Parity Bonds as of October 1 was at least equal to the Reserve Requirement.]

The District or the Trustee is expressly authorized to credit bid at any foreclosure sale, without any requirement that funds be placed in the Special Tax Fund or otherwise be set aside in the amount so credit bid, in the amount specified in Section 53356.5 of the Act or such lesser amount as determined in the following paragraph or otherwise under Section 53356.6 of the Act. Notwithstanding anything to the contrary herein, in no event shall the Trustee be required to undertake foreclosure proceedings hereunder.

The District may permit, in its sole and absolute discretion, property with delinquent Special Tax payments to be sold for less than the amount specified in Section 53356.5 of the Act, if it determines that such sale is in the interest of the Bond owners. The Bond owners, by their acceptance of the Bonds, hereby consent to such sale for such lesser amounts (as such consent is described in Section 53356.6 of the Act), and release the District, its officers and its agents from any liability in connection therewith.

The District is hereby expressly authorized to use amounts in the Special Tax Fund to pay costs of foreclosure of delinquent Special Taxes.

The District may forgive all or any portion of the Special Taxes levied or to be levied on any parcel in the District, so long as the District determines that such forgiveness is not expected to adversely affect its obligation to pay principal of and interest on the Bonds hereunder.

The District covenants that it will deposit the net proceeds of any foreclosure to the Special Tax Fund and will apply such proceeds remaining after the payment of Administrative Expenses to make current payments of principal of and interest on the Bonds and any Parity Bonds, to bring the amount on deposit in the Reserve Account and any reserve account established in connection with the issuance of any Parity Bonds, if any, up to the Reserve Requirement and to pay any delinquent installments of principal or interest due on the Bonds and any Parity Bonds.

(d) Payment of Claims. The District will pay and discharge any and all lawful claims for labor, materials or supplies which, if unpaid, might become a lien or charge upon the Net Taxes or other funds in the Special Tax Fund (other than the Administrative Expenses Account therein), or which might impair the security of the Bonds or any Parity Bonds then Outstanding; provided, however, that nothing herein contained shall require the District to make any such payments so long as the District in good faith shall contest the validity of any such claims.

(e) Books and Accounts. The District will keep proper books of records and accounts, separate from all other records and accounts of the District, in which complete and correct entries shall be made of all transactions relating to the Project, the levy of the Special Tax and the deposits to the Special Tax Fund. Such books of records and accounts shall at all times during business hours be subject to the inspection of the Trustee, the Owners of not less than 10% of the principal amount of the Bonds or the Owners of not less than 10% of any issue of Parity Bonds then Outstanding or their representatives authorized in writing.

(f) Federal Tax Covenants. Notwithstanding any other provision of this Indenture, absent an opinion of Bond Counsel that the exclusion from gross income of interest on the Bonds and any Parity Bonds issued on a tax-exempt basis for federal income tax purposes will not be adversely affected for federal income tax purposes, the District covenants to comply with all applicable requirements of the Code necessary to preserve such exclusion from gross income and specifically covenants, without limiting the generality of the foregoing, as follows:

(1) Private Activity. The District will take no action and will refrain from taking any action or making any use of the proceeds of the Bonds or any Parity Bonds or of any other moneys or property which would cause the Bonds or any Parity Bonds issued on a tax-exempt basis for federal income tax purposes to be "private activity bonds" within the meaning of Section 141 of the Code;

(2) Arbitrage. The District will make no use of the proceeds of the Bonds or any Parity Bonds or of any other amounts or property, regardless of the source, and will not take any action or refrain from taking any action which will cause the Bonds or any Parity Bonds issued on a tax-exempt basis for federal income tax purposes to be "arbitrage bonds" within the meaning of Section 148 of the Code;

(3) Federal Guaranty. The District will make no use of the proceeds of the Bonds or any Parity Bonds and will not take or omit to take any action that would cause the Bonds or any

Parity Bonds issued on a tax-exempt basis for federal income tax purposes to be "federally guaranteed" within the meaning of Section 149(b) of the Code;

(4) Information Reporting. The District will take or cause to be taken all necessary action to comply with the informational reporting requirement of Section 149(e) of the Code;

(5) Hedge Bonds. The District will make no use of the proceeds of the Bonds or any Parity Bonds or any other amounts or property, regardless of the source, and will not take any action or refrain from taking any action that would cause the Bonds or any Parity Bonds issued on a tax-exempt basis for federal income tax purposes to be considered "hedge bonds" within the meaning of Section 149(g) of the Code unless the District takes all necessary action to assure compliance with the requirements of Section 149(g) of the Code to maintain the exclusion from gross income for federal income tax purposes of interest on the Bonds and any applicable Parity Bonds;

(6) Miscellaneous. The District will take no action and will refrain from taking any action inconsistent with its expectations stated in the Tax Certificate executed on the Delivery Date by the District in connection with the Bonds and any issue of Parity Bonds and will comply with the covenants and requirements stated therein and incorporated by reference herein;

(7) Other Tax-Exempt Issues. The District will not use proceeds of other tax-exempt securities to redeem any Bonds or Parity Bonds without first obtaining the written opinion of Bond Counsel that doing so will not impair the exclusion from gross income for federal income tax purposes of interest on the Bonds and any Parity Bonds issued on a tax-exempt basis; and

(8) Subsequent Opinions. If the District obtains a subsequent opinion of Bond Counsel other than Stradling Yocca Carlson & Rauth LLP ("**SYCR**"), where such opinion is required in connection with a change or amendment to this Indenture or the procedures set forth in the Tax Certificate, it will obtain an opinion substantially to the effect originally delivered by SYCR that interest on the Bonds and Parity Bonds which are the subject of such change or amendment is excluded from gross income for federal income tax purposes.

(g) Reduction of Maximum Special Taxes. The District hereby finds and determines that, historically, delinquencies in the payment of special taxes authorized pursuant to the Act in community facilities districts in Southern California have from time to time been at levels that required the levy of special taxes at the maximum authorized rates in order to make timely payment of principal of and interest on the outstanding indebtedness of such community facilities districts. For this reason, the District hereby determines that a reduction in the maximum Special Tax rates authorized to be levied on parcels in the District below the levels provided in this Section 5.2(g) would interfere with the timely retirement of the Bonds and Parity Bonds. The District determines it to be necessary in order to preserve the security for the Bonds and Parity Bonds to covenant, and, to the maximum extent that the law permits it to do so, the District hereby does covenant, that it shall not initiate proceedings to reduce the maximum Special Tax rates for the District.

(h) Covenants to Defend. The District covenants that, in the event that any initiative is adopted by the qualified electors in the District which purports to reduce the maximum Special Tax below the levels specified in Section 5.2(g) above or to limit the power of the District to levy the Special Taxes for the purposes set forth in Section 5.2(b) above, it will commence and pursue legal action in order to preserve its ability to comply with such covenants.

(i) Limitation on Right to Tender Bonds. The District hereby covenants that it will not adopt any policy pursuant to Section 53341.1 of the Act permitting the tender of Bonds or Parity Bonds in full payment or partial payment of any Special Taxes unless the District shall have first received a certificate from an Independent Financial Consultant that the acceptance of such a tender will not result in the District having insufficient Special Tax revenues to pay the principal of and interest on the Bonds and Parity Bonds when due.

(j) Continuing Disclosures. The District covenants to comply with the terms of the Continuing Disclosure Agreement and with the terms of any continuing disclosure agreement executed by the District with respect to any Parity Bonds in order to assist the underwriter thereof in complying with Rule 15(c)2-12 adopted by the Securities and Exchange Commission.

(k) Further Assurances. The District shall make, execute and deliver any and all such further agreements, instruments and assurances as may be reasonably necessary or proper to carry out the intention or to facilitate the performance of this Indenture and for the better assuring and confirming unto the Owners of the Bonds and any Parity Bonds of the rights and benefits provided in this Indenture.

ARTICLE VI

AMENDMENTS TO INDENTURE

Section 6.1. Supplemental Indentures or Orders Not Requiring Bondowner Consent. The District may from time to time, and at any time, without notice to or consent of any of the Bondowners, but, with respect to clauses (d), (e) and (f), with the prior written consent of the Bond Insurer so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder, adopt Supplemental Indentures for any of the following purposes:

(a) to cure any ambiguity, to correct or supplement any provisions herein which may be inconsistent with any other provision herein, or to make any other provision with respect to matters or questions arising under this Indenture or in any additional resolution or order, provided that such action is not materially adverse to the interests of the Bondowners, as evidenced by an opinion of Bond Counsel delivered pursuant to Section 6.3 hereunder;

(b) to add to the covenants and agreements of and the limitations and the restrictions upon the District contained in this Indenture, other covenants, agreements, limitations and restrictions to be observed by the District which are not contrary to or inconsistent with this Indenture as theretofore in effect or which further secure Bond or Parity Bond payments;

(c) to provide for the issuance of any Parity Bonds, and to provide the terms and conditions under which such Parity Bonds may be issued, subject to and in accordance with the provisions of this Indenture;

(d) to modify, amend or supplement this Indenture in such manner as to permit the qualification hereof under the Trust Indenture Act of 1939, as amended, or any similar federal statute hereafter in effect, or to comply with the Code or regulations issued thereunder, and to add such other terms, conditions and provisions as may be permitted by said act or similar federal statute, and which shall not materially adversely affect the interests of the Owners of the Bonds or any Parity Bonds then Outstanding, as evidenced by an opinion of Bond Counsel delivered pursuant to Section 6.3 hereunder;

(e) subject to the provisions of Section 5.2(g), to modify, alter or amend the Rate and Method in any manner so long as such changes do not reduce the maximum Special Taxes that may be levied in each year on property within the District to an amount which is less than 110% of the principal and interest due in each corresponding future Bond Year with respect to the Bonds and Parity Bonds Outstanding as of the date of such amendment; or

(f) to modify, alter, amend or supplement this Indenture in any other respect which is not materially adverse to the Bondowners, as evidenced by an opinion of Bond Counsel delivered pursuant to Section 6.3 hereunder.

The District shall send copies of any such amendments or supplements to the Bond Insurer and the rating agencies which have assigned a rating to the Bonds.

Section 6.2. Supplemental Indentures or Orders Requiring Bondowner Consent. Exclusive of the Supplemental Indentures described in Section 6.1, and upon receipt of the prior written consent of the Bond Insurer so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder, the Owners of not less than a majority in aggregate principal amount of the Bonds and Parity Bonds Outstanding shall have the right to consent to and approve the adoption by the District of such Supplemental Indentures as shall be deemed necessary or desirable by the District for the purpose of waiving, modifying, altering, amending, adding to or rescinding, in any particular, any of the terms or provisions contained in this Indenture; provided, however, that nothing herein shall permit, or be construed as permitting: (a) an extension of the maturity date of the principal, or the payment date of interest on, any Bond or Parity Bond; (b) a reduction in the principal amount of, or redemption premium on, any Bond or Parity Bond or the rate of interest thereon; (c) a preference or priority of any Bond or Parity Bond over any other Bond or Parity Bond; or (d) a reduction in the aggregate principal amount of the Bonds and Parity Bonds the Owners of which are required to consent to such Supplemental Indenture, without the consent of the Insurer (so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder) and the Owners of all Bonds and Parity Bonds then Outstanding; or (e) any effect on the rights and interests of the Bond Insurer hereunder except upon the prior written consent of the Bond Insurer.

If at any time the District shall desire to adopt a Supplemental Indenture, which pursuant to the terms of this Section shall require the consent of the Bondowners, the District shall so notify the Trustee and shall deliver to the Trustee a copy of the proposed Supplemental Indenture together with the written consent of the Bond Insurer (so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder). The Trustee shall, at the expense of the District, cause notice of the proposed Supplemental Indenture to be mailed, by first class mail, postage prepaid, to all Bondowners at their addresses as they appear in the Bond Register. Such notice shall briefly set forth the nature of the proposed Supplemental Indenture and shall state that a copy thereof is on file at the Principal Office of the Trustee for inspection by all Bondowners. The failure of any Bondowners to receive such notice shall not affect the validity of such Supplemental Indenture when consented to and approved by the Owners of not less than a majority in aggregate principal amount of the Bonds and Parity Bonds Outstanding as required by this Section. Whenever at any time within one year after the date of the first mailing of such notice, the Trustee shall receive an instrument or instruments purporting to be executed by the Owners of not less than a majority in aggregate principal amount of the Bonds and Parity Bonds Outstanding, which instrument or instruments shall refer to the proposed Supplemental Indenture described in such notice, and shall specifically consent to and approve the adoption thereof by the District substantially in the form of the copy referred to in such notice as on

file with the Trustee, such proposed Supplemental Indenture, when duly adopted by the District, shall thereafter become a part of the proceedings for the issuance of the Bonds and any Parity Bonds. In determining whether the Owners of a majority of the aggregate principal amount of the Bonds and Parity Bonds have consented to the adoption of any Supplemental Indenture, Bonds or Parity Bonds that are owned by the District, or by any person directly or indirectly controlling or controlled by or under the direct or indirect common control with the District, shall be disregarded and shall be treated as though they were not Outstanding for the purpose of any such determination, except that in determining whether the Trustee shall be protected in relying upon any such demand, request, direction, consent or waiver of a Bondowner, only Bonds which a Responsible Officer of the Trustee actually knows to be owned or held by or for the account of the District, or by any person directly or indirectly controlling or controlled by or under the direct or indirect common control with the District, shall be disregarded unless all Bonds are so owned or held, in which case such Bonds shall be considered Outstanding for the purpose of such determination.

Upon the adoption of any Supplemental Indenture and the receipt of consent to any such Supplemental Indenture from the Owners of not less than a majority in aggregate principal amount of the Outstanding Bonds and Parity Bonds in instances where such consent is required pursuant to the provisions of this Section, this Indenture shall be, and shall be deemed to be, modified and amended in accordance therewith, and the respective rights, duties and obligations under this Indenture of the District and all Owners of Outstanding Bonds and Parity Bonds shall thereafter be determined, exercised and enforced hereunder, subject in all respects to such modifications and amendments.

Section 6.3. Notation of Bonds or Parity Bonds; Delivery of Amended Bonds or Parity Bonds. After the effective date of any action taken as hereinabove provided, the District may determine that the Bonds or any Parity Bonds may bear a notation, by endorsement in form approved by the District, as to such action, and in that case upon demand of the Owner of any Outstanding Bond or Parity Bond at such effective date and presentation of such Owner's Bond or Parity Bond for the purpose at the Principal Office of the Trustee or at such additional offices as the Trustee may select and designate for that purpose, a suitable notation as to such action shall be made on such Bonds or Parity Bonds. If the District shall so determine, new Bonds or Parity Bonds so modified as, in the opinion of the District, shall be necessary to conform to such action shall be prepared and executed, and in that case upon demand of the Owner of any Outstanding Bond or Parity Bond at such effective date such new Bonds or Parity Bonds shall be exchanged at the Principal Office of the Trustee or at such additional offices as the Trustee may select and designate for that purpose, without cost to each Owner of Outstanding Bonds or Parity Bonds, upon surrender of such Outstanding Bonds or Parity Bonds.

In executing, or accepting the additional trusts created by any Supplemental Indenture permitted by this Article or the modification thereby of the trusts created by this Indenture, the Trustee shall be entitled to receive, and shall be fully protected in relying upon, an opinion of Bond Counsel stating that the execution of such Supplemental Indenture is authorized or permitted by this Indenture and complies with the terms hereof and that all conditions precedent set forth in this Indenture applicable to the adoption of such Supplemental Indenture, if any, have been satisfied. In addition, in connection with the adoption of a Supplemental Indenture pursuant to Section 6.2, the Trustee shall be entitled to receive and to rely upon an opinion or advice of counsel in determining whether such Supplemental Indenture materially adversely affects the interests of Owners of any Bonds or Parity Bonds (which opinion may rely upon such certificates, reports or other statements as such opining counsel may deem necessary). The Trustee may, but shall not be obligated to, enter into any such

Supplemental Indenture which affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

ARTICLE VII

TRUSTEE

Section 7.1. Trustee. U.S. Bank Trust Company, National Association, shall be the Trustee for the Bonds and any Parity Bonds unless and until another Trustee is appointed by the District hereunder. The District may, at any time, appoint a successor Trustee satisfying the requirements of Section 7.2 for the purpose of receiving all money that the District is required to deposit with the Trustee hereunder and to allocate, use and apply the same as provided in this Indenture.

The Trustee shall and is hereby authorized to mail by first class mail, postage prepaid, or wire transfer in accordance with Section 2.5, interest payments to the Bondowners, to select Bonds and Parity Bonds for redemption and to maintain the Bond Register. The Trustee is hereby authorized to pay the principal of and premium, if any, on the Bonds and Parity Bonds when the same are duly presented to it for payment at maturity or on call and redemption, to provide for the registration of transfer and exchange of Bonds and Parity Bonds presented to it for such purposes, to provide for the cancellation of Bonds and Parity Bonds and to provide for the authentication of Bonds and Parity Bonds and shall perform all other duties assigned to or imposed on it as provided in this Indenture. The Trustee shall keep accurate records of all funds administered by it and all Bonds and Parity Bonds paid, discharged and cancelled by it.

The Trustee is hereby authorized to redeem the Bonds and Parity Bonds when duly presented for payment at maturity, or on redemption prior to maturity. The Trustee shall cancel all Bonds and Parity Bonds upon payment thereof in accordance with the provisions of Section 10.1.

The District shall from time to time, subject to any agreement between the District and the Trustee then in force, pay to the Trustee compensation for its services, reimburse the Trustee for all of its advances and expenditures, including, but not limited to, advances to and fees, costs and expenses of independent accountants or counsel employed by it in the exercise and performance of its powers and duties hereunder and indemnify and save the Trustee, its officers, directors, employees and agents, harmless from and against any losses, costs, claims, expenses, judgments, damages, suits and liabilities, including, without limitation, fees and expenses of its attorneys, not arising from its own negligence or willful misconduct, in connection with the acceptance or administration of the trust or trusts hereunder, including the costs and expenses of defending itself against any claim (except claims asserted by the District) or liability in connection with the exercise or performance of any of its powers and duties hereunder or under any documents or transactions contemplated or executed in connection herewith. The foregoing obligation of the District to indemnify the Trustee shall survive the removal or resignation of the Trustee or the discharge of the Bonds.

When the Trustee incurs expenses or renders services after the occurrence of an Event of Default, such expenses and the compensation for such services are intended to constitute expenses of administration under any federal or state bankruptcy, insolvency, arrangement, moratorium, reorganization or other debtor relief law. Upon an Event of Default, and only upon an Event of Default, the Trustee shall have a first lien with right of payment prior to payment on account of principal of and premium, if any, and interest on any Bond, upon the trust estate for the foregoing fees, charges and expenses incurred by it.

Section 7.2. Removal of Trustee. The District may at any time at its sole discretion, and shall at the direction of a majority of the Owners, remove the Trustee initially appointed, and any successor thereto, by delivering to the Trustee a 30-day written notice of its decision to remove the Trustee. The District shall appoint a successor or successors thereto, provided that any such successor shall be a bank, national banking association or trust company having a combined capital (exclusive of borrowed capital) and surplus of at least $250,000,000, and subject to supervision or examination by federal or state authority. If any bank, national banking association or trust company appointed as a successor publishes a report of condition at least annually, pursuant to law or to the requirements of any supervising or examining authority above referred to, then for the purposes of this Section the combined capital and surplus of such bank, national banking association or trust company shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. Any removal of the Trustee and appointment of a successor Trustee shall become effective only upon acceptance of appointment by the successor Trustee and notice being sent by the successor Trustee to the Bondowners of the successor Trustee's identity and address. The predecessor Trustee shall be and remain entitled to payment in full of the amounts owing to it hereunder.

Section 7.3. Resignation of Trustee. The Trustee may at any time resign by giving written notice to the District and by giving to the Owners notice of such resignation, which notice shall be mailed to the Owners at their addresses appearing in the registration books at the Principal Office of the Trustee. Upon receiving such notice of resignation, the District shall promptly appoint a successor Trustee satisfying the criteria in Section 7.2 by an instrument in writing. Any resignation or removal of the Trustee and appointment of a successor Trustee shall become effective only upon acceptance of appointment by the successor Trustee. If no successor Trustee shall have been appointed and have accepted appointment within 45 days of giving notice of removal or notice of resignation as aforesaid, the resigning Trustee or any Bondowner (on behalf of itself and all other Bondowners) may petition any court of competent jurisdiction, at the expense of the District, for the appointment of a successor Trustee, and such court may thereupon, after such notice (if any) as it may deem proper, appoint such successor Trustee. The Trustee shall be paid in full for any fees and expense owing to it prior to or contemporaneously with the signing of any instrument or agreement to effect the transfer to a successor Trustee.

Section 7.4. Liability of Trustee. The recitals of fact and all promises, covenants and agreements contained herein and in the Bonds and any Parity Bonds shall be taken as statements, promises, covenants and agreements of the District, and the Trustee assumes no responsibility for the correctness of the same and makes no representations as to the validity or sufficiency of this Indenture, the Bonds or any Parity Bonds, and shall incur no responsibility in respect thereof, other than in connection with its duties or obligations specifically set forth herein, in the Bonds and any Parity Bonds, or in the certificate of authentication assigned to or imposed upon the Trustee. The Trustee shall be under no responsibility or duty with respect to the issuance of the Bonds or any Parity Bonds for value. The Trustee shall not be liable in connection with the performance of its duties hereunder, except for its own negligence or willful misconduct. The Trustee shall not be accountable for the use of any proceeds of the sale of the Bonds delivered hereunder.

The Trustee shall be protected in relying and acting or refraining from acting upon any notice, resolution, request, consent, order, certificate, statement, requisition, report, Bond, Parity Bond, electronic mail, or other evidence of indebtedness or other paper or document reasonably believed by it to be genuine and correct and to have been signed or presented by the proper party or parties, and shall not be obliged to make any investigation into the facts or matters stated therein. The Trustee may consult with counsel, who may be counsel to the District, with regard to legal questions, and the opinion

of such counsel shall be full and complete authorization and protection in respect of any action taken or suffered hereunder in good faith and in accordance therewith.

The Trustee shall not be bound to recognize any person as the Owner of a Bond or Parity Bond unless and until such Bond or Parity Bond is submitted for inspection, if required, and title thereto is satisfactorily established, if disputed.

Whenever in the administration of its duties under this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering any action hereunder, such matter (unless other evidence in respect thereof is specifically prescribed herein) may, in the absence of bad faith on the part of the Trustee, be deemed to be conclusively proved and established by a written certificate of the District, and such certificate shall be full warrant to the Trustee for any action taken or suffered under the provisions of this Indenture upon the faith thereof, but in its discretion the Trustee may, in lieu thereof, accept other evidence of such matter or may require such additional evidence as to it may seem reasonable.

The Trustee shall have no duty or obligation whatsoever to enforce the collection of Special Taxes or other funds to be deposited with it hereunder, or as to the correctness of any amounts received, but its liability shall be limited to the proper accounting for such funds as it shall actually receive. No provision in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of its rights or powers. The Trustee may refuse to perform any duty or exercise any right or power which would require it to expend its own funds or risk any liability if it shall reasonably believe that repayment of such funds or adequate indemnity against such risk is not reasonably assured to it.

The Trustee shall not be deemed to have knowledge of any default or Event of Default until a Responsible Officer shall have actual knowledge thereof or the Trustee shall have received written notice thereof at the Principal Office of the Trustee.

The Trustee shall not be considered in breach of or in default in its obligations hereunder or liable for any failure in or progress in respect thereto in the event of enforced delay in the performance of such obligations due to unforeseeable causes beyond its control and without its fault or negligence, including, but not limited to, acts of God or of the public enemy or terrorists, acts of a government, acts of the other party, fires, floods, epidemics, pandemics, quarantine restrictions, acts of civil or military authority, strikes, freight embargoes, earthquakes, explosion, mob violence, riot, inability to procure or general sabotage or rationing of labor, equipment, facilities, sources of energy, material or supplies in the open market, litigation or arbitration involving a party or others relating to zoning or other governmental action or inaction pertaining to the Project, malicious mischief, condemnation, and unusually severe weather or delays of suppliers or subcontractors due to such causes or any similar event and/or occurrences beyond the control of the Trustee.

The Trustee shall not be liable for action taken or omitted to be taken by it in good faith pursuant to and in accordance with the direction of Owners of Bonds or Parity Bonds in aggregate principal amount of the requisite percentage or the District pursuant to and in accordance with any provision contained in this Indenture that permits such party so to direct the Trustee.

In no event shall the Trustee be responsible or liable for special, punitive, indirect or consequential loss or damages of any kind (including but not limited to loss of profit) irrespective of

whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action.

The Trustee shall have the right to accept and act upon instructions, including funds transfer instructions ("**Instructions**") given pursuant to this Indenture and delivered using Electronic Means. ("**Electronic Means**" shall mean the following communications methods: e-mail, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Trustee, or another method or system specified by the Trustee as available for use in connection with its services hereunder); provided, however, that the District shall provide to the Trustee an incumbency certificate listing officers with the authority to provide such Instructions ("**Authorized Officers**") and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the District whenever a person is to be added or deleted from the listing. If the District elects to give the Trustee Instructions using Electronic Means and the Trustee in its discretion elects to act upon such Instructions, the Trustee's reasonable understanding of such Instructions shall be deemed controlling. The District understands and agrees that the Trustee cannot determine the identity of the actual sender of such Instructions and that the Trustee shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Trustee have been sent by such Authorized Officer. The District shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Trustee and that the District and all Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the District. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such Instructions notwithstanding the fact that such directions conflict or are inconsistent with a subsequent written instruction. The District agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Trustee and that there may be more secure methods of transmitting Instructions than the method(s) selected by the District; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Trustee immediately upon learning of any compromise or unauthorized use of the security procedures.

The permissive right of the Trustee to do things enumerated in this Indenture shall not be construed as a duty and it shall not be answerable for other than its negligence or willful misconduct.

All immunities, indemnifications and releases from liability granted herein to the Trustee will extend to the directors, employees, officers and agents thereof.

The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Owners pursuant to the provisions of this Indenture unless such Owners shall have offered to the Trustee security or indemnity reasonably satisfactory to the Trustee against the costs, expenses and liabilities (including but not limited to attorneys' fees and expenses) which may be incurred therein or thereby.

The Trustee shall not be responsible for or accountable to anyone for the subsequent use or application of any moneys which shall be released or withdrawn in accordance with the provisions hereof.

The Trustee may execute any of the trusts or powers hereof and perform the duties required of it hereunder either directly or by or through attorneys, agents, custodians or nominees appointed with due care and the Trustee shall not be liable for the acts or omissions of such attorneys, agents, custodians or nominees appointed with due care, and shall be entitled to rely on advice of counsel concerning all matters of trust and its rights and duties hereunder.

The Trustee, prior to the occurrence of an Event of Default and after the curing of all Events of Default which may have occurred, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In case an Event of Default has occurred (which has not been cured) the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of his own affairs.

The Trustee shall have no responsibility or liability with respect to any information, statements or recital in any offering memorandum or other disclosure material prepared or distributed with respect to the issuance of these Bonds.

The Trustee shall not be required to determine the suitability or legality of any investments, and may rely on the investment directions of the District as to both the suitability and legality of the directed investments.

Section 7.5. Merger or Consolidation. Any bank, corporation, association or company into which the Trustee may be merged or converted or with which it may be consolidated or any bank corporation, association or company resulting from any merger, conversion or consolidation to which it shall be a party or any bank, corporation, association or company to which the Trustee may sell or transfer all or substantially all of its corporate trust business, shall be the successor to the Trustee without the execution or filing of any paper or further act, anything herein to the contrary notwithstanding.

Section 7.6. Rights of Bond Insurer. Notwithstanding anything in this Article to the contrary, the Bond Insurer shall receive prior written notice of any name change of the Trustee or the resignation or removal of the Trustee. Any Trustee must be (A) a national banking association that is supervised by the Office of the Comptroller of the Currency and has at least $250 million of assets, (B) a state-chartered commercial bank that is a member of the Federal Reserve System and has at least $1 billion of assets, or (C) otherwise approved by the Bond Insurer in writing. No removal, resignation or termination of the Trustee shall take effect until a successor, meeting the requirements of this Section or otherwise acceptable to the Bond Insurer (so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder), shall be qualified and appointed.

ARTICLE VIII

EVENTS OF DEFAULT; REMEDIES

Section 8.1. Events of Default. Any one or more of the following events shall constitute an "Event of Default":

(a) default in the due and punctual payment of the principal of or redemption premium, if any, on any Bond or Parity Bond when and as the same shall become due and payable, whether at maturity as therein expressed, by declaration or otherwise;

(b) default in the due and punctual payment of the interest on any Bond or Parity Bond when and as the same shall become due and payable; or

(c) except as described in subsections (a) or (b), default by the District in the observance of any of the agreements, conditions or covenants on its part contained in this Indenture, the Bonds or any Parity Bonds, and such default shall have continued for a period of 30 days after the District shall have been given notice in writing of such default by the Trustee or the Owners of 25% in aggregate principal amount of the Outstanding Bonds and Parity Bonds; provided, however, that with the prior written consent of the Bond Insurer, so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder, such default shall not constitute an Event of Default hereunder if the District shall commence to cure such default within said 30-day period and thereafter diligently and in good faith proceed to cure such default within a reasonable period of time not to exceed 90 days after such notice; or

(d) An event of default occurs under any agreement pursuant to which any Parity Bonds or other bonds, loans, certificates, installment or lease payments or similar obligations that are payable and/or secured on a parity or subordinate basis to the Insured Bonds of the District has been incurred or issued and that permits the holder or trustee of such obligations to accelerate such obligations or otherwise exercise rights or remedies that are adverse to the interest of Insured Bondowners or the Bond Insurer, as the Bond Insurer may determine in its sole discretion.

The Trustee agrees to give notice to the Owners as soon as practicable upon the occurrence of an Event of Default under subsections (a) or (b) above and within 30 days of a Responsible Officer's knowledge of an Event of Default under subsection (c) above.

Section 8.2. Remedies of Owners. Upon the occurrence of an Event of Default, subject to the provisions of Section 8.9, the Trustee may pursue any available remedy at law or in equity to enforce the payment of the principal of, premium, if any, and interest on the Outstanding Bonds and Parity Bonds, and to enforce any rights of the Trustee under or with respect to this Indenture, including:

(a) by mandamus or other suit or proceeding at law or in equity to enforce the Trustee's rights against the District and any of the members, officers and employees of the District, and to compel the District or any such members, officers or employees to perform and carry out their duties under the Act and their agreements with the Owners as provided in this Indenture;

(b) by suit in equity to enjoin any actions or things which are unlawful or violate the rights of the Owners; or

(c) by a suit in equity to require the District and its members, officers and employees to account as the trustee of an express trust.

If an Event of Default shall have occurred and be continuing and if requested so to do by the Owners of at least twenty-five percent (25%) in aggregate principal amount of Outstanding Bonds and Parity Bonds and if indemnified to its satisfaction, the Trustee shall be obligated to exercise such one or more of the rights and powers conferred by this Article VIII, as the Trustee, being advised by counsel, shall deem most expedient in the interests of the Owners of the Bonds and Parity Bonds; provided that such request is in accordance with law and the provisions hereof and, in the sole judgment of the Trustee, is not unduly prejudicial to the interest of the Owners of Bonds or Parity Bonds not making such request (the Trustee having no duty to make such determination or judgment).

No remedy herein conferred upon or reserved to the Trustee or to the Owners is intended to be exclusive of any other remedy. Every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing, at law or in equity or by statute or otherwise, and may be exercised without exhausting and without regard to any other remedy conferred by the Act or any other law.

Nothing herein shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Owner any plan of reorganization, arrangement, adjustment, or composition affecting the Bonds or the rights of any Owner thereof, or to authorize the Trustee to vote in respect of the claim of any Owner in any such proceeding without the approval of the Owner so affected.

In no event shall the principal of the Bonds or any Parity Bonds be accelerated.

Section 8.3. Application of Revenues and Other Funds After Default. Subject to the provisions of Section 8.9, all amounts received by the Trustee pursuant to any right given or action taken by the Trustee under the provisions of this Indenture relating to the Bonds and Parity Bonds shall be applied by the Trustee in the following order:

First, to the payment or reimbursement of the fees, costs, advances, charges, disbursements and expenses of the Trustee in declaring such Event of Default and in carrying out the provisions of this Article VIII, including reasonable compensation to its agents, attorneys and counsel, and to the payment of all other outstanding fees and expenses of the Trustee; and

Second, upon presentation of the several Bonds and Parity Bonds, to the payment of the whole amount of interest on and principal of the Bonds and Parity Bonds then due and unpaid, with interest on overdue installments of principal and interest to the extent permitted by law at the net effective rate of interest then borne by the Outstanding Bonds and Parity Bonds; provided, however, that in the event that such amounts shall be insufficient to pay the full amount of such interest and principal, then such amounts shall be applied in the following order of priority:

(a) first to the payment of all installments of interest on the Bonds and Parity Bonds then due and unpaid on a pro rata basis based on the total amount then due and owing,

(b) second, to the payment of all installments of principal, including Sinking Fund Payments, of the Bonds and Parity Bonds then due and unpaid on a pro rata basis based on the total amount then due and owing; and

(c) third, to the payment of interest on overdue installments of principal and interest on the Bonds and Parity Bonds on a pro rata basis based on the total amount then due and owing.

Section 8.4. Power of Trustee to Control Proceedings. In the event that the Trustee, upon the happening of an Event of Default, shall have taken any action, by judicial proceedings or otherwise, pursuant to its duties hereunder, whether upon its own discretion or upon the request of the Owners of twenty-five percent (25%) in aggregate principal amount of the Bonds and Parity Bonds then Outstanding, it shall have full power, in the exercise of its discretion for the best interests of the Owners of the Bonds and Parity Bonds, with respect to the continuance, discontinuance, withdrawal, compromise, settlement or other disposal of such action; provided, however, that the Trustee shall not, unless there no longer continues an Event of Default, discontinue, withdraw, compromise or settle, or

otherwise dispose of any litigation pending at law or in equity, if at the time there has been filed with it a written request signed by the Owners of a majority in aggregate principal amount of the Outstanding Bonds and Parity Bonds hereunder opposing such discontinuance, withdrawal, compromise, settlement or other such litigation. Any suit, action or proceeding that any Owner of Bonds or Parity Bonds shall have the right to bring to enforce any right or remedy hereunder may be brought by the Trustee for the equal benefit and protection of all Owners of Bonds and Parity Bonds similarly situated and the Trustee is hereby appointed (and the successive respective Owners of the Bonds and Parity Bonds issued hereunder, by taking and holding the same, shall be conclusively deemed so to have appointed it) the true and lawful attorney in fact of the respective Owners of the Bonds and Parity Bonds for the purposes of bringing any such suit, action or proceeding and to do and perform any and all acts and things for and on behalf of the respective Owners of the Bonds and Parity Bonds as a class or classes, as may be necessary or advisable in the opinion of the Trustee as such attorney-in-fact.

Section 8.5. Appointment of Receivers. Upon the occurrence of an Event of Default hereunder, and upon the filing of a suit or other commencement of judicial proceedings to enforce the rights of the Trustee and of the Owners of the Bonds and Parity Bonds under this Indenture, the Trustee shall be entitled, as a matter of right, to the appointment of a receiver or receivers of the Net Taxes and other amounts pledged hereunder, pending such proceedings, with such powers as the court making such appointment shall confer.

Section 8.6. Non-Waiver. Nothing in this Article VIII or in any other provision of this Indenture, or in the Bonds or the Parity Bonds, shall affect or impair the obligation of the District, which is absolute and unconditional, to pay the interest on and principal of the Bonds and Parity Bonds to the respective Owners of the Bonds and Parity Bonds at the respective dates of maturity, as herein provided, out of the Net Taxes and other moneys herein pledged for such payment.

A waiver of any default or breach of duty or contract by the Trustee or any Owners shall not affect any subsequent default or breach of duty or contract, or impair any rights or remedies on any such subsequent default or breach. No delay or omission of the Trustee or any Owner of any of the Bonds or Parity Bonds to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default or an acquiescence therein; and every power and remedy conferred upon the Trustee or the Owners by the Act or by this Article VIII may be enforced and exercised from time to time and as often as shall be deemed expedient by the Trustee or the Owners, as the case may be.

Section 8.7. Limitations on Rights and Remedies of Owners. No Owner of any Bond or Parity Bond issued hereunder shall have the right to institute any suit, action or proceeding at law or in equity, for any remedy under or upon this Indenture, unless: (a) such Owner shall have previously given to the Trustee written notice of the occurrence of an Event of Default; (b) the Owners of a majority in aggregate principal amount of all the Bonds and Parity Bonds then Outstanding shall have made written request upon the Trustee to exercise the powers hereinbefore granted or to institute such action, suit or proceeding in its own name; (c) said Owners shall have tendered to the Trustee indemnity reasonably acceptable to the Trustee against the costs, expenses and liabilities to be incurred in compliance with such request (including but not limited to attorneys' fees and costs); and (d) the Trustee shall have refused or omitted to comply with such request for a period of sixty (60) days after such written request shall have been received by, and said tender of indemnity shall have been made to, the Trustee.

Such notification, request, tender of indemnity and refusal or omission are hereby declared, in every case, to be conditions precedent to the exercise by any Owner of Bonds and Parity Bonds of any remedy hereunder; it being understood and intended that no one or more Owners of Bonds and Parity Bonds shall have any right in any manner whatever by their action to enforce any right under this Indenture, except in the manner herein provided, and that all proceedings at law or in equity to enforce any provision of this Indenture shall be instituted, had and maintained in the manner herein provided and for the equal benefit of all Owners of the Outstanding Bonds and Parity Bonds.

The right of any Owner of any Bond and Parity Bond to receive payment of the principal of and interest and premium (if any) on such Bond and Parity Bond as herein provided or to institute suit for the enforcement of any such payment, shall not be impaired or affected without the written consent of such Owner, notwithstanding the foregoing provisions of this Section or any other provision of this Indenture.

Section 8.8. Termination of Proceedings. In case the Trustee shall have proceeded to enforce any right under this Indenture by the appointment of a receiver or otherwise, and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely, then and in every such case, the District, the Trustee and the Owners shall be restored to their former positions and rights hereunder, respectively, with regard to the property subject to this Indenture, and all rights, remedies and powers of the Trustee shall continue as if no such proceedings had been taken.

Section 8.9. Control by Bond Insurer Upon Default. Anything in this Indenture to the contrary notwithstanding, so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations thereunder, upon the occurrence and continuance of a default or an Event of Default: (a) the Bond Insurer shall be entitled to control and direct the enforcement of all rights and remedies granted to the Insured Bondowners or the Trustee for the benefit of the Insured Bondowners under this Indenture; (b) no default or Event of Default may be waived without the Bond Insurer's written consent; and (c) the Bond Insurer shall be deemed to be sole owner of the Insured Bonds under the Indenture.

ARTICLE IX

DEFEASANCE AND PARITY BONDS

Section 9.1. Defeasance. If the District shall pay or cause to be paid, or there shall otherwise be paid, to the Owner of an Outstanding Bond or Parity Bond the interest due thereon and the principal thereof, at the times and in the manner stipulated in this Indenture or any Supplemental Indenture, then the Owner of such Bond or Parity Bond shall cease to be entitled to the pledge of Net Taxes, and, other than as set forth below, all covenants, agreements and other obligations of the District to the Owner of such Bond or Parity Bond under this Indenture and any Supplemental Indenture relating to such Parity Bond shall thereupon cease, terminate and become void and be discharged and satisfied. In the event of a defeasance of all Outstanding Bonds and Parity Bonds pursuant to this Section, the Trustee shall execute and deliver to the District all such instruments as may be desirable to evidence such discharge and satisfaction, and the Trustee shall pay over or deliver to the District's general fund all money or securities held by it pursuant to this Indenture which are not required for the payment of the principal of, premium, if any, and interest due on such Bonds and Parity Bonds.

Any Outstanding Bond or Parity Bond shall be deemed to have been paid within the meaning expressed in the first paragraph of this Section if such Bond or Parity Bond is paid in any one or more of the following ways:

(a) by paying or causing to be paid the principal of, premium, if any, and interest on such Bond or Parity Bond, as and when the same become due and payable;

(b) by depositing with the Trustee, in trust, at or before maturity, money which, together with the amounts then on deposit in the Special Tax Fund (exclusive of the Administrative Expenses Account) and available for such purpose, is fully sufficient to pay the principal of, premium, if any, and interest on such Bond or Parity Bond, as and when the same shall become due and payable; or

(c) by depositing with the Trustee or another escrow bank appointed by the District, in trust, Federal Securities, in which the District may lawfully invest its money, in such amount as will be sufficient, together with the interest to accrue thereon and moneys then on deposit in the Special Tax Fund (exclusive of the Administrative Expenses Account) and available for such purpose, together with the interest to accrue thereon, to pay and discharge the principal of, premium, if any, and interest on such Bond or Parity Bond, as and when the same shall become due and payable.

If paid as provided above, then, at the election of the District, and notwithstanding that any Outstanding Bonds and Parity Bonds shall not have been surrendered for payment, all obligations of the District under this Indenture and any Supplemental Indenture with respect to such Bond or Parity Bond shall cease and terminate, except for the obligation of the Trustee to pay or cause to be paid to the Owners of any such Bond or Parity Bond not so surrendered and paid, all sums due thereon and except for the covenants of the District contained in Section 5.2(f) or any covenants in a Supplemental Indenture relating to compliance with the Code. Notice of such election shall be filed with the Trustee not less than ten days prior to the proposed defeasance date, or such shorter period of time as may be acceptable to the Trustee.

In connection with a defeasance of Insured Bonds under clauses (b) or (c) above, there shall be provided to the District and the Bond Insurer at least three (3) Business Days prior to such defeasance the following documents, in each case in form and substance satisfactory to the Bond Insurer: (i) a verification report from an independent nationally recognized certified public accountant stating its opinion as to the sufficiency of the moneys or securities deposited with the Trustee or the escrow bank to pay and discharge the principal of, premium, if any, and interest on all Outstanding Bonds and Parity Bonds to be defeased in accordance with this Section, as and when the same shall become due and payable, addressed to the Bond Insurer and the District (a "**Verification Report**"); (ii) an opinion of Bond Counsel (which may rely upon the opinion of the certified public accountant) to the effect that the Bonds or Parity Bonds being defeased have been legally defeased in accordance with this Indenture and any applicable Supplemental Indenture and that all conditions precedent to the satisfaction and discharge of this Indenture and any applicable Supplemental Indenture and the pledge of Net Taxes and other assets made under Bond Indenture and any applicable Supplemental Indenture and all covenants, agreements and other obligations of the District thereunder have been satisfied, addressed to the Bond Insurer and the District; and (iii) if applicable, an escrow agreement relating to the defeased Bonds.

The escrow agreement that is referred to in clause (iii) above shall provide that:

(I) Any substitution of securities following the execution and delivery of the escrow agreement shall require the delivery of a Verification Report, an opinion of Bond Counsel that such substitution will not adversely affect the exclusion from gross income of the holders of the Bonds of the interest on the Bonds for federal income tax purposes and the prior written consent of the Bond Insurer, which consent will not be unreasonably withheld or delayed;

(II) The District will not exercise any prior optional redemption of Insured Bonds secured by the escrow agreement or any other redemption other than mandatory sinking fund redemptions unless: (A) the right to make any such redemption has been expressly reserved in the escrow agreement and such reservation has been disclosed in detail in the official statement for the refunding bonds; and (B) as a condition to any such redemption there shall be provided to the Bond Insurer a Verification Report as to the sufficiency of escrow receipts without reinvestment to meet the escrow requirements remaining following any such redemption; and

(III) The District shall not amend the escrow agreement or enter into a forward purchase agreement or other agreement with respect to rights in the escrow without the prior written consent of the Bond Insurer.

Upon a defeasance, the Trustee, upon request of the District, shall release the rights of the Owners of such Bonds and Parity Bonds that have been defeased under this Indenture and any Supplemental Indenture and execute and deliver to the District all such instruments as may be desirable to evidence such release, discharge and satisfaction. In the case of a defeasance hereunder of all Outstanding Bonds and Parity Bonds, the Trustee shall pay over or deliver to the District any funds held by the Trustee at the time of a defeasance that are not required for the purpose of paying and discharging the principal of or interest on the Bonds and Parity Bonds when due. The Trustee shall, at the written direction of the District, mail, first class, postage prepaid, a notice to the Bondowners whose Bonds or Parity Bonds have been defeased, in the form directed by the District, stating that the defeasance has occurred.

Notwithstanding anything to the contrary set forth herein, this Indenture shall not be discharged or terminated unless all amounts due or to become due to the Bond Insurer (including Policy Costs) have been paid in full or duly provided for, and the District's obligation to pay such amounts shall expressly survive payment in full of the Bonds.

Section 9.2. Conditions for the Issuance of Parity Bonds and Other Additional Indebtedness. The District may at any time after the issuance and delivery of the Bonds hereunder issue Parity Bonds payable from the Net Taxes and other amounts deposited in the Special Tax Fund (other than in the Administrative Expenses Account therein) and secured by a lien and charge upon such amounts equal to the lien and charge securing the Outstanding Bonds and any other Parity Bonds theretofore issued hereunder or under any Supplemental Indenture; provided, however, that Parity Bonds may only be issued for the purpose of refunding all or a portion of the Bonds or any Parity Bonds then Outstanding. Parity Bonds may be issued subject to the following additional specific conditions, which are hereby made conditions precedent to the issuance of any such Parity Bonds:

(a) The District shall be in compliance with all covenants set forth in this Indenture and any Supplemental Indenture then in effect, and a certificate of the District to that effect shall have been filed with the Trustee; provided, however, that Parity Bonds may be issued notwithstanding the fact that the District is not in compliance with all such covenants so long as immediately following the issuance of such Parity Bonds the District will be in compliance with all such covenants.

(b) The issuance of such Parity Bonds shall have been duly authorized pursuant to the Act and all applicable laws, and the issuance of such Parity Bonds shall have been provided for by a Supplemental Indenture duly adopted by the District which shall specify the following:

(1) the purpose for which such Parity Bonds are to be issued and the fund or funds into which the proceeds thereof are to be deposited, including a provision requiring the proceeds of such Parity Bonds to be applied solely for the purpose of refunding any Outstanding Bonds or Parity Bonds, including payment of all costs and the funding of all reserves incidental to or connected with such refunding;

(2) the authorized principal amount of such Parity Bonds;

(3) the date and the maturity date or dates of such Parity Bonds; provided that: (i) each maturity date shall fall on a October 1; (ii) all such Parity Bonds of like maturity shall be identical in all respects, except as to number; and (iii) fixed serial maturities or Sinking Fund Payments, or any combination thereof, shall be established to provide for the retirement of all such Parity Bonds on or before their respective maturity dates;

(4) the description of the Parity Bonds, the place of payment thereof and the procedure for execution and authentication;

(5) the denominations and method of numbering of such Parity Bonds;

(6) the amount and due date of each mandatory Sinking Fund Payment, if any, for such Parity Bonds;

(7) the amount, if any, to be deposited from the proceeds of such Parity Bonds in a reserve account of the Special Tax Fund to increase the amount therein to the Reserve Requirement;

(8) the form of such Parity Bonds; and

(9) such other provisions as are necessary or appropriate and not inconsistent with this Indenture.

(c) The Trustee shall have received the following documents or money or securities, all of such documents dated or certified, as the case may be, as of the Delivery Date of such Parity Bonds by the Trustee (unless the Trustee shall accept any of such documents bearing a prior date, which it shall not be liable hereunder for so accepting):

(1) a certified copy of the Supplemental Indenture authorizing the issuance of such Parity Bonds;

(2) a written request of the District as to the delivery of such Parity Bonds;

(3) an opinion of Bond Counsel to the effect that: (i) the District has the right and power under the Act to execute and deliver this Indenture and the Supplemental Indentures relating to such Parity Bonds, and this Indenture and all such Supplemental Indentures have been duly and lawfully executed and delivered by the District, are in full force and effect and are valid and binding upon the District and enforceable in accordance with their terms (except as enforcement may be limited by bankruptcy, insolvency, reorganization and other similar laws relating to the enforcement of

creditors' rights); (ii) this Indenture creates the valid pledge which it purports to create of the Net Taxes and other amounts as provided in this Indenture, subject to the application thereof to the purposes and on the conditions permitted by this Indenture; and (iii) such Parity Bonds are valid and binding limited obligations of the District, enforceable in accordance with their terms (except as enforcement may be limited by bankruptcy, insolvency, reorganization and other similar laws relating to the enforcement of creditors' rights) and the terms of this Indenture and all Supplemental Indentures thereto and entitled to the benefits of this Indenture and all such Supplemental Indentures, and such Parity Bonds have been duly and validly authorized and issued in accordance with the Act (or other applicable laws) and this Indenture and all such Supplemental Indentures; and a further opinion of Bond Counsel to the effect that, assuming compliance by the District with certain tax covenants, the issuance of the Parity Bonds will not adversely affect the exclusion from gross income for federal income tax purposes of interest on the Bonds and any Parity Bonds theretofore issued on a tax-exempt basis, or the exemption from State of California personal income taxation of interest on any Outstanding Bonds and Parity Bonds theretofore issued;

(4) a certificate of the District containing such statements as may be reasonably necessary to show compliance with the requirements of this Indenture, including a statement that all requirements under this Section 9.2 have been complied with;

(5) a certificate of an Independent Financial Consultant certifying that in each Bond Year the Annual Debt Service on the Bonds and Parity Bonds to remain Outstanding following the issuance of the Parity Bonds proposed to be issued is less than the Annual Debt Service on the Bonds and Parity Bonds Outstanding prior to the issuance of such Parity Bonds; and

(6) such further documents, money and securities as are required by the provisions of this Indenture and the Supplemental Indenture providing for the issuance of such Parity Bonds.

ARTICLE X

MISCELLANEOUS

Section 10.1. Cancellation of Bonds and Parity Bonds. All Bonds and Parity Bonds surrendered to the Trustee for payment upon maturity or for redemption shall be upon payment therefor, and any Bond or Parity Bond purchased by the District as authorized herein and delivered to the Trustee for such purpose shall be, cancelled forthwith and shall not be reissued. The Trustee shall destroy such Bonds and Parity Bonds, as provided by law, and, upon request of the District, furnish to the District a certificate of such destruction.

Section 10.2. Execution of Documents and Proof of Ownership. Any request, direction, consent, revocation of consent, or other instrument in writing required or permitted by this Indenture to be signed or executed by Bondowners may be in any number of concurrent instruments of similar tenor and may be signed or executed by such Owners in person or by their attorneys appointed by an instrument in writing for that purpose, or by the bank, trust company or other depository for such Bonds. Proof of the execution of any such instrument, or of any instrument appointing any such attorney, and of the ownership of Bonds or Parity Bonds shall be sufficient for the purposes of this Indenture (except as otherwise herein provided), if made in the following manner:

(a) The fact and date of the execution by any Owner or his or her attorney of any such instrument and of any instrument appointing any such attorney, may be proved by a signature guarantee

of any bank or trust company located within the United States of America. Where any such instrument is executed by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership, such signature guarantee shall also constitute sufficient proof of his authority.

(b) As to any Bond or Parity Bond, the person in whose name the same shall be registered in the Bond Register shall be deemed and regarded as the absolute owner thereof for all purposes, and payment of or on account of the principal of any such Bond or Parity Bond, and the interest thereon, shall be made only to or upon the order of the registered Owner thereof or his or her legal representative. All such payments shall be valid and effectual to satisfy and discharge the liability upon such Bond or Parity Bond and the interest thereon to the extent of the sum or sums to be paid. Neither the District nor the Trustee shall be affected by any notice to the contrary.

Nothing contained in this Indenture shall be construed as limiting the Trustee or the District to such proof, it being intended that the Trustee or the District may accept any other evidence of the matters herein stated which the Trustee or the District may deem sufficient. Any request or consent of the Owner of any Bond or Parity Bond shall bind every future Owner of the same Bond or Parity Bond in respect of anything done or suffered to be done by the Trustee or the District in pursuance of such request or consent.

Section 10.3. Unclaimed Moneys. Anything in this Indenture to the contrary notwithstanding, any money held by the Trustee in trust for the payment and discharge of any of the Outstanding Bonds and Parity Bonds that remains unclaimed for two years after the date when such Outstanding Bonds or Parity Bonds have become due and payable, if such money was held by the Trustee at such date, or for two years after the date of deposit of such money if deposited with the Trustee after the date when such Outstanding Bonds or Parity Bonds become due and payable, shall be repaid by the Trustee to the District (without liability for interest), as its absolute property free from trust, and the Trustee shall thereupon be released and discharged with respect thereto and the Owners shall look only to the District for the payment of such Outstanding Bonds or Parity Bonds; provided, however, that, before being required to make any such payment to the District, the Trustee, at the expense of the District, shall cause to be mailed by first-class mail, postage prepaid, to the registered Owners of such Outstanding Bonds or Parity Bonds at their addresses as they appear on the registration books of the Trustee a notice that said money remains unclaimed and that, after a date named in said notice, which date shall not be less than 30 days after the date of the mailing of such notice, the balance of such money then unclaimed will be returned to the District. Any money held by the Trustee pursuant to this paragraph shall be held uninvested and without liability for interest.

Section 10.4. Provisions Constitute Contract. The provisions of this Indenture shall constitute a contract between the District and the Bondowners and the provisions hereof shall be construed in accordance with the laws of the State of California.

In case any suit, action or proceeding to enforce any right or exercise any remedy shall be brought or taken and, should said suit, action or proceeding be abandoned, or be determined adversely to the Bondowners or the Trustee, then the District, the Trustee and the Bondowners shall be restored to their former positions, rights and remedies as if such suit, action or proceeding had not been brought or taken.

After the issuance and delivery of the Bonds, this Indenture shall be irrepealable, but shall be subject to modifications to the extent and in the manner provided in this Indenture, but to no greater extent and in no other manner.

Section 10.5. Future Contracts. Nothing herein contained shall be deemed to restrict or prohibit the District from making contracts or creating bonded or other indebtedness payable from a pledge of the Net Taxes which is subordinate to the pledge hereunder, or which is payable from the general fund of the District or from taxes or any source other than the Net Taxes and other amounts pledged hereunder.

Section 10.6. Further Assurances. The District will adopt, make, execute and deliver any and all such further resolutions, instruments and assurances as may be reasonably necessary or proper to carry out the intention or to facilitate the performance of this Indenture, and for the better assuring and confirming unto the Owners of the Bonds or any Parity Bonds the rights and benefits provided in this Indenture.

Section 10.7. Severability. If any covenant, agreement or provision, or any portion thereof, contained in this Indenture, or the application thereof to any person or circumstance, is held to be unconstitutional, invalid or unenforceable, the remainder of this Indenture and the application of any such covenant, agreement or provision, or portion thereof, to other persons or circumstances, shall be deemed severable and shall not be affected thereby, and this Indenture, the Bonds and any Parity Bonds issued pursuant hereto shall remain valid and the Bondowners shall retain all valid rights and benefits accorded to them under the laws of the State of California.

Section 10.8. Notices.

(a) Any notices required to be given to the District with respect to the Bonds or this Indenture shall be mailed, first class, postage prepaid, or personally delivered to the Finance Director of the City, 300 East Chapman Ave, Orange, California 92866, and all notices to the Trustee in its capacity as Trustee shall be mailed, first class, postage prepaid, or personally delivered to U.S. Bank Trust Company, National Association, 633 West Fifth Street, 24th Floor, Los Angeles, California 90071; Attention: Global Corporate Trust.

(b) The District will provide the Bond Insurer with all notices and other information that it is obligated to provide: (i) under the Continuing Disclosure Agreement; and (ii) to the holders of Insured Bonds or the Trustee under this Indenture. The notice address of the Bond Insurer is: _____, _____. In each case in which notice or other communication refers to an event of default or a claim on the Policy, then a copy of such notice or other communication shall also be sent to the attention of the Bond Insurer's General Counsel at the same address and at _____ or at Telecopier: _____ and shall be marked to indicate "URGENT MATERIAL ENCLOSED.

Section 10.9. Execution in Several Counterparts. This Indenture may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original; and all such counterparts, or as many of them as the District and the Trustee shall preserve undestroyed, shall together constitute but one and the same instrument. Each counterpart of this Indenture may be executed and delivered by electronic means, including by electronic transmission or delivery (including electronic images of handwritten signatures delivered in .pdf file or .jpeg file format, or by any electronic signature complying with the U.S. federal ESIGN Act of 2000, including Orbit, Adobe

Sign, DocuSign, or any other similar platform), each of which shall be deemed to be original signatures for all purposes and shall be effective as delivery of a manually executed original counterpart.

Section 10.10. OFAC Compliance. The District covenants and represents that neither it nor any of its affiliates, subsidiaries, directors or officers are the target or subject of any sanctions enforced by the United States Government, (including, the Office of Foreign Assets Control of the US Department of the Treasury, the United Nations Security Council, the European Union, HM Treasury or other relevant sanctions authority (collectively "**Sanctions**"). The District covenants and represents that neither it nor any of its affiliates, subsidiaries, directors or officers will use any payments made pursuant to this Indenture: (a) to fund or facilitate any activities of or business with any person who, at the time of such funding or facilitation, is the subject or target of Sanctions; (b) to fund or facilitate any activities of or business with any country or territory that is the target or subject of Sanctions; or (c) in any other manner that will result in a violation of Sanctions by any person.

Section 10.11. [Insolvency. So long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations, thereunder, the following provisions apply: Any reorganization or liquidation plan with respect to the District must be acceptable to the Bond Insurer. Each Insured Bondowner hereby appoints the Bond Insurer as its agent and attorney-in-fact with respect to the Insured Bonds and agrees that the Bond Insurer may at any time during the continuation of any Insolvency Proceeding direct all matters relating to such Insolvency Proceeding, including without limitation: (A) all matters relating to any Claim; (B) the direction of any appeal of any order relating to any Claim; (C) the posting of any surety, supersedeas or performance bond pending any such appeal; and (D) the right to vote to accept or reject any plan of adjustment. In addition, each Insured Bondowner delegates and assigns to the Bond Insurer, to the fullest extent permitted by law, the rights of each Insured Bondowner with respect to the Insured Bonds in the conduct of any Insolvency Proceeding, including, without limitation, all rights of any party to an adversary proceeding or action with respect to any court order issued in connection with any such Insolvency Proceeding.

Section 10.12. Special Provisions for Insurer Default. If an Insurer Default shall occur and be continuing, then, notwithstanding anything in this Indenture to the contrary: (a) if at any time prior to or following an Insurer Default, the Bond Insurer has made payment under the Policy, to the extent of such payment the Bond Insurer shall be treated like any other Insured Bondowner for all purposes, including giving of consents; and (b) if the Bond Insurer has not made any payment under the Policy, the Bond Insurer shall have no further consent rights until the particular Insurer Default is no longer continuing or the Bond Insurer makes a payment under the Policy, in which event, the foregoing clause (a) shall control.

Section 10.13. Bond Insurer As Third Party Beneficiary. The Bond Insurer is recognized as and shall be deemed to be a third party beneficiary of this Indenture and, so long as the Policy is in full force and effect and the Bond Insurer is not in default of its obligations, thereunder, the Bond Insurer may enforce the provisions hereof as if it were a party hereto.

Section 10.14. Payment Procedure Under the Policy. In the event that principal and/or interest due on the Insured Bonds shall be paid by the Bond Insurer pursuant to the Policy, the Insured Bonds shall remain outstanding for all purposes, not be defeased or otherwise satisfied and not be considered paid by the District, the assignment and pledge of the trust estate and all covenants, agreements and other obligations of the District to the registered owners shall continue to exist and shall run to the benefit of the Bond Insurer, and the Bond Insurer shall be subrogated to the rights of such registered owners.

In the event that on the second (2nd) Business Day prior to any Interest Payment Date, the Trustee has not received sufficient moneys to pay all principal of and interest on the Insured Bonds due on such Interest Payment Date, the Trustee shall immediately notify the Bond Insurer or its designee on the same Business Day by telephone or electronic mail, of the amount of the deficiency. If any deficiency is made up in whole or in part prior to or on the payment date, the Trustee shall so notify the Bond Insurer or its designee.

In addition, if the Trustee has received written notice that any Insured Bondowner has been required to disgorge payments of principal of or interest on the Insured Bonds pursuant to a final, non-appealable order by a court of competent jurisdiction that such payment constitutes an avoidable preference to such holder within the meaning of any applicable bankruptcy law, then the Trustee shall notify the Bond Insurer or its designee of such fact by telephone or electronic mail, or by overnight or other delivery service as to which a delivery receipt is signed by a person authorized to accept delivery on behalf of the Bond Insurer.

The Trustee shall irrevocably be designated, appointed, directed and authorized to act as attorney-in-fact for Insured Bondowners as follows:

(a) If there is a deficiency in amounts required to pay interest and/or principal on the Insured Bonds, the Trustee shall: (i) execute and deliver to the Bond Insurer, in form satisfactory to the Bond Insurer, an instrument appointing the Bond Insurer as agent and attorney-in-fact for such Insured Bondowners in any legal proceeding related to the payment and assignment to the Bond Insurer of the claims for interest on the Insured Bonds; (ii) receive as designee of the respective holders (and not as paying agent or Trustee) in accordance with the tenor of the Policy payment from the Bond Insurer with respect to the claims for interest so assigned; (iii) segregate all such payments in a separate account (the "**Bond Insurer Policy Payment Account**") to only be used to make scheduled payments of principal of and interest on the Insured Bonds; and (iv) disburse the same to such respective holders; and

(b) If there is a deficiency in amounts required to pay principal of the Insured Bonds, the Trustee shall: (i) execute and deliver to the Bond Insurer, in form satisfactory to the Bond Insurer, an instrument appointing the Bond Insurer as agent and attorney-in-fact for such Insured Bondowner in any legal proceeding related to the payment of such principal and an assignment to the Bond Insurer of the Insured Bonds surrendered to the Bond Insurer; (ii) receive as designee of the respective holders (and not as paying agent or Trustee) in accordance with the tenor of the Policy payment therefor from the Bond Insurer; (iii) segregate all such payments in the Bond Insurer Policy Payment Account to only be used to make scheduled payments of principal of and interest on the Insured Bonds; and (iv) disburse the same to such holders.

The Trustee shall designate any portion of payment of principal on Insured Bonds paid by the Bond Insurer, whether by virtue of mandatory sinking fund redemption, maturity or other advancement of maturity, on its books as a reduction in the principal amount of Insured Bonds registered to the then current holder, whether DTC or its nominee or otherwise, and shall issue a replacement Insured Bond to the Bond Insurer, registered in the name directed by the Bond Insurer, in a principal amount equal to the amount of principal so paid (without regard to authorized denominations); provided that the Trustee's failure to so designate any payment or issue any replacement Insured Bond shall have no effect on the amount of principal or interest payable by the District on any Insured Bond or the subrogation or assignment rights of the Bond Insurer.

Payments with respect to claims for interest on and principal of Insured Bonds disbursed by the Trustee from proceeds of the Policy shall not be considered to discharge the obligation of the District with respect to such Insured Bonds, and the Bond Insurer shall become the owner of such unpaid Insured Bonds and claims for the interest in accordance with the tenor of the assignment made to it under the provisions of the preceding paragraphs or otherwise. Irrespective of whether any such assignment is executed and delivered, the District and the Trustee agree for the benefit of the Bond Insurer that:

(I) They recognize that to the extent the Bond Insurer makes payments directly or indirectly (e.g., by paying through the Trustee), on account of principal of or interest on the Insured Bonds, the Bond Insurer will be subrogated to the rights of such holders to receive the amount of such principal and interest from the District, with interest thereon, as provided and solely from the sources stated in this Indenture and the Bonds; and

(II) They will accordingly pay to the Bond Insurer the amount of such principal and interest, with interest thereon as provided in this Indenture and the Bonds, but only from the sources and in the manner provided therein for the payment of principal of and interest on the Insured Bonds to holders, and will otherwise treat the Bond Insurer as the owner of such rights to the amount of such principal and interest.

Section 10.15. Additional Payments. The District agrees unconditionally that it will pay or reimburse the Bond Insurer on demand any and all Administrative Costs and Policy Costs. For purposes of the foregoing, costs and expenses shall include a reasonable allocation of compensation and overhead attributable to the time of employees of the Bond Insurer spent in connection with the actions described in the preceding sentence. The District agrees that failure to pay any Administrative Costs and Policy Costs on a timely basis will result in the accrual of interest on the unpaid amount at the Late Payment Rate, compounded semi-annually, from the date that payment is first due to the Bond Insurer until the date that the Bond Insurer is paid in full.

Notwithstanding anything herein to the contrary, the District agrees to pay to the Bond Insurer: (i) a sum equal to the total of all amounts paid by the Bond Insurer under the Policy (the "**Bond Insurer Policy Payment**"); and (ii) interest on such Bond Insurer Policy Payments from the date paid by the Bond Insurer until payment thereof in full by the District, payable to the Bond Insurer at the Late Payment Rate per annum (collectively, "**Bond Insurer Reimbursement Amounts**") compounded semi-annually. Notwithstanding anything to the contrary, including without limitation the post-Event of Default application of revenue provisions, the Bond Insurer Reimbursement Amounts shall be, and the District hereby covenants and agrees that the Bond Insurer Reimbursement Amounts are, payable from and secured by a lien on and pledge of the same revenues and other collateral pledged to the Insured Bonds on a parity with debt service due on the Insured Bonds.

Section 10.16. Exercise of Rights by Bond Insurer. The rights granted to the Bond Insurer under this Indenture to request, consent to or direct any action are rights granted to the Bond Insurer in consideration of its issuance of the Policy. Any exercise by the Bond Insurer of such rights is merely an exercise of the Bond Insurer's contractual rights and shall not be construed or deemed to be taken for the benefit, or on behalf, of the Insured Bondowners and such action does not evidence any position of the Bond Insurer, affirmative or negative, as to whether the consent of the Insured Bondowners or any other person is required in addition to the consent of the Bond Insurer.

The Bond Insurer shall be entitled to pay principal or interest on the Insured Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Issuer (as such terms are defined in the Policy), whether or not the Bond Insurer has received a claim upon the Policy.

No contract shall be entered into or any action taken by which the rights of the Bond Insurer or security for or source of payment of the Insured Bonds may be impaired or prejudiced in any material respect except upon obtaining the prior written consent of the Bond Insurer.]

IN WITNESS WHEREOF, the District has caused this Indenture to be signed by the City Manager of the City, acting as the legislative body of the District, and attested thereto by the City Clerk of the City, and the Trustee, in token of its acceptance of the trust created hereunder, has caused this Indenture to be signed in its corporate name by its officer identified below, all as of the day and year first above written.

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

By: _____
Jarad Hildenbrand,
City Manager of the City of Orange, acting as the legislative body of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements)

ATTEST:

_____
Pamela Coleman,
City Clerk of the City of Orange,
acting as the legislative body of
City of Orange Community Facilities District No. 06-1
(Del Rio Public Improvements)

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as Trustee

By: _____
Its: Authorized Officer

EXHIBIT A

FORM OF 2026 SPECIAL TAX REFUNDING BOND

R-1 $_____

UNLESS THIS BOND IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY (AS SUCH TERM IS DEFINED IN THE INDENTURE) TO THE BOND REGISTRAR FOR REGISTRATION OF TRANSFER, EXCHANGE, OR PAYMENT, AND ANY BOND ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

UNITED STATES OF AMERICA
STATE OF CALIFORNIA
COUNTY OF ORANGE

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

INTEREST RATE	MATURITY DATE	DATED DATE	CUSIP
_____%	October 1, 20__	_____, 2026	

REGISTERED OWNER: CEDE & CO.

PRINCIPAL AMOUNT: _____ MILLION _____ THOUSAND DOLLARS

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS) (the "District") which was formed by the City of Orange (the "City") and is situated in the County of Orange, State of California, FOR VALUE RECEIVED, hereby promises to pay, solely from certain amounts held under the Indenture (as such term is defined herein), to the Registered Owner named above, or registered assigns, on the Maturity Date set forth above, unless redeemed prior thereto as hereinafter provided, the Principal Amount set forth above, and to pay interest on such Principal Amount from the Interest Payment Date (as such term is defined herein) next preceding the date of authentication hereof, unless: (i) the date of authentication is an Interest Payment Date, in which event interest shall be payable from such date of authentication; (ii) the date of authentication is after a Record Date (as such term is defined herein) but prior to the immediately

succeeding Interest Payment Date, in which event interest shall be payable from the Interest Payment Date immediately succeeding the date of authentication; or (iii) the date of authentication is prior to the close of business on the first Record Date in which event interest shall be payable from the Dated Date set forth above. Notwithstanding the foregoing, if at the time of authentication of this Bond interest is in default, interest on this Bond shall be payable from the last Interest Payment Date to which the interest has been paid or made available for payment or, if no interest has been paid or made available for payment, interest on this Bond shall be payable from the Dated Date set forth above. Interest will be paid semiannually on October 1, 2026 and each April 1 and October 1 thereafter (each, an "Interest Payment Date"), at the Interest Rate set forth above, until the Principal Amount hereof is paid or made available for payment.

The principal of and premium, if any, on this Bond are payable to the Registered Owner hereof in lawful money of the United States of America upon presentation and surrender of this Bond at the Principal Office of the Trustee, initially U.S. Bank Trust Company, National Association (the "Trustee"). Interest on this Bond shall be paid on each Interest Payment Date by check of the Trustee mailed by first class mail, postage prepaid, or in certain circumstances described in the Indenture by wire transfer to an account within the United States of America, to the Registered Owner hereof appearing on the registration books maintained by the Trustee as of the close of business on the fifteenth day of the month preceding the month in which the Interest Payment Date occurs (the "Record Date") at such Registered Owner's address as it appears on the registration books maintained by the Trustee.

Capitalized terms used herein and not defined shall have the meanings given them in the Indenture.

This Bond is one of a duly authorized issue of "City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds" (the "Bonds") issued in the aggregate principal amount of $_____ pursuant to the Mello-Roos Community Facilities Act of 1982, as amended, being Sections 53311, *et seq.*, of the California Government Code (the "Act") for the purpose of refunding the District's outstanding 2015 Special Tax Refunding Bonds, funding a reserve account and paying certain costs related to the issuance of the Bonds. The issuance of the Bonds and the terms and conditions thereof are provided for by a resolution adopted by the City Council of the City, acting in its capacity as the legislative body of the District (the "Legislative Body") on [June 9], 2026 and a Bond Indenture dated as of July 1, 2026, by and between the District and the Trustee executed in connection therewith (the "Indenture"), and this reference incorporates the Indenture herein, and by acceptance hereof the Registered Owner of this Bond assents to said terms and conditions. The Indenture is executed under and this Bond is issued under, and both are to be construed in accordance with, the laws of the State of California.

Pursuant to the Act and the Indenture, the principal of, premium, if any, and interest on this Bond are payable solely from the portion of the net annual special taxes authorized under the Act to be levied and collected within the District (the "Net Taxes") and certain other amounts pledged to the repayment of the Bonds as set forth in the Indenture. Any amounts for the payment hereof shall be limited to the Net Taxes pledged and collected or foreclosure proceeds received following a default in payment of the Net Taxes and other amounts deposited to the Special Tax Fund (exclusive of the Reserve Account, which shall only secure the Bonds, and the Administrative Expenses Account therein) established under the Indenture, except to the extent that other provision for payment has been made by the Legislative Body, as may be permitted by law. The District has covenanted for the benefit

of the owners of the Bonds that under certain circumstances described in the Indenture it will commence and diligently pursue to completion foreclosure proceedings in the event of delinquencies of Special Tax installments levied for payment of principal and interest on the Bonds.

The Bonds with stated maturities on or after October 1, 20__ are subject to redemption prior to their respective stated maturities, as a whole or in part, as directed by the District in a written request provided to the Trustee at least 35 days (or such lesser number of days acceptable to the Trustee in the sole discretion of the Trustee, such notice for the convenience of the Trustee) prior to redemption, by lot within each maturity in integral multiples of $5,000, on October 1, 20__ or any date thereafter, at a redemption price equal to the principal amount thereof plus accrued interest thereon to the date fixed for redemption, without premium.

If, during the Fiscal Year immediately preceding one of the redemption dates specified above, the District purchases Bonds, at least 45 days prior to the redemption date the District shall notify the Trustee as to the principal amount purchased and the amount of Bonds so purchased shall be credited at the time of purchase, to the extent of the full principal amount thereof, to reduce such upcoming Sinking Fund Payment for the Bonds so purchased. All Bonds purchased pursuant to the Indenture will be cancelled pursuant to the Indenture.

In the event of a partial optional redemption or extraordinary redemption of the Bonds, each of the remaining Sinking Fund Payments for such Bonds, as described above, will be reduced, as nearly as practicable, on a pro rata basis, in integral multiples of $5,000, as directed by the District.

The Bonds are subject to extraordinary redemption as a whole, or in part by lot, on any Interest Payment Date, and shall be redeemed by the Trustee, from Prepayments deposited to the Redemption Account pursuant to the Indenture, plus amounts transferred from the Reserve Account pursuant to the Indenture, among maturities as directed in writing by the District, at the following redemption prices, expressed as a percentage of the principal amount to be redeemed, together with accrued interest to the redemption date:

Redemption Date	***Redemption Price***
Any Interest Payment Date from (and including) October 1, 20__ through (and including) April 1, 20__	___%
October 1, 20__ and April 1, 20__	___
October 1, 20__ and April 1, 20__	___
October 1, 20__ and any Interest Payment Date thereafter	___

The District shall notify the Trustee of any extraordinary prepayment at least 45 days prior to the Interest Payment Date on which such prepayment shall occur.

Notice of redemption with respect to the Bonds to be redeemed shall be mailed to the registered owners thereof not less than 30 nor more than 45 days prior to the redemption date by first class mail, postage prepaid, to the addresses set forth in the registration books. Neither a failure of the Registered Owner hereof to receive such notice nor any defect therein will affect the validity of the proceedings for redemption. All Bonds or portions thereof so called for redemption will cease to accrue interest on the specified redemption date, provided that funds for the redemption are on deposit with the Trustee on the redemption date. Thereafter, the registered owners of such Bonds shall have no rights except to receive payment of the redemption price upon the surrender of the Bonds.

This Bond shall be registered in the name of the Registered Owner hereof, as to both principal and interest, and the District and the Trustee may treat the Registered Owner hereof as the absolute owner for all purposes and shall not be affected by any notice to the contrary.

The Bonds are issuable only in fully registered form in the denomination of $5,000 or any integral multiple thereof and may be exchanged for a like aggregate principal amount of Bonds of other authorized denominations of the same issue and maturity, all as more fully set forth in the Indenture. This Bond is transferable by the Registered Owner hereof, in person or by his attorney duly authorized in writing, at the Principal Office of the Trustee, but only in the manner, subject to the limitations and upon payment of the charges provided in the Indenture, upon surrender and cancellation of this Bond. Upon such transfer, a new registered Bond of authorized denomination or denominations for the same aggregate principal amount of the same issue and maturity will be issued to the transferee in exchange therefor.

The Trustee shall not be required to register transfers or make exchanges of: (i) any Bonds for a period of 15 days next preceding any selection of the Bonds to be redeemed; or (ii) any Bonds chosen for redemption.

The rights and obligations of the District and of the registered owners of the Bonds may be amended at any time, and in certain cases without notice to or the consent of the registered owners, to the extent and upon the terms provided in the Indenture.

THE BONDS DO NOT CONSTITUTE OBLIGATIONS OF THE CITY OR OF THE DISTRICT FOR WHICH THE CITY OR THE DISTRICT IS OBLIGATED TO LEVY OR PLEDGE, OR HAS LEVIED OR PLEDGED, GENERAL OR SPECIAL TAXES, OTHER THAN THE NET TAXES REFERENCED HEREIN. THE BONDS ARE LIMITED OBLIGATIONS OF THE DISTRICT PAYABLE FROM THE PORTION OF THE NET TAXES AND OTHER AMOUNTS PLEDGED UNDER THE INDENTURE BUT ARE NOT A DEBT OF THE CITY, THE STATE OF CALIFORNIA OR ANY OF ITS POLITICAL SUBDIVISIONS WITHIN THE MEANING OF ANY CONSTITUTIONAL OR STATUTORY LIMITATION OR RESTRICTION.

This Bond shall not become valid or obligatory for any purpose until the certificate of authentication and registration hereon endorsed shall have been dated and signed by the Trustee.

IT IS HEREBY CERTIFIED, RECITED AND DECLARED that all acts, conditions and things required by law to exist, happen and be performed precedent to and in the issuance of this Bond do exist, have happened and have been performed in due time, form and manner as required by law, and that the amount of this Bond, together with all other indebtedness of the District, does not exceed any debt limit prescribed by the laws or Constitution of the State of California.

IN WITNESS WHEREOF, the District has caused this Bond to be dated as of the Dated Date, to be signed by the facsimile signature of the Mayor of the City on behalf of the District, acting as the legislative body of the District, and attested by the facsimile signature of the City Clerk of the City.

By:_____
Dan Slater,
Mayor of the City of Orange, acting as the legislative body of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements)

ATTEST:

_____
Pamela Coleman,
City Clerk of the City of Orange,
acting as the legislative body of
City of Orange Community Facilities District No. 06-1
(Del Rio Public Improvements)

[FORM OF TRUSTEE'S CERTIFICATE
OF AUTHENTICATION AND REGISTRATION]

This is one of the Bonds described in the within-defined Indenture.

Dated: _____, 2026

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as Trustee

By: _____
Its: Authorized Signatory

[STATEMENT OF INSURANCE]

[FORM OF ASSIGNMENT]

For value received the undersigned hereby sells, assigns and transfers unto

_____

_____

_____

(Name, Address, and Tax Identification or Social Security Number of Assignee)

the within-mentioned Bond and hereby irrevocably constitute(s) and appoint(s) _____ attorney, to transfer the same on the Registration Books of the Trustee with full power of substitution in the premises.

Dated: _____

Signature Guaranteed:

_____

Note: Signature(s) must be guaranteed by an eligible guarantor institution.

_____

Note: The signature(s) on this Assignment must correspond with the name(s) as written on the face of the within Bond in every particular without alteration or enlargement or any change whatsoever.

$[PAR]
CITY OF ORANGE
COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

BOND PURCHASE AGREEMENT

[Closing Date]

City of Orange Community Facilities
District No. 06-1 (Del Rio Public Improvements)
300 East Chapman Avenue
Orange, California 92866
Attention: Finance Director

Ladies and Gentlemen:

Stifel, Nicolaus & Company, Incorporated, as underwriter (the "Underwriter"), acting not as a fiduciary or agent for you, but on behalf of itself, offers to enter into this Bond Purchase Agreement (this "Purchase Agreement") with City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "Community Facilities District"), which upon acceptance will be binding upon the Underwriter and the Community Facilities District. The agreement of the Underwriter to purchase the Bonds (as hereinafter defined) is contingent upon the Community Facilities District satisfying all the obligations imposed upon it under this Purchase Agreement. This offer is made subject to the Community Facilities District's acceptance by the execution of this Purchase Agreement and its delivery to the Underwriter at or before 11:59 p.m., local time, on the date hereof, and, if not so accepted, will be subject to withdrawal by the Underwriter upon notice delivered to the Community Facilities District at any time prior to the acceptance hereof by the Community Facilities District. All capitalized terms used herein, which are not otherwise defined, shall have the meaning provided for such terms in the Bond Indenture, dated as of June 1, 2026 (the "Indenture"), by and between the Community Facilities District and U.S. Bank Trust Company, National Association (the "Trustee").

1. Purchase, Sale and Delivery of the Bonds. Subject to the terms and conditions and in reliance upon the representations, warranties and agreements set forth herein, the Underwriter hereby agrees to purchase from the Community Facilities District and the Community Facilities District hereby agrees to sell to the Underwriter all (but not less than all) of the $[PAR] aggregate principal amount of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds (the "Bonds"), dated the Closing Date (as hereinafter defined), bearing interest at the rates and maturing on the dates and in the principal amounts set forth in Exhibit A hereto. The purchase price for the Bonds shall be $_____ (being 100% of the aggregate principal amount thereof, plus [net] original issue premium of $_____ and less an Underwriter's discount of $_____). The Community Facilities District acknowledges that the Underwriter will on the Closing Date, on behalf of the Community Facilities District, wire a portion of the purchase price in the amount of $_____ representing the premiums for the Policy and the Reserve Policy (as such terms are defined herein), directly to _____ (the "Insurer").

2. The Bonds. The Bonds shall be substantially in the form described in, shall be issued and secured under the provisions of, and shall be payable from the Net Taxes and certain other funds pledged therefor as provided in, the Indenture, the Preliminary Official Statement (as hereinafter defined), and the Mello-Roos Community Facilities Act of 1982, as amended (Section 53311 *et seq*. of the Government Code of the State of California (the "State")) (the "Community Facilities District Act"). The issuance of the Bonds has been duly authorized by the City Council of the City of Orange, California (the "City"), as the legislative body for the Community Facilities District, pursuant to a resolution adopted on [June 9, 2026] (the "Community Facilities District Resolution of Issuance").

The proceeds of the Bonds will be used to: (i) together with other available funds, refund the outstanding City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds (the "2015 Bonds"); (ii) pay the premium for a Municipal Bond Debt Service Reserve Insurance Policy (the "Reserve Policy") to be issued concurrently with the issuance of the Bonds by the Insurer; and (iii) pay certain costs of issuance of the Bonds, including the premium for a Municipal Bond Insurance Policy (the "Policy") insuring the Bonds maturing on October 1 of the years 20___ through 20___, inclusive, October 1, 20___ and October 1, 20___, to be issued by the Insurer concurrently with the issuance of the Bonds.

The 2015 Bonds will be refunded pursuant to an Escrow Agreement (2015 Bonds), dated as of June 1, 2026 (the "Escrow Agreement"), by and between the Community Facilities District and U.S. Bank Trust Company, National Association, as escrow agent (the "Escrow Agent") and as 2015 Fiscal Agent (as such term is defined therein).

3. Public Offering and Establishment of Issue Price.

A. The Underwriter agrees to make a bona fide public offering of all of the Bonds initially at the public offering prices (or yields) set forth in Exhibit A attached hereto and incorporated herein by reference. Subsequent to the initial public offering, the Underwriter reserves the right to change the public offering prices (or yields) as it deems necessary in connection with the marketing of the Bonds subject to this Section 3, provided that the Underwriter shall not change the interest rates set forth in Exhibit A. The Bonds will be offered and sold to certain dealers at prices lower than such initial offering prices.

The Community Facilities District hereby acknowledges that the Underwriter is entering into this Purchase Agreement in reliance on the representations, warranties and agreements made by the Community Facilities District herein, and the Community Facilities District shall take all action necessary to enforce its rights hereunder for the benefit of the Underwriter and shall immediately notify the Underwriter if it becomes aware that any representation, warranty or agreement made by the Community Facilities District herein is incorrect in any material respect.

The Community Facilities District acknowledges and agrees that with respect to the transaction contemplated hereby: (i) the Underwriter is not acting as a municipal advisor within the meaning of Section 15B of the Securities Exchange Act, as amended; (ii) the primary role of the Underwriter, as an underwriter, is to purchase securities, for resale to investors, in an arm's length commercial transaction between the Community Facilities District and the Underwriter and the Underwriter has financial and other interests that differ from those of the Community Facilities District; (iii) the Underwriter is acting solely as a principal and is not acting as a municipal advisor, financial advisor or fiduciary to the Community Facilities District and has not assumed any advisory or fiduciary responsibility to the Community Facilities District (irrespective of whether the Underwriter has

provided other services or is currently providing other services to the Community Facilities District on other matters); (iv) the only obligations the Underwriter has to the Community Facilities District with respect to the transaction contemplated hereby are expressly set forth in this Purchase Agreement; and (v) the Community Facilities District has consulted its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it has deemed appropriate. The Community Facilities District acknowledges that it has previously provided the Underwriter with an acknowledgement of receipt of the required Underwriter disclosure under Rule G-17 of the Municipal Securities Rulemaking Board ("MSRB"). The Community Facilities District further acknowledges and represents that it has engaged Fieldman, Rolapp & Associates, Inc., Irvine, California (the "Municipal Advisor") as its municipal advisor within the meaning of Section 15B of the Securities Exchange Act, as amended, and will rely solely on the financial advice of the Municipal Advisor with respect to the Bonds.

B. The Underwriter agrees to assist the Community Facilities District in establishing the issue price of the Bonds and shall execute and deliver to the Community Facilities District at Closing (as defined below) an "issue price" or similar certificate, together with the supporting pricing wires or equivalent communications, substantially in the form set forth in Exhibit C, with such modifications as may be appropriate or necessary, in the reasonable judgment of the Underwriter, the Community Facilities District and Bond Counsel (as such term is defined below), to accurately reflect, as applicable, the sales price or prices or the initial offering price or prices to the public of the Bonds. All actions to be taken by the Community Facilities District under this Section to establish the issue price of the Bonds may be taken on behalf of the Community Facilities District by the Municipal Advisor and any notice or report to be provided to the Community Facilities District may be provided to the Municipal Advisor.

C. Except as otherwise set forth in Exhibit A, the Community Facilities District will treat the first price at which 10% of each maturity of the Bonds (the "10% test"), identified under the column "10% Test Used" in Exhibit A, is sold to the public as the issue price of that maturity. At or promptly after the execution of this Purchase Agreement, the Underwriter shall report to the Community Facilities District the price or prices at which it has sold to the public each maturity of Bonds. If at that time the 10% test has not been satisfied as to any maturity of the Bonds, the Underwriter agrees to promptly report to the Community Facilities District the prices at which it sells the unsold Bonds of that maturity to the public. That reporting obligation shall continue, whether or not the Closing Date has occurred, until either: (i) the Underwriter has sold all of the Bonds of that maturity; or (ii), the 10% test has been satisfied as to the Bonds of that maturity, provided that, the Underwriter's reporting obligation after the Closing Date may be at reasonable periodic intervals or otherwise upon the request of the Community Facilities District or Bond Counsel. For purposes of this Section, if Bonds mature on the same date but have different interest rates, each separate CUSIP number within that maturity will be treated as a separate maturity of the Bonds. For clarity, and notwithstanding any other condition to Closing set forth in this Purchase Agreement, the sale of 10% of each maturity of the Bonds to the public prior to the Closing Date shall not be a condition to Closing.

D. The Underwriter confirms that it has offered the Bonds to the public on or before the date of this Purchase Agreement at the offering price or prices (the "initial offering price"), or at the corresponding yield or yields, set forth in Exhibit A, except as otherwise set forth therein. Exhibit A also sets forth, identified under the column "Hold the Offering Price Rule Used," as of the date of this Purchase Agreement, the maturities, if any, of the Bonds for which the 10% test has not been satisfied and for which the Community Facilities District and the Underwriter agree that the restrictions set forth in the next sentence shall apply, which will allow the Community Facilities

District to treat the initial offering price to the public of each such maturity as of the sale date as the issue price of that maturity (the "hold-the-offering-price rule"). So long as the hold-the-offering-price rule remains applicable to any maturity of the Bonds, the Underwriter will neither offer nor sell unsold Bonds of that maturity to any person at a price that is higher than the initial offering price to the public during the period starting on the sale date and ending on the earlier of the following:

1. the close of the fifth (5th) business day after the sale date; or

2. the date on which the Underwriter has sold at least 10% of that maturity of the Bonds to the public at a price that is no higher than the initial offering price to the public.

The Underwriter will advise the Community Facilities District promptly after the close of the fifth (5th) business day after the sale date whether it has sold 10% of that maturity of the Bonds to the public at a price that is no higher than the initial offering price to the public.

E. The Underwriter confirms that:

(1) any selling group agreement and any third-party distribution agreement relating to the initial sale of the Bonds to the public, together with the related pricing wires, contains or will contain language obligating each dealer who is a member of the selling group, and each broker-dealer that is a party to such third-party distribution agreement, as applicable, (A) (i) to report the prices at which it sells to the public the unsold Bonds of each maturity allocated to it, whether or not the Closing Date has occurred, until either all Bonds of that maturity allocated to it have been sold or it is notified by the Underwriter that the 10% test has been satisfied as to the Bonds of that maturity, provided that, the reporting obligation after the Closing Date may be at reasonable periodic intervals or otherwise upon request of the Underwriter, and (ii) to comply with the hold-the-offering-price rule, if applicable, if and for so long as directed by the Underwriter; (B) to promptly notify the Underwriter of any sales of Bonds that, to its knowledge, are made to a purchaser who is a related party to an underwriter participating in the initial sale of the Bonds to the public (each such term being used as defined below), and (C) to acknowledge that, unless otherwise advised by the dealer or broker-dealer, the Underwriter shall assume that each order submitted by the dealer or broker-dealer is a sale to the public; and

(2) any selling group agreement relating to the initial sale of the Bonds to the public, together with the related pricing wires, contains or will contain language obligating each dealer that is a party to a third-party distribution agreement to be employed in connection with the initial sale of the Bonds to the public to require each broker-dealer that is a party to such third-party distribution agreement to (A) report the prices at which it sells to the public the unsold Bonds of each maturity allocated to it, whether or not the Closing Date has occurred, until either all Bonds of that maturity allocated to it have been sold or it is notified by the Underwriter or the dealer that the 10% test has been satisfied as to the Bonds of that maturity, provided that, the reporting obligation after the Closing Date may be at reasonable periodic intervals or otherwise upon request of the Underwriter or the dealer and (B) comply with the hold-the-offering-price rule, if applicable, if and for so long as directed by the Underwriter or the dealer and as set forth in the related pricing wires.

F. The Community Facilities District acknowledges that, in making the representations set forth in this Section, the Underwriter will rely on (i) in the event a selling group has been created in connection with the initial sale of the Bonds to the public, the agreement of each dealer who is a member of the selling group to comply with the requirements for establishing issue price of

the Bonds, including, but not limited to, its agreement to comply with the hold-the-offering-price rule, if applicable to the Bonds, as set forth in a selling group agreement and the related pricing wires, and (ii) in the event that a third-party distribution agreement was employed in connection with the initial sale of the Bonds to the public, the agreement of each broker-dealer that is a party to such agreement to comply with the requirements for establishing issue price of the Bonds, including, but not limited to, its agreement to comply with the hold-the-offering-price rule, if applicable to the Bonds, as set forth in the third-party distribution agreement and the related pricing wires. The Community Facilities District further acknowledges that the Underwriter shall not be liable for the failure of any dealer who is a member of a selling group, or of any broker-dealer that is a party to a third-party distribution agreement, to comply with its corresponding agreement to comply with the requirements for establishing issue price of the Bonds, including, but not limited to, its agreement to comply with the hold-the-offering-price rule, if applicable to the Bonds.

G. The Underwriter acknowledges that sales of any Bonds to any person that is a related party to an underwriter participating in the initial sale of the Bonds to the public (each such term being used as defined below) shall not constitute sales to the public for purposes of this Section. Further, for purposes of this Section:

1. "public" means any person other than an underwriter or a related party;

2. "underwriter" means (A) any person that agrees pursuant to a written contract with the Community Facilities District (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Bonds to the public and (B) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (A) to participate in the initial sale of the Bonds to the public (including a member of a selling group or a party to a third party distribution agreement participating in the initial sale of the Bonds to the public);

3. a purchaser of any of the Bonds is a "related party" to an underwriter if the underwriter and the purchaser are subject, directly or indirectly, to (A) more than 50% common ownership of the voting power or the total value of their stock, if both entities are corporations (including direct ownership by one corporation of another), (B) more than 50% common ownership of their capital interests or profits interests, if both entities are partnerships (including direct ownership by one partnership of another), or (C) more than 50% common ownership of the value of the outstanding stock of the corporation or the capital interests or profit interests of the partnership, as applicable, if one entity is a corporation and the other entity is a partnership (including direct ownership of the applicable stock or interests by one entity of the other); and

4. "sale date" means the date of execution of this Purchase Agreement by all parties.

4. The Official Statement.

A. Pursuant to the authorization of the Community Facilities District, the Underwriter has distributed copies of the Preliminary Official Statement dated [POS Date], relating to the Bonds, which, together with the cover page, inside cover page and appendices thereto is herein called the "Preliminary Official Statement." By its acceptance of this Purchase Agreement, the Community Facilities District hereby ratifies the use by the Underwriter of the Preliminary Official Statement, and the Community Facilities District agrees to execute a final official statement relating to the Bonds (the "Official Statement") which will consist of the Preliminary Official Statement with

such changes as may be made thereto, with the approval of Stradling Yocca Carlson & Rauth LLP, as Bond Counsel ("Bond Counsel"), and as Disclosure Counsel ("Disclosure Counsel"), and the Underwriter, and to provide copies thereof to the Underwriter as set forth herein. The Community Facilities District hereby authorizes the Underwriter to use and promptly distribute, in connection with the offer and sale of the Bonds, the Preliminary Official Statement, the Official Statement and any supplement or amendment thereto. The Community Facilities District further authorizes the Underwriter to use and distribute, in connection with the offer and sale of the Bonds, the Indenture, the Continuing Disclosure Agreement, dated as of June 1, 2026, by and between the Community Facilities District and Willdan Financial Services, as dissemination agent (in such capacity, the "Dissemination Agent"), relating to the Bonds, in substantially the form attached as Appendix C to the Official Statement (the "Continuing Disclosure Agreement"), the Escrow Agreement, this Purchase Agreement and all information contained herein, and all other documents, certificates and statements furnished by or on behalf of the Community Facilities District to the Underwriter in connection with the transactions contemplated by this Purchase Agreement. This Purchase Agreement, the Indenture, the Bonds, the Escrow Agreement, and the Continuing Disclosure Agreement are collectively referred to herein as the "Community Facilities District Documents."

B. To assist the Underwriter in complying with Securities and Exchange Commission Rule 15c2-12(b)(5) (the "Rule"), the Community Facilities District will undertake pursuant to the Continuing Disclosure Agreement to provide annual reports and notices of certain enumerated events. A description of this undertaking is set forth in the Preliminary Official Statement and will also be set forth in the Official Statement.

5. Closing. Except as the Underwriter and the Community Facilities District may otherwise agree, the Community Facilities District will deliver to the Underwriter, at the offices of Bond Counsel in Newport Beach, California, or at such other location as may be mutually agreed upon by the Underwriter and the Community Facilities District, the documents hereinafter mentioned; and the Community Facilities District will deliver to the Underwriter through the facilities of The Depository Trust Company ("DTC"), the Bonds, in definitive form (all Bonds bearing CUSIP numbers), duly executed by the Community Facilities District and authenticated by the Trustee in the manner provided for in the Indenture and the Community Facilities District Act at 8:30 a.m. California time, on [Closing Date] (the "Closing Date"), and the Underwriter will accept such delivery and pay the purchase price of the Bonds as set forth in paragraph (A) of this Section by wire transfer, payable in federal or other immediately available funds (such delivery and payment being herein referred to as the "Closing"). The Bonds shall be in fully registered book-entry form (which may be typewritten) and shall be registered in the name of Cede & Co., as nominee of DTC. The Bonds shall be made available to the Underwriter at least one (1) business day before the Closing Date for purposes of inspection.

6. Representations, Warranties and Covenants of the Community Facilities District. The Community Facilities District represents, warrants and covenants to the Underwriter on behalf of itself and the City that:

A. The City is duly organized and validly existing as a general law city under the Constitution and laws of the State and has duly authorized the formation of the Community Facilities District, the incurring of bonded indebtedness thereby and other matters relating to the Community Facilities District pursuant to resolutions duly adopted by the City Council, including Resolution No. 10139, adopted on December 12, 2006 (collectively, the "Community Facilities District Formation Resolutions" and, together with the Community Facilities District Resolution of Issuance, the

"Community Facilities District Resolutions") and the Community Facilities District Act. The City Council, as the legislative body of the City and the Community Facilities District, has duly adopted the Community Facilities District Formation Resolutions and Ordinance No. 17-06 adopted on January 9, 2007, levying Special Tax within the Community Facilities District (the "Ordinance"), and has caused to be recorded in the real property records of the County of Orange, a notice of special tax lien, and any required amendments thereof (collectively, the "Notice of Special Tax Lien" and, together with the Community Facilities District Formation Resolutions and the Ordinance, the "Formation Documents"), and has duly adopted the Community Facilities District Resolution of Issuance. Each of its Formation Documents remains in full force and effect as of the date hereof and has not been amended or rescinded. The Community Facilities District is duly organized and validly existing as a community facilities district under the laws of the State. The Community Facilities District has, and at the Closing Date will have, as the case may be, full legal right, power and authority: (i) to execute, deliver and perform its obligations under the Community Facilities District Documents, and to carry out all transactions contemplated by each of such agreements; (ii) to issue, sell and deliver the Bonds as provided herein; and (iii) to carry out, give effect to and consummate the transactions contemplated by the Formation Documents, the Community Facilities District Documents and the Official Statement.

B. The Community Facilities District and the City, as applicable, have each complied, and will at the Closing Date be in compliance in all material respects, with the Formation Documents and the Community Facilities District Documents, and any immaterial noncompliance by the Community Facilities District and the City, if any, will not impair the ability of the Community Facilities District and the City, as applicable, to carry out, give effect to or consummate the transactions contemplated by the foregoing. From and after the date of issuance of the Bonds, the Community Facilities District and the City Council of the City, as the legislative body of the Community Facilities District, will continue to comply with their respective covenants contained in the Community Facilities District Documents.

C. The Preliminary Official Statement was as of its date and at the date hereof, and the Official Statement is, and at all times subsequent to the date of the Official Statement up to and including the Closing will be, true and correct in all material respects, and the Preliminary Official Statement did not as of its date and at date the hereof, and the Official Statement does not and will not, at all times subsequent to the date of the Official Statement up to and including the Closing, contain any untrue statement of a material fact or omit to state a material fact that is necessary to make the statements contained therein, in the light of the circumstances under which they were made, not misleading (other than statements pertaining to the book-entry system, and information regarding the Insurer, the Policy and the Reserve Policy, as to which no view is expressed).

D. Up to and including 25 days after the End of the Underwriting Period, the Community Facilities District will advise the Underwriter promptly of any proposal to amend or supplement the Official Statement and will not affect or consent to any such amendment or supplement without the consent of the Underwriter, which consent will not be unreasonably withheld. The Community Facilities District will advise the Underwriter promptly of the institution of any proceedings known to it by any governmental agency prohibiting or otherwise materially affecting the use of the Official Statement in connection with the offering, sale or distribution of the Bonds. As used herein, the term "End of the Underwriting Period" means the later of such time as: (i) the Bonds are delivered to the Underwriter; or (ii) the Underwriter does not retain, directly or as a member of an underwriting syndicate, an unsold balance of the Bonds for sale to the public. Unless the Underwriter gives notice to the contrary, the End of the Underwriting Period shall be deemed to be the Closing Date. Any notice delivered pursuant to this provision shall be written notice delivered to the

Community Facilities District at or prior to the Closing Date, and shall specify a date (other than the Closing Date) to be deemed the "End of the Underwriting Period."

E. Except as described in the Preliminary Official Statement, the Community Facilities District is not, in any respect material to the transactions referred to herein or contemplated hereby, in breach of or in default under, any law or administrative rule or regulation of the State, the United States of America, or of any department, division, agency or instrumentality of either thereof, or under any applicable court or administrative decree or order, or under any loan agreement, note, resolution, indenture, contract, agreement or other instrument to which the Community Facilities District is a party or is otherwise subject or bound, and the performance of its obligations under the Community Facilities District Documents and compliance with the provisions of each thereof, or the performance of the conditions precedent to be performed by the Community Facilities District pursuant to this Purchase Agreement, will not conflict with or constitute a breach of or default under any applicable law or administrative rule or regulation of the State, the United States of America, or of any department, division, agency or instrumentality of either thereof, or under any applicable court or administrative decree or order, or under any loan agreement, note, resolution, indenture, contract, agreement or other instrument to which the Community Facilities District is a party or is otherwise subject or bound, in any manner which would materially and adversely affect the performance by the Community Facilities District of its obligations under the Community Facilities District Documents or the performance of the conditions precedent to be performed by the Community Facilities District pursuant to this Purchase Agreement.

F. Except as may be required under the "blue sky" or other securities laws of any jurisdiction, all approvals, consents, authorizations, elections and orders of, or filings or registrations with, any governmental authority, board, agency or commission having jurisdiction which would constitute a condition precedent to, or the absence of which would materially adversely affect, the performance by the Community Facilities District of its obligations under the Community Facilities District Documents, and the performance of the conditions precedent to be performed by the Community Facilities District pursuant to this Purchase Agreement, have been or will be obtained at the Closing Date and are or will be in full force and effect at the Closing Date.

G. The Community Facilities District Documents conform as to form and tenor to the descriptions thereof contained in the Official Statement.

H. The Bonds are payable from the Net Taxes of the Community Facilities District, as set forth in the Indenture, the levy of which has been duly and validly authorized pursuant to the Community Facilities District Act and the Special Tax within the Community Facilities District will be fixed and levied in an amount which, together with other available funds, is required for the payment of the principal of, and interest on, the Bonds when due and payable, all as provided in the Indenture. The Community Facilities District has covenanted to cause the Special Tax to be levied and collected at the same time and in the same manner as ordinary *ad valorem* property taxes or in such other manner as the City Council shall determine.

I. The Indenture creates a valid pledge of and lien on the Net Taxes of the Community Facilities District, and in the moneys in the Special Tax Fund (exclusive of the Administrative Expenses Account), established pursuant to the Indenture, on the terms and conditions set forth in the Indenture.

J. Except as disclosed in the Preliminary Official Statement, there are, to the best of the Community Facilities District's knowledge, no entities with outstanding assessment liens against any of the properties within the Community Facilities District or which are senior to or on a parity with the Special Tax of the Community Facilities District.

K. The information contained in the Preliminary Official Statement and in the Official Statement (other than statements therein pertaining to the DTC and its book-entry system, and information regarding the Insurer, the Policy and the Reserve Policy, as to which no view is expressed) is true and correct in all material respects and such information does not and shall not, as of the Closing Date, contain any untrue or misleading statement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

L. The Preliminary Official Statement was deemed final by a duly authorized officer of the City, on behalf of the Community Facilities District, prior to its delivery to the Underwriter, except for the omission of such information as is permitted to be omitted in accordance with paragraph (b)(1) of the Rule. The Community Facilities District hereby covenants and agrees that, within seven (7) business days from the date hereof, or upon reasonable written notice from the Underwriter within sufficient time to accompany any confirmation requesting payment from any customers of the Underwriter, the Community Facilities District shall cause a final printed form of the Official Statement to be delivered to the Underwriter in sufficient quantity to comply with Rule 15c2-12, rules of the MSRB and to meet potential customer requests for copies of the Official Statement.

M. At the time of acceptance hereof there is and as of the Closing there will be no action, suit, proceeding, inquiry or investigation, at law or in equity, before or by any court, government agency, public board or body (collectively and individually, an "Action") pending (notice of which has been served on the City or the Community Facilities District) or to the best knowledge of the Community Facilities District or the City overtly threatened in writing, in which any such Action: (i) in any way questions the existence of the Community Facilities District or the titles of the officers of the City or the Community Facilities District to their respective offices; (ii) affects, contests or seeks to prohibit, restrain or enjoin the issuance or delivery of the Bonds or the payment or collection of Special Tax or any amounts pledged or to be pledged to pay the principal of and interest on the Bonds, or in any way contests or affects the validity of the Community Facilities District Documents or the consummation of the transactions on the part of the Community Facilities District contemplated thereby; (iii) contests the exemption of interest on the Bonds from federal or State income taxation or contests the powers of the Community Facilities District which may result in any material adverse change relating to the financial condition of the Community Facilities District; or (iv) contests the completeness or accuracy of the Preliminary Official Statement or the Official Statement or any supplement or amendment thereto or asserts that the Preliminary Official Statement or the Official Statement contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and as of the time of acceptance hereof there is and, as of the Closing Date, there will be no basis for any action, suit, proceeding, inquiry or investigation of the nature described in clauses (i) through (iv) of this sentence.

N. Any certificate signed on behalf of the Community Facilities District by any officer or employee of the Community Facilities District authorized to do so shall be deemed a

representation and warranty by the Community Facilities District to the Underwriter on behalf of itself and the Community Facilities District as to the statements made therein.

O. At or prior to the Closing, the Community Facilities District will have duly authorized, executed and delivered the Continuing Disclosure Agreement in substantially the form attached as Appendix C to the Official Statement. Based upon a review of its previous undertakings, and except as disclosed in the Preliminary Official Statement, the City and its related entities, including the Community Facilities District, have not failed to comply in all material respects with any previous undertakings with regard to the Rule to provide annual reports or notices of enumerated events in the last five years.

P. The Community Facilities District will apply the proceeds of the Bonds in accordance with the Indenture and as described in the Preliminary Official Statement and Official Statement.

Q. Until such time as moneys have been set aside in an amount sufficient to pay all then outstanding Bonds at maturity or to the date of redemption if redeemed prior to maturity, plus unpaid interest thereon and premium, if any, to maturity or to the date of redemption if redeemed prior to maturity, the Community Facilities District will faithfully perform and abide by all of the covenants, undertakings and provisions contained in the Indenture.

R. Between the date of this Purchase Agreement and the date of Closing, the Community Facilities District will not offer or issue any bonds, notes or other obligations for borrowed money not previously disclosed to the Underwriter.

S. The City, on behalf of the Community Facilities District, has adopted local debt policies in accordance with Section 8855(i) of the California Government Code.

The Community Facilities District hereby approves the preparation and distribution of the Official Statement, consisting of the Preliminary Official Statement with such changes as are noted thereon and as may be made thereto, with the approval of Bond Counsel, Disclosure Counsel and the Underwriter, from time to time prior to the Closing Date.

The Community Facilities District hereby ratifies any prior use of and authorizes the future use by the Underwriter, in connection with the offering and sale of the Bonds, of the Preliminary Official Statement, the Official Statement, this Purchase Agreement and all information contained herein, and all other documents, certificates and written statements furnished by the City or the Community Facilities District to the Underwriter in connection with the transactions contemplated by this Purchase Agreement.

The execution and delivery of this Purchase Agreement by the Community Facilities District shall constitute a representation by the Community Facilities District to the Underwriter that the representations and warranties contained in this Section 6 with respect to the Community Facilities District and the City are true as of the date hereof.

7. Conditions to the Obligations of the Underwriter. The obligation of the Underwriter to accept delivery of and pay for the Bonds on the Closing Date shall be subject, at the option of the Underwriter, to the accuracy in all material respects of the representations and warranties on the part of the Community Facilities District contained herein, to the accuracy in all material respects of the

statements of the officers and other officials of the Community Facilities District and the City made in any certificates or other documents furnished pursuant to the provisions hereof, to the performance by the Community Facilities District of its obligations to be performed hereunder at or prior to the Closing Date, and to the following additional conditions:

A. At the Closing Date, the Community Facilities District Resolutions and the Community Facilities District Documents shall be in full force and effect, and shall not have been amended, modified or supplemented, except as may have been agreed to in writing by the Underwriter, and there shall have been taken in connection therewith, with the issuance of the Bonds and with the Bonds, and with the transactions contemplated thereby, and by this Purchase Agreement, all such actions as, in the opinion of Bond Counsel, shall be necessary and appropriate.

B. At the Closing Date, except as described in the Preliminary Official Statement, the Community Facilities District shall not be, in any respect material to the transactions referred to herein or contemplated hereby, in breach of or in default under, any law or administrative rule or regulation of the State, the United States of America, or of any department, division, agency or instrumentality of either thereof, or under any applicable court or administrative decree or order, or under any loan agreement, note, resolution, indenture, contract, agreement or other instrument to which the Community Facilities District is a party or is otherwise subject or bound, and the performance by the Community Facilities District of its obligations under the Bonds, the Community Facilities District Resolutions, the Community Facilities District Documents, and any other instruments contemplated by any of such documents, and compliance with the provisions of each thereof, or the performance of the conditions precedent to be performed hereunder, will not conflict with or constitute a breach of or default under any applicable law or administrative rule or regulation of the State, the United States of America, or of any department, division, agency or instrumentality of either thereof, or under any applicable court or administrative decree or order, or under any loan agreement, note, resolution, indenture, contract, agreement or other instrument to which the Community Facilities District is a party or is otherwise subject or bound, in any manner which would materially and adversely affect the performance by the Community Facilities District of its obligations under the Community Facilities District Documents or the performance of the conditions precedent to be performed by the Community Facilities District hereunder.

C. The information contained in the Official Statement is, as of the Closing Date and will be as of the date of any supplement or amendment thereto pursuant hereto, true and correct in all material respects and does not, as of the Closing Date and will not as of the date of any supplement or amendment thereto, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

D. Between the date hereof and the time for Closing, this Purchase Agreement shall have not been terminated by the Underwriter pursuant to Section 8 hereof.

E. At or prior to the Closing Date, the Underwriter shall have received a counterpart original or certified copy of the following documents, in each case satisfactory in form and substance to the Underwriter:

1. The Official Statement, executed on behalf of the Community Facilities District by an authorized officer;

2. The Community Facilities District Documents, each duly executed and delivered by the respective parties thereto, with only such amendments, modifications or supplements as may have been agreed to in writing by the Underwriter;

3. A certificate dated as of the Closing Date of the City Clerk to the effect that the Formation Documents have not been amended, modified or rescinded since the date of their adoption and remain in full force and effect as of the Closing Date;

4. The Community Facilities District Resolution of Issuance, together with a certificate dated as of the Closing Date of the City Clerk to the effect that such resolution is a true, correct and complete copy thereof;

5. An unqualified approving opinion for the Bonds, dated the Closing Date and addressed to the Community Facilities District, of Bond Counsel, to the effect that (i) the Indenture has been duly executed and delivered by the Community Facilities District and, assuming due authorization, execution and delivery by the other parties thereto, constitutes the valid and binding obligations of the Community Facilities District, except to the extent that enforceability may be limited by moratorium, bankruptcy, reorganization, insolvency or other similar laws affecting creditors' rights generally or by the exercise of judicial discretion in accordance with general principles of equity or otherwise in appropriate cases and by limitations on legal remedies against public agencies in the State, and (ii) the Bonds are the valid, legal and binding obligations of the Community Facilities District and that the interest thereon is excluded from gross income for federal income tax purposes and exempt from personal income taxes of the State, in substantially the form attached as Appendix B to the Official Statement, together with a letter of Bond Counsel, dated the Closing Date and addressed to the Underwriter and the Trustee, to the effect that such opinion addressed to the Community Facilities District may be relied upon by the Underwriter and the Trustee to the same extent as if such opinion was addressed to it;

6. A supplemental opinion or opinions of Bond Counsel dated the Closing Date and addressed to the Underwriter to the effect that:

(i) this Purchase Agreement and the Continuing Disclosure Agreement have been duly executed and delivered by the Community Facilities District and, assuming due authorization, execution and delivery by the other parties thereto, constitute the valid and binding obligations of the Community Facilities District, except to the extent that enforceability may be limited by moratorium, bankruptcy, reorganization, insolvency or other similar laws affecting creditors' rights generally or by the exercise of judicial discretion in accordance with general principles of equity or otherwise in appropriate cases and by limitations on legal remedies against public agencies in the State;

(ii) the Bonds are not subject to the registration requirements of the Securities Act of 1933, as amended, and the Indenture is exempt from qualification under the Trust Indenture Act of 1939, as amended; and

(iii) the statements contained on the cover and in the Official Statement under the captions "INTRODUCTION" (other than information under the caption "– Risk Factors," "THE REFUNDING PLAN," "THE BONDS," "SECURITY FOR THE BONDS," (except information under the caption "–Rate and Method of Apportionment of Special Taxes" as to which no opinion is expressed), "CONCLUDING INFORMATION – Tax Matters," Appendix A – "SUMMARY CERTAIN PROVISIONS OF THE INDENTURE" and Appendix B – "FORM OF

BOND COUNSEL OPINION," excluding any material that may be treated as included under such captions by cross-reference or reference to other documents or sources, insofar as such statements expressly summarize certain provisions of the Indenture and Bond Counsel's final approving opinion, are accurate in all material respects.

7. A letter, dated the Closing Date and addressed to the Underwriter, of Disclosure Counsel, to the effect that such counsel is not passing upon and has not undertaken to determine independently or to verify the accuracy or completeness of the statements contained in the Preliminary Official Statement or in the Official Statement, and is, therefore, unable to make any representation to the Underwriter in that regard, but on the basis of its participation in conferences with representatives of the City, the City Attorney, as issuer's counsel, Bond Counsel, Willdan Financial Services, as special tax consultant to the Community Facilities District (in such capacity, the "Special Tax Consultant"), the Municipal Advisor, representatives of the Underwriter and others, during which conferences the content of the Preliminary Official Statement and the Official Statement and related matters were discussed, and its examination of certain documents, and, in reliance thereon and based on the information made available to it in its role as Disclosure Counsel and its understanding of applicable law, Disclosure Counsel advises the Underwriter as a matter of fact, but not opinion, that no information has come to the attention of the attorneys in the firm working on such matter which has led them to believe that the Preliminary Official Statement as of its date and the date hereof and the Official Statement as of its date and as of the Closing Date (in each case excluding therefrom the financial and statistical data, forecasts, charts, numbers, estimates, projections, assumptions and expressions of opinion included in the Preliminary Official Statement and the Official Statement, information regarding DTC and its book entry system, information regarding the Insurer, the Policy and the Reserve Policy, and the information set forth in Appendices A through G, inclusive, as to all of which no opinion is expressed) contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading;

8. A certificate dated the Closing Date and signed by an authorized representative of the Community Facilities District or an authorized designee, on behalf of the Community Facilities District to the effect that: (i) the representations and warranties made by the Community Facilities District contained herein are true and correct in all material respects on and as of the Closing Date with the same effect as if made on the Closing Date; (ii) the Community Facilities District Documents have been duly authorized and executed and are in full force and effect; (iii) to the best knowledge of such representative or designee, no event has occurred since the date of the Official Statement which should be disclosed in the Official Statement for the purpose for which it is to be used or which it is necessary to disclose therein in order to make the statements and information therein not misleading in any material respect; (iii) the Community Facilities District has complied with all the agreements and satisfied all the conditions on its part to be satisfied under this Purchase Agreement, the Community Facilities District Resolutions, the Community Facilities District Documents and the Official Statement at or prior to the Closing Date; and (iv) all information in the Official Statement relating to the Community Facilities District (other than information therein provided by the Special Tax Consultant) is true and correct in all material respects as of the date of the Official Statement and as of the Closing Date;

9. An opinion of the City Attorney, dated the date of Closing and addressed to the Underwriter and the Community Facilities District, substantially to the effect that:

(i) the City is a municipal corporation and general law city, duly organized and existing under the Constitution and the laws of the State of California;

(ii) the Community Facilities District is duly organized and validly existing as a community facilities district under and by virtue of the Constitution and laws of the State of California;

(iii) the Community Facilities District Resolution of Issuance and the Formation Documents have been duly adopted at meetings of the City Council of the City acting as the legislative body of the Community Facilities District, which were called and held pursuant to law and with all public notice required by law and at which a quorum was present and acting throughout, and the Community Facilities District Resolution of Issuance and the Formation Documents are in full force and effect and have not been modified, amended, rescinded or repealed since the respective dates of their adoption;

(iv) the Community Facilities District Documents and the Official Statement have been duly authorized, executed and delivered by the Community Facilities District;

(v) except as may be stated in the Official Statement, to such counsel's knowledge, there is no action, suit, proceeding or investigation before or by any court, public board or body pending (proper notice or process of which has been served on the City or the Community Facilities District) or overtly threatened in writing: (a) challenging the creation, organization, existence or powers of the City or the Community Facilities District, or the titles of their members and officers to their respective offices; or (b) challenging the validity of the Community Facilities District Documents or seeking to restrain or enjoin the repayment of the Bonds or contesting the validity of the Community Facilities District Documents or contesting the authority of the Community Facilities District to enter into or perform its obligations under any of the Community Facilities District Documents; or (c) questioning the right of the Community Facilities District to use Special Tax levied within the Community Facilities District for the repayment of the Bonds or the right or ability of the Community Facilities District to collect or pledge the Special Tax levied within the Community Facilities District for the repayment of the Bonds;

(vi) to such counsel's knowledge, the execution and delivery of the Bonds and the Community Facilities District Documents, and compliance with the provisions of each, will not conflict with or constitute a breach of or default under any loan agreement, note, ordinance, resolution, indenture, contract, agreement or other instrument of which the Community Facilities District is a party or is otherwise subject or bound, a consequence of which could be to materially and adversely affect the ability of the Community Facilities District to perform its obligations under the Bonds or the Community Facilities District Documents; and

(vii) to such counsel's knowledge, the Community Facilities District is not in breach of or default under any applicable law or administrative regulation of the State or any applicable judgment or decree or any loan agreement, indenture, bond, note, resolution, agreement or other instrument to which the Community Facilities District is a party or is otherwise subject, which breach or default would materially adversely affect the Community Facilities District's ability to enter into or perform its obligations under the Community Facilities District Documents.

10. Evidence of the ratings assigned to the Bonds that are described in the Official Statement.

11. A certificate dated the Closing Date from Willdan Financial Services, as Special Tax Consultant and Dissemination Agent, addressed to the Community Facilities District and the Underwriter to the effect that: (i) the Special Tax, if levied and collected in the maximum amounts permitted pursuant to the Rate and Method of Apportionment of Special Tax of the Community Facilities District, as of the Closing Date, would generate at least 110% of the annual debt service payable with respect to the Bonds plus the Administrative Expenses Cap, based on such assumptions and qualifications as shall be acceptable to the Underwriter; (ii) the statements in the Preliminary Official Statement and the Official Statement provided by the Special Tax Consultant concerning the Special Tax and all information supplied by it for use in the Official Statement were as of the date of the Preliminary Official Statement, the date of the Official Statement and are as of the Closing Date true and correct, and do not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; and (iii) the Special Tax Consultant is duly authorized to execute and deliver the Continuing Disclosure Agreement in its capacity as dissemination agent thereunder, and the Special Tax Consultant has duly executed and delivered the Continuing Disclosure Agreement;

12. Certified copies of the general resolution of the Trustee authorizing the execution and delivery of certain documents by certain officers of the Trustee, which resolution authorizes the execution of the Indenture and the authentication of the Bonds;

13. A certificate of U.S. Bank Trust Company, National Association (the "Bank"), as Trustee and Escrow Agent, dated the date of Closing, addressed to the Underwriter, and the Community Facilities District, to the effect that: (a) the Bank is a national banking association organized and existing under and by virtue of the laws of the United States, having the full power and being qualified to enter into and perform its duties under the Indenture and the Escrow Agreement and to authenticate and deliver the Bonds to the Underwriter; (b) the Bank is duly authorized to enter into the Indenture and the Escrow Agreement and to authenticate and deliver the Bonds to the Underwriter pursuant to the Indenture; (c) when delivered to and paid for by the Underwriter at the Closing, the Bonds will have been duly authenticated and delivered by the Bank; (d) the execution and delivery of the Indenture and the Escrow Agreement and compliance with the provisions on the Bank's part contained therein, will not conflict with or constitute a breach of or default under any law, administrative regulation, judgment, decree, loan agreement, indenture, note, resolution, agreement or other instrument to which the Bank is a party or is otherwise subject (except that no representation, warranty or agreement is made with respect to any federal or state securities or blue sky laws or regulations), which conflict, breach or default would materially impair the ability of the Bank to perform its obligations under the Indenture and the Escrow Agreement, nor will any such execution, delivery, adoption or compliance result in the creation or imposition of any lien, charge or other security interest or encumbrance of any nature whatsoever upon any of the properties or assets held by the Bank pursuant to the liens created by the Indenture and the Escrow Agreement under the terms of any such law, administrative regulation, judgment, decree, loan agreement, indenture, bond, note, resolution, agreement or other instrument, except as provided by the Indenture; and (e) to the best of the knowledge of the Bank, it has not been served with any action, suit, proceeding, inquiry or investigation in law or in equity, before or by any court, governmental agency, public board or body, nor is any such action or other proceeding threatened against the Bank, affecting the existence of the Bank, or the titles of its officers to their respective offices or seeking to prohibit, restrain, or enjoining

the execution and delivery of the Bonds or the collection of revenues to be applied to pay the principal, premium, if any, and interest with respect to the Bonds, or the pledge thereof, or in any way contesting or affecting the validity or enforceability of the Indenture or the Escrow Agreement, or contesting the powers of the Bank or its authority to enter into, adopt or perform its obligations under any of the foregoing to which it is a party, wherein an unfavorable decision, ruling or funding would materially adversely affect the validity or enforceability of the Indenture or the Escrow Agreement or the power and authority of the Bank to enter into and perform its duties under the Indenture and the Escrow Agreement and to authenticate and deliver the Bonds to or upon the order of the Underwriter;

14. An opinion of counsel to Bank, dated the Closing Date and addressed to the Underwriter, substantially to the effect that:

(i) the Bank is a national banking association duly organized, validly existing and in good standing under the laws of the United States having full power and authority and being qualified to enter into, accept and administer the trust created under the Indenture and the Escrow Agreement and to enter into the Indenture and the Escrow Agreement;

(ii) the Indenture and the Escrow Agreement have been duly authorized, executed and delivered by the Bank and, assuming due authorization, execution and delivery by the other parties thereto, constitute the legal, valid and binding obligations of the Trustee, enforceable against the Bank in accordance with their respective terms, except as enforcement thereof may be limited by bankruptcy, insolvency or other laws affecting enforcement of creditors' rights generally and by the application of equitable principles if equitable remedies are sought;

(iii) to such counsel's knowledge, no authorization, approval, consent, or order of any governmental agency or regulatory authority having jurisdiction over the Bank, except for such authorizations, approvals or consents previously obtained, is required for the authorization, execution and delivery by the Bank of the Indenture and the Escrow Agreement; and

(iv) an authorized representative of the Trustee has duly authenticated the Bonds in accordance with the Indenture.

15. A certificate of the Community Facilities District dated the Closing Date, in a form acceptable to Bond Counsel and the Underwriter, that the Bonds are not arbitrage bonds within the meaning of Section 148 of the Internal Revenue Code of 1986, as amended;

16. An opinion of Anzel Galvan LLP, San Francisco, California, counsel to the Underwriter, dated the date of Closing and addressed to the Underwriter in form and substance acceptable to the Underwriter;

17. A copy of the Community Facilities District's executed Blanket Letter of Representation to DTC;

18. A copy of the Blue Sky Survey dated the date of Closing with respect to the Bonds;

19. A defeasance opinion dated the date of Closing and addressed to the Underwriter substantially to the effect that (a) the Escrow Agreement has been duly executed and delivered by the Community Facilities District and, assuming due authorization, execution and delivery

by the other parties thereto, constitutes the valid and binding obligation of the Community Facilities District, except to the extent that enforceability may be limited by moratorium, bankruptcy, reorganization, insolvency or other similar laws affecting creditors' rights generally or by the exercise of judicial discretion in accordance with general principles of equity or otherwise in appropriate cases and by limitations on legal remedies against public agencies in the State; and (b) the requirements of the 2015 Fiscal Agent Agreement (as defined in the Escrow Agreement) have been satisfied with respect to the discharge of the outstanding 2015 Bonds and the pledge of the Net Taxes (as defined in the Escrow Agreement) and any other amounts held by the 2015 Fiscal Agent thereunder and all other obligations of the Community Facilities District under the 2015 Fiscal Agent Agreement with respect to the 2015 Bonds have ceased and terminated, except as expressly provided therein;

20. A verification report of [_____] with respect to the sufficiency of amounts deposited with the Escrow Agent under the Escrow Agreement to defease and redeem the outstanding 2015 Bonds in accordance with the terms of the Escrow Agreement;

21. Evidence satisfactory to the Underwriter that the Trustee has received the Policy and the Reserve Policy from the Insurer;

22. An opinion of counsel to the Insurer, dated the Closing Date, in form and substance satisfactory to the Underwriter and Bond Counsel, with respect to, among other matters, the Policy, and disclosures relating thereto in the Official Statement;

23. A certificate of the Insurer, dated the Closing Date, in form and substance satisfactory to the Underwriter and Bond Counsel, with respect to, among other matters, the Policy and the Reserve Policy, and disclosures relating thereto in the Official Statement; and

24. Such additional legal opinions, certificates, instruments and other documents as the Underwriter may reasonably request to evidence the truth and accuracy, as of the date hereof and as of the Closing Date, of the material representations and warranties of the Community Facilities District contained herein, and of the statements and information contained in the Official Statement and the due performance or satisfaction by the Community Facilities District at or prior to the Closing of all agreements then to be performed and all conditions then to be satisfied by the Community Facilities District in connection with the transactions contemplated hereby and by the Indenture and the Official Statement.

All of the opinions, letters, certificates, instruments and other documents mentioned in this Purchase Agreement will be deemed to be in compliance with the provisions of this Purchase Agreement if, but only if, they are in form and substance satisfactory to the Underwriter. If the Community Facilities District shall be unable to satisfy the conditions to the obligations of the Underwriter to purchase, accept delivery of and pay for the Bonds contained in this Purchase Agreement, or if the obligations of the Underwriter to purchase, accept delivery of and pay for the Bonds shall be terminated for any reason permitted by this Purchase Agreement, this Purchase Agreement shall terminate and neither the Community Facilities District nor the Underwriter shall be under any further obligation hereunder, except that the respective obligations of the Underwriter and the Community Facilities District set forth in Section 9 hereof shall continue in full force and effect.

8. Termination Events. In recognition of the desire of the Community Facilities District and the Underwriter to effect a successful public offering of the Bonds, and in view of the potential adverse impact of any of the following events on such a public offering, this Purchase Agreement shall

be subject to termination in the discretion of the Underwriter by notification, in writing, to the Community Facilities District prior to delivery of and payment for the Bonds, if between the date hereof and the time of Closing, in the Underwriter's sole and reasonable judgment any of the following events shall occur (each a "Termination Event"):

A. the market price or marketability of the Bonds, or the ability of the Underwriter to enforce contracts for the sale of the Bonds, shall be materially adversely affected by any of the following events:

1. legislation shall have been enacted by the Congress of the United States or the legislature of the State or shall have been favorably reported out of committee of either body or be pending in committee of either body, or shall have been recommended to the Congress for passage by the President of the United States or a member of the President's Cabinet, or a decision shall have been rendered by a court of the United States or the State or the Tax Court of the United States, or a ruling, resolution, regulation or temporary regulation, release or announcement shall have been made or shall have been proposed to be made by the Treasury Department of the United States or the Internal Revenue Service, or other federal or state authority with appropriate jurisdiction, with respect to federal or state taxation upon interest received on obligations of the general character of the Bonds;

2. there shall have occurred (1) an outbreak or escalation of hostilities or the declaration by the United States of a national emergency or war or (2) any other calamity or crisis in the financial markets of the United States or elsewhere or the escalation of such calamity or crisis; or

3. a general suspension of trading on the New York Stock Exchange or other major exchange shall be in force, or minimum or maximum prices for trading shall have been fixed and be in force, or maximum ranges for prices for securities shall have been required and be in force on any such exchange, whether by virtue of determination by that exchange or by order of U.S. Securities and Exchange Commission ("SEC") or any other governmental authority having jurisdiction; or

4. legislation shall have been enacted by the Congress of the United States or shall have been favorably reported out of committee or be pending in committee, or shall have been recommended to the Congress for passage by the President of the United States or a member of the President's Cabinet, or a decision by a court of the United States shall be rendered, or a ruling, regulation, proposed regulation or statement by or on behalf of the SEC or other governmental agency having jurisdiction of the subject matter shall be made, to the effect that any obligations of the general character of the Bonds, or the Bonds are not exempt from registration under or other requirements of the Securities Act of 1933, as amended and as then in effect, or the Securities Exchange Act of 1934, as amended and as then in effect, or that the Indenture is not exempt from qualification under or other requirements of the Trust Indenture Act of 1939, as amended and as then in effect; or

5. except as disclosed in or contemplated by the Official Statement, any material adverse change in the affairs of the Community Facilities District shall have occurred; or

6. any rating of the Bonds, any rating of the Insurer or the rating of any obligations of the Community Facilities District payable from Special Taxes shall have been

downgraded, withdrawn or placed on credit watch with negative outlook by any major credit rating agency; or

B. any event or circumstance shall exist that either makes untrue or incorrect in any material respect any statement or information in the Official Statement (other than any statement provided by the Underwriter) or is not reflected in the Official Statement but should be reflected therein in order to make the statements therein, in the light of the circumstances under which they were made, not misleading and, in either such event, the Community Facilities District refuses to permit the Official Statement to be supplemented to supply such statement or information, or the effect of the Official Statement as so supplemented is to materially adversely affect the market price or marketability of the Bonds or the ability of the Underwriter to enforce contracts for the sale of the Bonds; or

C. a general banking moratorium shall have been declared by federal or State authorities having jurisdiction and be in force; or

D. a material disruption in securities settlement, payment or clearance services affecting the Bonds shall have occurred; or

E. any new restriction on transactions in securities materially affecting the market for securities (including the imposition of any limitation on interest rates) or the extension of credit by, or a charge to the net capital requirements of, underwriters shall have been established by the New York Stock Exchange, the SEC, any other federal or State agency or the Congress of the United States, or by Executive Order; or

F. a decision by a court of the United States shall be rendered, or a stop order, release, regulation or no-action letter by or on behalf of the SEC or any other governmental agency having jurisdiction of the subject matter shall have been issued or made, to the effect that the issuance, offering or sale of the Bonds, including the underlying obligations as contemplated by this Purchase Agreement or by the Official Statement, or any document relating to the issuance, offering or sale of the Bonds, is or would be in violation of any provision of the federal securities laws at the Closing Date, including the Securities Act of 1933, as amended and as then in effect, the Securities Exchange Act of 1934, as amended and as then in effect, or the Trust Indenture Act of 1939; or

G. the commencement of one or more Actions.

Subject to Section 14, upon the occurrence of a Termination Event and the termination of this Purchase Agreement by the Underwriter, all obligations of the Community Facilities District and the Underwriter under this Purchase Agreement shall terminate, without further liability.

9. Expenses. Whether or not the Bonds are sold to the Underwriter as set forth herein:

A. The Underwriter shall be under no obligation to pay any expenses incident to the performance of the obligations of the Community Facilities District hereunder. If the Bonds are delivered by the Community Facilities District, the Community Facilities District shall pay, from the proceeds of the Bonds or from other funds of the Community Facilities District, the following expenses: (a) the cost of preparing, duplicating or printing, mailing and delivering the Community Facilities District Documents, the Preliminary Official Statement, the Official Statement and all other agreements and documents that are contemplated hereby (and drafts of any thereof); (b) the cost of preparation and printing of the definitive Bonds; (c) the fees and expenses of the Community Facilities

District, the Trustee, Bond Counsel, Disclosure Counsel, the Municipal Advisor, the Special Tax Consultant, the Dissemination Agent, any entity performing continuing disclosure compliance research or providing continuing disclosure compliance reports and any other experts or consultants retained by the Community Facilities District; (d) the charges of any rating agency with respect to the Bonds; (e) reimbursement to the Underwriter for payment of any fees and expenses reasonably incurred in connection with the initial offering, sale and delivery of the Bonds, including but not limited to industry fees (e.g., DTC, DAC, IPREO, CUSIP and Day Loan fees) only if the Community Facilities District and Underwriter have previously discussed and approved the allocation of proceeds towards these fees, and meal and travel expenses of the personnel of the Community Facilities District, but not including entertainment expenses or those to be paid by the Underwriter pursuant to the last paragraph of this Section 9, and (f) all other fees and expenses, not including entertainment expenses, reasonably incurred in connection with the preparation of the Community Facilities District Documents, the Preliminary Official Statement, the Official Statement and all other agreements and documents that are contemplated hereby (and drafts of any thereof) and/or the initial offering, sale and delivery of the Bonds. The Community Facilities District has authorized, and does hereby authorize, the Underwriter to pay such expenses on behalf of the Community Facilities District from proceeds of the Bonds at Closing as further described in the closing memorandum relating to the Bonds.

B. If the Bonds are sold to the Underwriter by the Community Facilities District, the Community Facilities District shall pay out of the proceeds of the Bonds the discount of the Underwriter or the purchase price paid for the Bonds shall reflect such discount.

Except as otherwise provided in this Section 9, the Underwriter shall pay the cost, if any, of qualifying the Bonds for sale in the various states chosen by the Underwriter, all advertising expenses in connection with the public offering of the Bonds, the fees and expenses of its counsel, and all other expenses incurred by it in connection with its public offering and distribution of the Bonds, not described above.

10. Use of Documents. The Community Facilities District hereby authorizes the Underwriter to use, in connection with the public offering and sale of the Bonds, this Purchase Agreement, the Preliminary Official Statement, the Official Statement and the Community Facilities District Documents, and the information contained herein and therein.

11. Qualification of Bonds. The Community Facilities District will furnish such information, execute such instruments and take such other action in cooperation with the Underwriter as the Underwriter may reasonably request to qualify the Bonds for offer and sale under the Blue Sky or other securities laws and regulations of such states and other jurisdictions of the United States as the Underwriter may designate and to provide for the continuance of such qualification; *provided, however*, that the Community Facilities District will not be required to qualify as a foreign corporation or to file any general or special consents to service of process under the laws of any state.

12. Notices. Any notice or other communication to be given to the Community Facilities District under this Purchase Agreement may be given by delivering the same in writing to the City at the address appearing on the first page hereof; any notice or other communication to be given to the Underwriter under this Purchase Agreement may be given by delivering the same in writing to Stifel, Nicolaus & Company, Incorporated, 2121 Avenue of the Stars, Suite 2150, Los Angeles, California 90067, Attention: Sara Brown.

13. Benefit. This Purchase Agreement is made solely for the benefit of the Community Facilities District and Underwriter (including any successors or assignees of the Underwriter) and no other person shall acquire or have any right hereunder or by virtue hereof. Except as otherwise expressly provided herein, all of the agreements and representations of the Community Facilities District contained in this Purchase Agreement and in any certificates delivered pursuant hereto shall remain operative and in full force and effect regardless of: (i) any investigation made by or on behalf of the Underwriter; (ii) delivery of and payment for the Bonds hereunder; or (iii) any termination of this Purchase Agreement.

14. Survival of Representations and Warranties. The representations and warranties of the Community Facilities District under this Purchase Agreement shall not be deemed to have been discharged, satisfied or otherwise rendered void by reason of the Closing and regardless of any investigations made by or on behalf of the Underwriter (or statements as to the results of such investigations) concerning such representations and statements of the Community Facilities District and regardless of delivery of and payment for the Bonds.

15. Execution in Counterparts. This Purchase Agreement may be executed by the parties hereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument.

16. Effective. This Purchase Agreement shall become effective and binding upon the respective parties hereto upon the execution of the acceptance hereof by the Community Facilities District and shall be valid and enforceable as of the time of such acceptance.

17. No Prior Agreements. This Purchase Agreement contains the entire agreement between the parties relating to the subject matter hereof and supersedes all oral statements, prior writings and representations with respect thereto.

18. Waiver of Jury Trial. THE COMMUNITY FACILITIES DISTRICT HEREBY IRREVOCABLY WAIVES TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS PURCHASE AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

19. Governing Law. This Purchase Agreement shall be governed by the laws of the State.

[Signature Page Follows]

20. Effective Date. This Purchase Agreement shall become effective and binding upon the respective parties hereto upon the execution of the acceptance hereof by the Community Facilities District and shall be valid and enforceable as of the time of such acceptance.

Very truly yours,

STIFEL, NICOLAUS & COMPANY,
INCORPORATED

By: _____
Its: Managing Director

The foregoing is hereby agreed to and
accepted as of the date first above written:

CITY OF ORANGE COMMUNITY FACILITIES
DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

By: _____
Authorized Officer

Time of Execution: _____ California time

EXHIBIT A

MATURITY SCHEDULE

Maturity (October 1)	Principal Amount	Interest Rate	Yield	Price	10% Test Used	10% Test Met	Hold-The-Offering-Price Used

_____
T: Term Bond.
C: Priced to optional redemption date of October 1, 20__, at par.

REDEMPTION PROVISIONS

Optional Redemption. The Bonds with stated maturities on or after October 1, 20__ are subject to redemption prior to their respective stated maturities, as a whole or in part, as directed by the Community Facilities District in a written request provided to the Trustee at least 35 days (or such lesser number of days acceptable to the Trustee in the sole discretion of the Trustee, such notice for the convenience of the Trustee) prior to redemption, by lot within each maturity in integral multiples of $5,000, on October 1, 20__ or any date thereafter, at a redemption price equal to the principal amount thereof plus accrued interest thereon to the date fixed for redemption, without premium.

Mandatory Sinking Fund Redemption. The Bonds maturing on October 1, 20__ (the "Term Bonds") shall be called before maturity and redeemed, from the Sinking Fund Payments that have been deposited into the Redemption Account, on October 1, 20___, and October 1, 20___, in accordance with the schedule of Sinking Fund Payments set forth below. The Term Bonds so called for redemption shall be selected by the Trustee by lot and shall be redeemed at a redemption price for each redeemed Term Bond equal to the principal amount thereof, plus accrued interest to the redemption date, without premium, as follows:

Term Bonds Maturing October 1, 20__

Redemption Date (October 1)	*Principal Amount*
*	

* Maturity.

Special Mandatory Redemption from Special Tax Prepayments. The Bonds are subject to extraordinary redemption as a whole, or in part by lot, on any Interest Payment Date, and shall be redeemed by the Trustee, from Prepayments deposited to the Redemption Account, plus amounts transferred from the Reserve Account, among maturities as directed in writing by the Community Facilities District, at the following redemption prices, expressed as a percentage of the principal amount to be redeemed, together with accrued interest to the redemption date:

Redemption Date	*Redemption Price*
Any Interest Payment Date from (and including) October 1, 20__ through (and including) April 1, 20	103%
October 1, 20__ and April 1, 20__	102
October 1, 20__ and April 1, 20__	101
October 1, 20__ and any Interest Payment Date thereafter	100

EXHIBIT B

$[PAR]
CITY OF ORANGE
COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

FORM OF ISSUE PRICE CERTIFICATE

The undersigned, on behalf of Stifel, Nicolaus & Company, Incorporated ("Stifel") hereby certifies as set forth below with respect to the sale and delivery of the above-captioned obligations (the "Bonds").

1. ***Sale of the General Rule Maturities***. As of the date of this certificate, for each Maturity of the General Rule Maturities, the first price at which at least 10% of such Maturity was sold to the Public is the respective price listed in Schedule A.

2. ***Initial Offering Price of the Hold-the-Offering-Price Maturities***.

(a) Stifel offered the Hold-the-Offering-Price Maturities to the Public for purchase at the respective initial offering prices listed in Schedule A (the "Initial Offering Prices") on or before the Sale Date. A copy of the pricing wire or equivalent communication for the Bonds is attached to this certificate as Schedule B.

(b) As set forth in the Bond Purchase Agreement, dated [Pricing Date], by and between Stifel, as the Underwriter (as defined below), and the Issuer (as defined below), Stifel has agreed in writing that: (i) for each Maturity of the Hold-the-Offering-Price Maturities, it would neither offer nor sell any of the Bonds of such Maturity to any person at a price that is higher than the Initial Offering Price for such Maturity during the Holding Period for such Maturity (the "hold-the-offering-price rule"); and (ii) any selling group agreement shall contain the agreement of each dealer who is a member of the selling group, and any third-party distribution agreement shall contain the agreement of each broker-dealer who is a party to the third-party distribution agreement, to comply with the hold-the-offering-price rule. Pursuant to such agreement, no Underwriter has offered or sold any Maturity of the Hold-the-Offering-Price Maturities at a price that is higher than the respective Initial Offering Price for that Maturity of the Bonds during the Holding Period.

3. ***Defined Terms***.

(a) *General Rule Maturities* means those Maturities of the Bonds listed in Schedule A hereto as the "General Rule Maturities."

(b) *Hold-the-Offering-Price Maturities* means those Maturities of the Bonds listed in Schedule A hereto as the "Hold-the-Offering-Price Maturities."

(c) *Holding Period* means, with respect to a Hold-the-Offering-Price Maturity, the period starting on the Sale Date and ending on the earlier of (i) the close of the fifth business day after the

Sale Date (which Sale Date is [Pricing Date]), or (ii) the date on which Stifel has sold at least 10% of such Hold-the-Offering-Price Maturity to the Public at prices that are no higher than the Initial Offering Price for such Hold-the-Offering-Price Maturity.

(d) *Issuer* means City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements).

(e) *Maturity* means Bonds with the same credit and payment terms. Bonds with different maturity dates, or Bonds with the same maturity date but different stated interest rates, are treated as separate maturities.

(f) *Public* means any person (including an individual, trust, estate, partnership, association, company, or corporation) other than an Underwriter or a related party to an Underwriter. The term "related party" for purposes of this certificate generally means any two or more persons who have greater than 50 percent common ownership, directly or indirectly.

(g) *Sale Date* means the first day on which there is a binding contract in writing for the sale of a Maturity of the Bonds. The Sale Date of the Bonds is [Closing Date].

(h) *Underwriter* means: (i) any person that agrees pursuant to a written contract with the Issuer (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Bonds to the Public; and (ii) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (i) of this paragraph to participate in the initial sale of the Bonds to the Public (including a member of a selling group or a party to a third-party distribution agreement participating in the initial sale of the Bonds to the Public).

The representations set forth in this certificate are limited to factual matters only. Nothing in this certificate represents Stifel's interpretation of any laws, including specifically Sections 103 and 148 of the Internal Revenue Code of 1986, as amended, and the Treasury Regulations thereunder. The undersigned understands that the foregoing information will be relied upon by the Issuer with respect to certain of the representations set forth in the Tax Certificate and with respect to compliance with the federal income tax rules affecting the Bonds, and by Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, in connection with rendering its opinion that the interest on the Bonds is excluded from gross income for federal income tax purposes, the preparation of the Internal Revenue Service Form 8038-G, and other federal income tax advice that it may give to the Issuer from time to time relating to the Bonds. The certifications contained herein are not necessarily based on personal knowledge, but may instead be based on either inquiry deemed adequate by the undersigned or institutional knowledge (or both) regarding the matters set forth herein.

STIFEL, NICOLAUS & COMPANY,
INCORPORATED

By:_____

Name:_____

By:_____

Name:_____

Dated: [Closing Date]

This Preliminary Official Statement and the information contained herein are subject to completion or amendment. Under no circumstances shall this Preliminary Official Statement constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, these securities in any jurisdiction in which such offer, solicitation or sale would be unlawful.

Stradling Yocca Carlson & Rauth
Draft of 5/19/26

PRELIMINARY OFFICIAL STATEMENT DATED _____, 2026

NEW ISSUE — BOOK-ENTRY ONLY

Ratings: Insured Bonds: S&P "__"
Underlying/Uninsured Bonds: S&P "__"
See the caption "CONCLUDING INFORMATION—Ratings"

In the opinion of Stradling Yocca Carlson & Rauth LLP, Bond Counsel, under existing statutes, regulations, rulings and judicial decisions, and assuming the accuracy of certain representations and compliance with certain covenants and requirements described in this Official Statement, interest (and original issue discount) on the Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of calculating the federal alternative minimum tax imposed on individuals. In the further opinion of Bond Counsel, interest (and original issue discount) on the Bonds is exempt from State of California personal income tax. See the caption "CONCLUDING INFORMATION—Tax Matters" with respect to tax consequences relating to the Bonds, including with respect to the alternative minimum tax imposed on certain large corporations.

COUNTY OF ORANGE **STATE OF CALIFORNIA**

$16,005,000*
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

Dated: Date of Delivery **Due: October 1, as shown on the inside cover page**

The City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds (the "**Bonds**") are being issued by City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "**District**") pursuant to the Mello-Roos Community Facilities Act of 1982, as amended (Section 53311 *et seq.* of the Government Code of the State of California) (the "**CFD Act**"), and a Bond Indenture, dated as of July 1, 2026 (the "**Indenture**"), by and between the District and U.S. Bank Trust Company, National Association, as trustee (the "**Trustee**"), and will be secured as described herein. See the caption "SECURITY FOR THE BONDS."

The Bonds are being issued: (i) together with other available funds, to refund the outstanding City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds (the "**2015 Bonds**"); (ii) to pay the premium for a Municipal Bond Debt Service Reserve Insurance Policy for deposit in the Reserve Account to fund 50% of the initial Reserve Requirement and fund a cash deposit for the remaining 50% of the initial Reserve Requirement; and (iii) to pay certain costs of issuance of the Bonds, including the premium for an insurance policy insuring the Insured Bonds (defined below).

The Bonds will be secured by special tax liens on taxable property within the District and certain funds held by the Trustee under the Indenture. The City of Orange (the "**City**") has determined that it will not obligate itself to advance funds from its treasury to cover any delinquency on the Bonds. See the caption "SECURITY FOR THE BONDS."

The Bonds will be issued in book-entry form, initially registered in the name of Cede & Co., New York, New York, as nominee of The Depository Trust Company ("**DTC**"), New York, New York. Interest on the Bonds will be payable on October 1, 2026 and each April 1 and October 1 thereafter. Purchasers will not receive certificates representing their interest in the Bonds. Individual purchases of Bonds will be in principal amounts of $5,000 or in any integral multiple of $5,000. Payments of principal and interest will be paid by the Trustee to DTC for subsequent disbursement to DTC Participants, which will remit such payments to the beneficial owners of the Bonds.

The Bonds are subject to optional redemption, mandatory sinking fund redemption and extraordinary redemption from Special Tax prepayments prior to maturity as set forth herein. See the caption "THE BONDS—Redemption."

ALL OBLIGATIONS OF THE DISTRICT UNDER THE INDENTURE AND THE BONDS ARE LIMITED OBLIGATIONS OF THE DISTRICT, PAYABLE SOLELY FROM THE NET TAXES AND THE FUNDS PLEDGED THEREFOR UNDER THE INDENTURE. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE DISTRICT (EXCEPT TO THE LIMITED EXTENT SET FORTH IN THE INDENTURE), THE CITY OR THE STATE OF CALIFORNIA OR ANY POLITICAL SUBDIVISION THEREOF IS PLEDGED TO THE PAYMENT OF THE BONDS. EXCEPT FOR THE NET TAXES, NO OTHER TAXES ARE PLEDGED TO THE PAYMENT OF THE BONDS. THE BONDS ARE NOT GENERAL OR SPECIAL OBLIGATIONS OF THE CITY NOR GENERAL OBLIGATIONS OF THE DISTRICT BUT ARE LIMITED OBLIGATIONS OF THE DISTRICT PAYABLE SOLELY FROM NET TAXES.

The scheduled payment of principal of and interest on the Bonds maturing on October 1 of the years 20___ through 20___,* inclusive (collectively, the "**Insured Bonds**"), when due will be guaranteed under a municipal bond insurance policy to be issued concurrently with the delivery of the Insured Bonds by **[Insurer]** (the "Insurer" or "[INSURER]"). The Insurer will also issue a debt service reserve insurance policy concurrently with the issuance of the Bonds to be credited to the Reserve Account for the Bonds to satisfy 50% of the initial Reserve Requirement. See "BOND INSURANCE" herein.

[INSURER'S LOGO]

See the caption "SPECIAL RISK FACTORS" for a discussion of certain risk factors that should be considered in addition to the other matters set forth herein when evaluating the investment quality of the Bonds. This cover page contains certain information for general reference only. It is not a complete summary of the Bonds. Investors should read the entire Official Statement to obtain information essential to the making of an informed investment decision.

MATURITY SCHEDULE

(See inside cover)

The Bonds are offered, when, as and if issued and accepted by the Underwriter, subject to approval as to their validity by Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, Bond Counsel, and subject to certain other conditions. Certain legal matters will be passed upon for the City and the District by the City Attorney, and by Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, Disclosure Counsel, for the Underwriter by Anzel Galvan LLP, San Francisco, California, for the Insurer by its counsel and for the Trustee by its counsel. It is anticipated that the Bonds will be available for delivery in book-entry form through the facilities of DTC on or about _____, 2026.

[UNDERWRITER'S LOGO]

Dated: _____, 2026

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* *Preliminary, subject to change.*

$16,005,000*
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

MATURITY SCHEDULE

Base CUSIP®†: _____

Maturity Date (October 1)	*Principal Amount*	*Interest Rate*	*Yield*	*Price*	*CUSIP®†*
	$	%	%		

$_____ _____% Term Bonds Due October 1, _____, Yield _____%, Price _____, CUSIP®† ____
$_____ _____% Term Bonds Due October 1, _____, Yield _____%, Price _____, CUSIP®† ____

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* *Preliminary, subject to change.*

† *CUSIP® is a registered trademark of the American Bankers Association. CUSIP Global Services (CGS) is managed on behalf of the American Bankers Association by FactSet Research Systems Inc. Copyright© CUSIP Global Services. All rights reserved. CUSIP® data herein is provided by CUSIP Global Services. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers are provided for convenience of reference only. None of the District, the Underwriter or their agents or counsel assume responsibility for the accuracy of such numbers.*

[1] *Insured Bond.*

THE CITY OF ORANGE

CITY COUNCIL

Dan Slater, Mayor
Denis Bilodeau, Mayor Pro Tem
Arianna Barrios, Council Member
Jon Dumitru, Council Member
Kathy Tavoularis, Council Member
Ana Gutierrez, Council Member
John Gyllenhammer, Council Member

OFFICIALS

Jarad Hildenbrand, City Manager
Trang Nguyen, Finance Director
Garrett Smith, City Treasurer
Nathalie Adourian, City Attorney
Pamela Coleman, City Clerk

Bond and Disclosure Counsel
Stradling Yocca Carlson & Rauth LLP
Newport Beach, California

Municipal Advisor
Fieldman, Rolapp & Associates, Inc.
Irvine, California

Verification Agent
Robert Thomas CPA, LLC
Minneapolis, Minnesota

Special Tax Consultant
Willdan Financial Services
Temecula, California

Trustee/Escrow Agent
U.S. Bank Trust Company, National Association
Los Angeles, California

No dealer, broker, salesperson or other person has been authorized to give any information or to make any representations, other than as contained in this Official Statement, and if given or made, such other information or representations must not be relied upon as having been authorized by the City or the District. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, the Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale.

The information set forth herein which has been obtained from parties other than the City and the District is believed to be reliable but is not guaranteed as to accuracy or completeness by the City or the District. The information and expressions of opinion stated herein are subject to change without notice. The delivery of this Official Statement shall not, under any circumstances, create any implication that there has been no change in the affairs of the City or the District since the date hereof.

The Underwriter has provided the following sentence for inclusion in this Official Statement:

> The Underwriter has reviewed the information in this Official Statement in accordance with, and as a part of its responsibilities to investors under the federal securities laws applied to the facts and circumstances of this transaction, but the Underwriter does not guarantee the accuracy or completeness of such information.

The information herein relating to the Bonds, the District and the City does not purport to be comprehensive or definitive. All references to the Bonds are qualified in their entirety by reference to the Indenture setting forth the terms and descriptions thereof. The summaries and references to any code, act, resolution or the Indenture, and to other statutes and documents in this Official Statement, do not purport to be comprehensive or definitive, and are qualified in their entirety by reference to each statute and document.

IN CONNECTION WITH THIS BOND UNDERWRITING, THE UNDERWRITER MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE BONDS DESCRIBED HEREIN AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

Certain statements included or incorporated by reference in this Official Statement constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995, Section 21E of the United States Securities Exchange Act of 1934, as amended, and Section 27A of the United States Securities Act of 1933, as amended. Such statements are generally identifiable by the terminology used such as "plan," "expect," "estimate," "project," "budget," "intend" or similar words. The achievement of certain results or other expectations contained in such forward-looking statements are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those that have been projected. No assurance is given that actual results will meet the forecasts set forth herein in any way, regardless of the optimism communicated in the information, and such statements speak only as of the date of this Official Statement. The City and the District disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained in this Official Statement to reflect any changes in the expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

THE BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, IN RELIANCE UPON AN EXEMPTION CONTAINED IN SUCH ACT, AND HAVE NOT BEEN REGISTERED OR QUALIFIED UNDER THE SECURITIES LAWS OF ANY STATE.

The City maintains a website and certain social media accounts; however, the information presented there is not part of this Official Statement and should not be relied upon in making an investment decision with respect to the Bonds.

[[Insurer] (the "**Insurer**") makes no representation regarding the Bonds or the advisability of investing in the Bonds. In addition, the Insurer has not independently verified, makes no representation regarding, and does not accept any responsibility for the accuracy or completeness of this Official Statement or any information or disclosure contained herein, or omitted herefrom, other than with respect to the accuracy of the information regarding the Insurer, supplied by the Insurer and presented under the caption "BOND INSURANCE" and in Appendix G—"SPECIMEN MUNICIPAL BOND INSURANCE POLICY."]

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$16,005,000*
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2026 SPECIAL TAX REFUNDING BONDS

INTRODUCTION

Summary

This Official Statement is provided to furnish certain information in connection with the issuance and sale by City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "**District**") of $16,005,000* aggregate principal amount of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds (the "**Bonds**").

The Bonds will be issued pursuant to the provisions of the Mello-Roos Community Facilities Act of 1982, constituting Section 53311 *et seq*. of the Government Code of the State of California (the "**CFD Act**"), and a Bond Indenture, dated as of July 1, 2026 (the "**Indenture**"), by and between the District and U.S. Bank Trust Company, National Association, as trustee (the "**Trustee**"). Capitalized terms that are used in this Official Statement and not defined have the meanings which are ascribed thereto in Appendix A.

The Bonds are being issued: (i) together with other available funds, to refund the outstanding City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds (the "**2015 Bonds**"); (ii) to pay the premium for a Municipal Bond Debt Service Reserve Insurance Policy (the "**Reserve Policy**") to be issued by [Insurer] (the "**Insurer**") for deposit in the Reserve Account to fund 50% of the initial Reserve Requirement and fund a cash deposit for the remaining 50% of the initial Reserve Requirement; and (iii) to pay certain costs of issuance of the Bonds, including the premium for a Municipal Bond Insurance Policy (the "**Policy**") insuring the Bonds maturing on October 1 of the years 20___ through 20___, inclusive (collectively, the "**Insured Bonds**"), to be issued by the Insurer concurrently with the issuance of the Bonds]. See the caption "THE REFUNDING PLAN."

The Bonds are limited obligations of the District payable from Net Taxes (as such term is defined under the caption "SECURITY FOR THE BONDS—Payment of the Bonds—General") which are derived from the levy of Special Taxes on certain taxable property within the District and from certain funds held by the Trustee under the Indenture. See the caption "THE DISTRICT" for information related to the property within the District subject to the lien of the Special Taxes.

The District was formed on December 12, 2006 for the purpose of financing a portion of certain public improvements within the City of Orange (the "**City**"), a general law city organized and existing under the laws of the State of California. The District is located in the northwestern portion of the City, adjacent to the City of Anaheim, west of Glassell Avenue and north of Lincoln Avenue. A portion of the boundary of the District runs along the bank of the Santa Ana River. The District is part of an area known as the Riverbend community. The District is fully built out. The District includes approximately 73.64 gross acres, within which there are approximately 43 acres of developed single family residential properties (comprising 597 parcels of taxable property), a 10.5 acre public sports park, six acres of bio-swale area and 13.5 acres of public streets. See the caption "THE DISTRICT."

ALL OBLIGATIONS OF THE DISTRICT UNDER THE INDENTURE AND THE BONDS ARE LIMITED OBLIGATIONS OF THE DISTRICT, PAYABLE SOLELY FROM THE NET TAXES AND THE FUNDS PLEDGED THEREFOR UNDER THE INDENTURE. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE DISTRICT (EXCEPT TO THE LIMITED EXTENT SET FORTH IN THE

* *Preliminary, subject to change.*

INDENTURE), THE CITY OR THE STATE OF CALIFORNIA (THE "**STATE**") OR ANY POLITICAL SUBDIVISION THEREOF IS PLEDGED TO THE PAYMENT OF THE BONDS. EXCEPT FOR THE NET TAXES, NO OTHER TAXES ARE PLEDGED TO THE PAYMENT OF THE BONDS. THE BONDS ARE NOT GENERAL OR SPECIAL OBLIGATIONS OF THE CITY NOR GENERAL OBLIGATIONS OF THE DISTRICT BUT ARE LIMITED OBLIGATIONS OF THE DISTRICT PAYABLE SOLELY FROM NET TAXES.

Covenant to Foreclose

The District has covenanted in the Indenture to commence judicial foreclosure proceedings against parcels with delinquent Special Taxes in excess of $10,000 by the October 1 following the close of each Fiscal Year in which such Special Taxes were due and to diligently pursue such foreclosure proceedings until the delinquent Special Taxes are paid; provided, however, that the District is not required to undertake any such foreclosure proceedings if: (i) the amount of Special Taxes collected by the October 1 for the most recent Fiscal Year was equal to 95% or more of the total Special Tax levied in such Fiscal Year; and (ii) the amount on deposit in the Reserve Account and any reserve account established in connection with the issuance of such Parity Bonds as of October 1 was at least equal to the Reserve Requirement. See the caption "SECURITY FOR THE BONDS—Covenant to Foreclose."

No Parity Bonds Except for Refunding Purposes

The District has covenanted in the Indenture that, except as described below, it will not issue any other obligations payable, as to principal or interest, from the Net Taxes which have, or purport to have, any lien upon the Net Taxes superior to or on a parity with the lien of the Bonds, other than Parity Bonds. Under the Indenture, the District may at any time after the issuance and delivery of the Bonds issue Parity Bonds payable from the Net Taxes and other amounts deposited in the Special Tax Fund (other than in the Administrative Expenses Account therein) and secured by a lien and charge upon such amounts equal to the lien and charge securing the Outstanding Bonds and any other Parity Bonds theretofore issued under the Indenture or under any Supplemental Indenture; provided, however, that Parity Bonds may only be issued for the purpose of refunding all or a portion of the Bonds or any Parity Bonds then Outstanding and the conditions precedent in the Indenture are satisfied, including the requirement that the issuance of such Parity Bonds will result in a reduction of Annual Debt Service on the Bonds and any Parity Bonds to be Outstanding following the issuance of such Parity Bonds.

Bond Insurance

[The scheduled payment of principal of and interest on the Insured Bonds (consisting of the Bonds maturing on October 1, 20___ through 20___, inclusive, October 1, 20___ and October 1, 20___) when due will be guaranteed under the Policy to be issued by the Insurer concurrently with the delivery of the Bonds. See the caption "BOND INSURANCE."

The Bonds maturing on October 1 of the years 20___ through 20___, inclusive, are *not* insured under the Policy.]

Reserve Account

A Reserve Account for the Bonds has been established pursuant to the Indenture. The Reserve Requirement for the Bonds, as of the date of issuance of the Bonds, equals $_____. The Reserve Requirement on the date the Bonds are issued will be satisfied at the time of issuance of the Bonds by the deposit of cash in the amount of 50% of the Reserve Requirement and the deposit of the Reserve Policy in the stated amount of 50% of the Reserve Requirement. Subject to the limitations set forth in the Indenture, the Trustee may draw upon the Reserve Policy to pay the principal of, including sinking fund payments, and interest on the Bonds

when due in the event that the moneys in the Special Tax Fund are insufficient therefor. See the caption "SECURITY FOR THE BONDS—Repayment of the Bonds—Reserve Account of the Special Tax Fund."

In the event of a draw on the Reserve Policy or the failure by the Insurer to honor a draw request, the District has no obligation to replenish the Reserve Account with cash or to provide an alternate reserve policy.

Risk Factors

See the caption "SPECIAL RISK FACTORS" for a discussion of certain risk factors which should be considered, in addition to the other matters set forth herein, in evaluating the investment quality of the Bonds generally.

Brief descriptions of the Bonds, the security for the Bonds, the District, the City and other information are included in this Official Statement. Such descriptions and information do not purport to be comprehensive or definitive. The descriptions in this Official Statement of the Bonds, the Indenture and other documents are qualified in their entirety by reference to the forms thereof and the information with respect thereto included in the Bonds, the Indenture and such other documents.

THE REFUNDING PLAN

The Bonds are being issued in order to provide funds to defease and refund in full the 2015 Bonds, which are described in the following table. The 2015 Bonds were issued to refinance capital improvements authorized to be funded by the District.

TABLE 1
2015 BONDS*

Principal Payment Date (October 1)	*CUSIP®† (684076)*	*Principal Amount*	*Interest Rate*	*Redemption Price*	*Redemption Date*
2026	FE7	$ 755,000	3.00%	100%	October 1, 2026
2027	FF4	810,000	3.00	100	October 1, 2026
2028	FG2	865,000	3.12	100	October 1, 2026
2029	FH0	925,000	3.25	100	October 1, 2026
2030	FJ6	985,000	3.25	100	October 1, 2026
2031	FK3	1,050,000	3.25	100	October 1, 2026
2032	FL1	1,120,000	3.50	100	October 1, 2026
2033	FM9	1,195,000	3.50	100	October 1, 2026
2034	FN7	1,270,000	3.50	100	October 1, 2026
2040[T]	FQ0	9,820,000	5.00	100	October 1, 2026
TOTAL		$ 18,795,000			

[T] Term Bonds.

Under an Escrow Agreement (2015 Bonds), dated as of July 1, 2026 (the "**Escrow Agreement**"), by and between the District and U.S. Bank Trust Company, National Association, as escrow agent (the "**Escrow**

** Preliminary, subject to change.*

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Agent"), the District will deliver a portion of the proceeds of the Bonds which, together with moneys held in certain funds related to the 2015 Bonds, will be deposited by the Escrow Agent in the escrow fund established under the Escrow Agreement (the "**Escrow Fund**").

The Escrow Agent will invest a portion of the amounts deposited in the Escrow Fund in federal securities as set forth in the Escrow Agreement. From the moneys on deposit in the Escrow Fund and the investment earnings thereon, the Escrow Agent will pay: (i) the regularly scheduled principal of and interest on the outstanding 2015 Bonds maturing on October 1, 2026 (the "**Redemption Date**"); and (ii) on the Redemption Date, the redemption price on the principal of the outstanding 2015 Bonds maturing after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium.

Sufficiency of the deposits in the Escrow Fund for such purposes will be verified by Robert Thomas CPA, LLC (the "**Verification Agent**"). Assuming the accuracy of such computations, as a result of the deposit and application of funds as provided in the Escrow Agreement, the 2015 Bonds will be defeased pursuant to the provisions of the fiscal agent agreement under which they were issued as of the date of issuance of the Bonds.

Upon the issuance of the Bonds, the Verification Agent will deliver a report on the mathematical accuracy of certain computations based upon certain information and assertions provided to it by the Underwriter relating to the adequacy of the moneys deposited in the Escrow Fund to pay: (i) the principal of and interest on the outstanding 2015 Bonds maturing on the Redemption Date; and (ii) on the Redemption Date, the principal of the outstanding 2015 Bonds maturing after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium.

The amounts held by the Escrow Agent in the Escrow Fund are pledged solely to the payment of the outstanding 2015 Bonds. Neither the funds deposited in the Escrow Fund, nor any interest thereon, will be available for the payments of principal of or interest on the Bonds.

TABLE 2
ESTIMATED SOURCES AND USES

The estimated sources and uses of funds with respect to the Bonds and amounts transferred by the District to the Escrow Agent are set forth in the following table:

Sources of Funds[(1)]	
Principal Amount of Bonds	$
Plus Net Original Premium	
Plus Other Available Moneys[(2)]	
Total Sources	$
Uses of Funds[(1)]	
Transfer to Escrow Agent for Deposit in Escrow Fund	$
Underwriter's Discount	
Reserve Account[(3)]	
Costs of Issuance[(4)]	
Total Uses	$

(1) Rounded to nearest dollar.
(2) Includes moneys on deposit in funds and accounts related to the 2015 Bonds.
(3) Equal to 50% of the Reserve Requirement. The remaining 50% will be satisfied by the Reserve Policy.
(4) Includes legal fees, Municipal Advisor fees, printing fees, Trustee fees, Escrow Agent fees, Special Tax Consultant fees, Verification Agent fees, premiums for the Policy and the Reserve Policy and other Costs of Issuance.

THE BONDS

Description of the Bonds

The Bonds will be issued in fully registered form and, when delivered, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company ("**DTC**"), New York, New York. DTC will act as securities depository for the Bonds. Ownership interests in the Bonds may be purchased in book-entry form only in denominations of $5,000 or any integral multiple thereof. The Bonds will be dated their date of delivery. The Bonds will bear interest at the rates per annum and will mature, subject to the redemption provisions set forth below, on the dates and in the principal amounts, all as set forth on the inside cover page of this Official Statement.

Interest on the Bonds is payable semiannually on October 1, 2026 and each April 1 and October 1 thereafter (each, an "**Interest Payment Date**") to the persons in whose names ownership of the Bonds is registered on the Bond Register at the close of business on the immediately preceding Record Date, except as provided in the Indenture. "**Record Date**" means, with respect to any Interest Payment Date, the fifteenth calendar day of the month immediately preceding such Interest Payment Date. Interest on any Bond will be payable from the Interest Payment Date next preceding the date of authentication of such Bond, unless: (a) such date of authentication is an Interest Payment Date, in which event interest will be payable from such date of authentication; (b) the date of authentication is after a Record Date but prior to the immediately succeeding Interest Payment Date, in which event interest will be payable from the Interest Payment Date immediately succeeding the date of authentication; or (c) the date of authentication is prior to the close of business on the first Record Date occurring after the issuance of such Bond, in which event interest will be payable from the dated date of such Bond; provided, however, that if at the time of authentication of such Bond, interest is in default, interest on such Bond will be payable from the last Interest Payment Date to which the interest has been paid or made available for payment or, if no interest has been paid or made available for payment on such Bond, interest on such Bond will be payable from its dated date.

Interest on any Bond will be paid to the person whose name appears in the Bond Register as the Owner of such Bond as of the close of business on the Record Date. Such interest will be paid by check of the Trustee mailed on the applicable Interest Payment Date by first class mail, postage prepaid, to such Bondowner at his or her address as it appears on the Bond Register. In addition, upon a request in writing received by the Trustee on or before the applicable Record Date from an Owner of $1,000,000 or more in principal amount of the Bonds or of any issue of Parity Bonds, payment will be made on the Interest Payment Date by wire transfer in immediately available funds to an account designated in writing by such Owner. Notwithstanding the foregoing, as long as DTC is the Owner of all or part of the Bonds, said interest payments will be made to DTC in accordance with the procedures of DTC, which as of the date of issuance of the Bonds are by wire transfer in immediately available funds.

The Bonds will mature on October 1 in the principal amounts and years as shown on the inside front cover page hereof and are subject to optional redemption, mandatory sinking fund redemption and extraordinary redemption from Special Tax prepayments as described under the caption "—Redemption."

The Bonds will be issued in book-entry form, initially registered in the name of Cede & Co., as nominee of DTC. Payment of interest with respect to any Bond registered as of each Record Date in the name of Cede & Co. will be made by wire transfer of same-day funds to the account of Cede & Co. See Appendix D.

Redemption*

Optional Redemption. The Bonds with stated maturities on or after October 1, 2037 are subject to redemption prior to their respective stated maturities, as a whole or in part, as directed by the District in a written request provided to the Trustee at least 35 days (or such lesser number of days acceptable to the Trustee in the sole discretion of the Trustee, such notice for the convenience of the Trustee) prior to redemption, by lot within each maturity in integral multiples of $5,000, on October 1, 2036 or any date thereafter, at a redemption price equal to the principal amount thereof plus accrued interest thereon to the date fixed for redemption, without premium.

Mandatory Sinking Fund Redemption. The Bonds maturing on October 1, 20___ (the "**20__ Term Bonds**") will be called before maturity and redeemed, from the Sinking Fund Payments that have been deposited into the Redemption Account, on October 1, 20____ and October 1, 20___, in accordance with the schedule of Sinking Fund Payments set forth below. The 20__ Term Bonds so called for redemption will be selected by the Trustee by lot and redeemed at a redemption price for each redeemed 20__ Term Bond equal to the principal amount thereof, plus accrued interest to the redemption date, without premium, as follows:

20__ TERM BONDS MATURING OCTOBER 1, 20___

Redemption Date (October 1) ***Principal Amount***

*

* Maturity.

The Bonds maturing on October 1, 20___ (the "**20__ Term Bonds**") will be called before maturity and redeemed, from the Sinking Fund Payments that have been deposited into the Redemption Account, on October 1, 20____ and October 1, 20___, in accordance with the schedule of Sinking Fund Payments set forth below. The 20__ Term Bonds so called for redemption will be selected by the Trustee by lot and redeemed at a redemption price for each redeemed 20__ Term Bond equal to the principal amount thereof, plus accrued interest to the redemption date, without premium, as follows:

20__ TERM BONDS MATURING OCTOBER 1, 20___

Redemption Date (October 1) ***Principal Amount***

*

* Maturity.

If, during the Fiscal Year immediately preceding one of the redemption dates specified above, the District purchases Bonds, then at least 45 days prior to the redemption date the District will notify the Trustee as to the principal amount purchased and the amount of Bonds so purchased will be credited at the time of

* *Preliminary, subject to change.*

purchase, to the extent of the full principal amount thereof, to reduce such upcoming Sinking Fund Payment for the Bonds so purchased. All Bonds purchased pursuant to the foregoing provision will be cancelled pursuant to the Indenture.

In the event of a partial optional redemption or extraordinary redemption of the Bonds, each of the remaining Sinking Fund Payments for such Bonds, as described above, will be reduced, as nearly as practicable, on a pro rata basis, in integral multiples of $5,000, as directed by the District.

Extraordinary Redemption of the Bonds from Special Tax Prepayments. The Bonds are subject to extraordinary redemption as a whole, or in part by lot, on any Interest Payment Date, and will be redeemed by the Trustee, from Prepayments deposited to the Redemption Account pursuant to the Indenture, plus amounts transferred from the Reserve Account pursuant to the Indenture, among maturities as directed in writing by the District, at the following redemption prices, expressed as a percentage of the principal amount to be redeemed, together with accrued interest to the redemption date:

Redemption Date	***Redemption Price***
Any Interest Payment Date from (and including) October 1, 2026 through (and including) April 1, 2034	103%
October 1, 2034 and April 1, 2035	102
October 1, 2035 and April 1, 2036	101
October 1, 2036 and any Interest Payment Date thereafter	100

The District will notify the Trustee of any extraordinary redemption at least 45 days prior to the Interest Payment Date on which such redemption shall occur.

See the caption "SPECIAL RISK FACTORS—Potential Early Redemption of Bonds from Prepayments." Since the formation of the District, no property owner has prepaid its Special Taxes.

Selection of Bonds for Redemption. If less than all of the Bonds Outstanding are to be redeemed, the portion of any Bond of a denomination of more than $5,000 to be redeemed will be in the principal amount of $5,000 or an integral multiple thereof; provided, however, that Bonds held by the Depository will be subject to the procedures and requirements of the Depository. The Trustee will promptly notify the District in writing of the Bonds, or portions thereof, selected for redemption.

Partial Redemption. Upon surrender by the Owner of a Bond, at the option of such Owner, for mandatory redemption at the Principal Office of the Trustee, payment of such mandatory redemption of the principal amount of a Bond will be paid to such Owner. Upon surrender of any Bond to be redeemed in part only, the District will execute and the Trustee will authenticate and deliver to the Bondowner, at the expense of the District, a new Bond or Bonds or a new Parity Bond or Parity Bonds of authorized denominations equal in aggregate principal amount to the unredeemed portion of the Bonds surrendered, with the same interest rate and the same maturity or, in the case of surrender of a Parity Bond, a new Parity Bond or Parity Bonds subject to the foregoing limitations. Such mandatory redemption will be valid upon payment of the amount thereby required to be paid to such Owner, and the District and the Trustee will be released and discharged from all liability to the extent of such payment.

Notice of Redemption

When Bonds are due for redemption under the Indenture, subject in the case of optional redemption to its receipt of timely notice from the District of its election to exercise optional redemption, the Trustee will give notice, in the name of the District, of the redemption of such Bonds; provided, however, that a notice of a redemption to be made from other than from Sinking Fund Payments will be conditioned on there being on deposit on the redemption date sufficient money to pay the redemption price of the Bonds or Parity Bonds to be redeemed. Such notice of redemption will: (a) specify the CUSIP numbers (if any) and the maturity date or

dates of the Bonds selected for redemption; (b) state the date fixed for redemption and surrender of the Bonds to be redeemed; (c) state the redemption price; (d) state the place or places where the Bonds are to be redeemed; (e) in the case of Bonds to be redeemed only in part, state the portion of such Bond that is to be redeemed; (f) state the date of issue of the Bonds as originally issued; (g) state the rate of interest borne by each Bond being redeemed; and (h) state any other descriptive information needed to identify accurately the Bonds being redeemed as specified by the Trustee (the Trustee having no duty to state such additional descriptive information). Such notice will further state that on the date fixed for redemption, there will become due and payable on each Bond or portion thereof called for redemption the principal thereof, together with any premium, and interest accrued to the redemption date, and that from and after such date, interest thereon will cease to accrue and be payable. At least 30 days but no more than 45 days prior to the redemption date, the Trustee will mail a copy of such notice, by first class mail, postage prepaid, to the respective Owners thereof at their addresses appearing on the Bond Register. The actual receipt by the Owner of any Bond or the original purchaser of any Bond of notice of such redemption is not a condition precedent to redemption, and neither the failure to receive nor any defect in such notice will affect the validity of the proceedings for the redemption of such Bonds or the cessation of interest on the redemption date. A certificate by the Trustee that notice of such redemption has been given as provided in the Indenture will be conclusive as against all parties, and the Owner is not entitled to show that he or she failed to receive notice of such redemption. Redemption notices may state that no representation is made as to the accuracy or correctness of the CUSIP numbers printed therein or on the Bonds.

In addition to the foregoing notice, further notice will be given by the Trustee as set out below, but no defect in said further notice nor any failure to give all or any portion of such further notice will in any manner defeat the effectiveness of a call for redemption if notice thereof is given as above prescribed. In addition to providing any notice of redemption to the Bondowners, if the Bonds are held in book-entry form, each further notice of redemption will be sent not later than the date that notice of redemption is mailed to the Bondowners by registered or certified mail or overnight delivery service to the Depository and by electronic notice to the Municipal Securities Rulemaking Board.

Upon the payment of the redemption price of any Bonds being redeemed, each check or other transfer of funds issued for such purpose will to the extent practicable bear the CUSIP number (if any) identifying, by issue and maturity, the Bonds being redeemed with the proceeds of such check or other transfer.

With respect to any notice of optional redemption or extraordinary redemption of Bonds, such notice may state that such redemption is conditional upon the receipt by the Trustee on or prior to the date fixed for such redemption of moneys sufficient to pay the principal of, premium, if any, and interest on such Bonds to be redeemed and that, if such moneys have not been so received, said notice will be of no force and effect and the Trustee will not be required to redeem such Bonds. In the event that such notice of redemption contains such a condition and such moneys are not so received, the redemption will not be made, and the Trustee will within a reasonable time thereafter give notice, in the manner in which the notice of redemption was given, that such moneys were not so received.

Effect of Redemption

Notice of redemption having been duly given, as provided in the Indenture, and the amount necessary for the redemption having been made available to the Trustee for that purpose and being available to the Trustee therefor on the date fixed for such redemption:

(a) the Bonds, or portions thereof, designated for redemption will, on the date fixed for redemption, become due and payable at the redemption price thereof as provided in the Indenture, anything in the Indenture or in the Bonds to the contrary notwithstanding;

(b) upon presentation and surrender thereof at the Principal Office of the Trustee, the redemption price of such Bonds will be paid to the Owners thereof;

(c) as of the redemption date, the Bonds, or portions thereof so designated for redemption will be deemed to be no longer Outstanding and such Bonds, or portions thereof, will cease to bear further interest; and

(d) as of the date fixed for redemption, no Owner of any of the Bonds or portions thereof so designated for redemption will be entitled to any of the benefits of the Indenture, or to any other rights, except with respect to payment of the redemption price and interest accrued to the redemption date from the amounts so made available.

Transfers and Exchanges

So long as the Bonds remain in book-entry form, transfer and exchange of any of the Bonds will be accomplished in accordance with the provisions of such book-entry system. See Appendix D. In the event of termination of such book-entry system with respect to the Bonds, the Bonds may be transferred and exchanged in accordance with the terms of the Indenture. See Appendix B under the caption "GENERAL AUTHORIZATION AND BOND TERMS—Registration of Exchange or Transfer."

Debt Service Schedule

The following is the debt service schedule for the Bonds, assuming no redemptions other than mandatory sinking fund redemptions.

TABLE 3
DEBT SERVICE SCHEDULE

Year Ending October 1	*Principal*	*Interest*	*Total Debt Service*
2026	$	$	$
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2040			
Total	$	$	$

Source: Underwriter.

SECURITY FOR THE BONDS

Repayment of the Bonds

General. Pursuant to the CFD Act and the Indenture, the Bonds and any Parity Bonds are equally payable from and secured by a pledge and lien upon the Net Taxes and other amounts in the Special Tax Fund (exclusive of the Reserve Account, which will only secure the Bonds, and the Administrative Expenses Account), without priority for number, date of the Bonds or Parity Bonds, date of sale, date of execution or

date of delivery, and the payment of the interest on and principal of the Bonds and any Parity Bonds and any premiums upon the redemption thereof will be exclusively paid from the Net Taxes and other amounts in the Special Tax Fund (exclusive of the Administrative Expenses Account), which have been set aside for the payment of the Bonds and any Parity Bonds. Amounts in the Special Tax Fund (other than the Administrative Expenses Account therein) constitute a trust fund held for the benefit of the Owners to be applied to the payment of the interest on and principal of the Bonds and any Parity Bonds; and, so long as any of the Bonds and any Parity Bonds or interest thereon remains Outstanding, amounts in the Special Tax Fund may not be used for any other purpose, except as permitted by the Indenture. Notwithstanding any provision contained in the Indenture to the contrary, Net Taxes deposited in the Rebate Fund and the Surplus Fund will no longer be considered to be pledged to the Bonds or any Parity Bonds, and none of the Rebate Fund, the Surplus Fund, the Construction Fund, the Cost of Issuance Fund or the Administrative Expenses Account of the Special Tax Fund will be construed as a trust fund held for the benefit of the Owners.

Definitions. The following definitions are applicable to the above-described pledge.

"**Administrative Expenses**" means the administrative costs with respect to the calculation and collection of the Special Taxes, including all attorneys' fees and other costs related thereto, the fees and expenses of the Trustee, any fees and related costs for credit enhancement for the Bonds or any Parity Bonds which are not otherwise paid as costs of issuance, any costs related to the District's compliance with state and federal laws requiring continuing disclosure of information concerning the Bonds and the District, and any other costs otherwise incurred by the City staff on behalf of the District in order to carry out the purposes of the District as set forth in the Resolution of Formation and any obligation of the District under the Indenture.

"**Administrative Expenses Cap**" means an amount equal to $30,000 for the first Bond Year, increasing by 2% per annum for each subsequent Bond Year, or such lesser amount as may be designated in written instructions from an Authorized Representative of the City.

"**Rate and Method**" means the Rate and Method of Apportionment of Special Tax for the District approved by the qualified electors of the District on December 12, 2006 and recorded on December 26, 2006 as Document No. 2006000863536, and set forth in Appendix E.

"**Net Taxes**" means Special Taxes less amounts set aside to pay Administrative Expenses not to exceed the Administrative Expenses Cap.

"**Ordinance**" means Ordinance No. 17-06 adopted by the legislative body of the District on January 9, 2007, providing for the levying of the Special Tax.

"**Prepayments**" means any amounts paid by the District to the Trustee and designated by the District as a prepayment of Special Taxes for one or more parcels in the District made in accordance with the Rate and Method.

"**Resolution of Formation**" means Resolution No. 10139 adopted by the City Council of the City on December 12, 2006, pursuant to which the City formed the District.

"**Special Taxes**" means the special taxes for facilities identified as "Special Tax A" in the Rate and Method, authorized to be levied by the District on property within the District in accordance with the Ordinance, the Resolution of Formation, the CFD Act, the Rate and Method, and the voter approval obtained at the December 12, 2006 special election in the District, including any scheduled payments and any Prepayments thereof, and the net proceeds of the redemption or sale of property sold as a result of foreclosure of the lien of the Special Taxes to the amount of said lien and penalties and interest thereon, but not including Special Tax B levied in the District.

Special Tax Fund. There has been established as a separate fund to be held by the Trustee called the "Special Tax Fund." Except for the portion of any Prepayment to be deposited in the Redemption Account as specified in a Certificate of an Authorized Representative, the Trustee will, on each date on which the Special Taxes are received from the District, deposit the Special Taxes in the Special Tax Fund to be held in trust for the Owners. The Trustee will transfer the Special Taxes on deposit in the Special Tax Fund on the dates and in the amounts set forth below, in the following order of priority, to:

(1) the Administrative Expenses Account of the Special Tax Fund up to the Administrative Expenses Cap;

(2) the Interest Account of the Special Tax Fund;

(3) the Principal Account of the Special Tax Fund;

(4) the Redemption Account of the Special Tax Fund;

(5) the Reserve Account of the Special Tax Fund;

(6) the Administrative Expenses Account of the Special Tax Fund to the extent that Administrative Expenses exceed or are expected to exceed the Administrative Expenses Cap;

(7) the Rebate Fund; and

(8) the Surplus Fund.

Upon the maturity of all of the Bonds and, after all principal and interest then due on the Bonds then Outstanding has been paid or provided for and any amounts owed to the Trustee have been paid in full, moneys in the Special Tax Fund and any accounts therein may be used by the District for any lawful purpose.

Administrative Expenses Account. The Trustee will transfer from the Special Tax Fund and deposit in the Administrative Expenses Account of the Special Tax Fund from time to time amounts necessary to make timely payment of Administrative Expenses as set forth in a Certificate of an Authorized Representative of the City; provided, however, that, except as set forth in the following sentence, the total amount transferred in a Bond Year may not exceed the Administrative Expenses Cap until such time as there has been deposited to the Interest Account and the Principal Account an amount, together with any amounts already on deposit therein, that is sufficient to pay the interest and principal on all Bonds and Parity Bonds due in such Bond Year and to restore the Reserve Account to the Reserve Requirement, all as determined by the City. Notwithstanding the foregoing, amounts in excess of the Administrative Expenses Cap may be transferred to the Administrative Expenses Account to the extent necessary to collect delinquent Special Taxes, as directed in writing by an Authorized Representative of the City. Moneys in the Administrative Expenses Account of the Special Tax Fund may be invested in any Permitted Investments as directed in writing by an Authorized Representative of the City and will be disbursed as directed in a Certificate of an Authorized Representative.

Interest Account and Principal Account. The principal of (including any Sinking Fund Payment) and interest due on the Bonds and any Parity Bonds until maturity, other than principal due upon optional or extraordinary redemption, will be paid by the Trustee from the Principal Account and the Interest Account of the Special Tax Fund, respectively. For the purpose of assuring that the payment of principal of (including any Sinking Fund Payment) and interest on the Bonds and any Parity Bonds will be made when due, after making a transfer to the Administrative Expenses Account as described above, at least one Business Day prior to each April 1 and October 1, the Trustee will make the following transfers from the Special Tax Fund first to the Interest Account and then to the Principal Account; provided, however, that to the extent that deposits have been made in the Interest Account or the Principal Account from the proceeds of the sale of an issue of the Bonds, any Parity Bonds, or otherwise, the transfer from the Special Tax Fund need not be made; and provided, further, that, if amounts in the Special Tax Fund (exclusive of the Reserve Account) are inadequate to make the foregoing transfers, then any deficiency will be made up by an immediate transfer from the Reserve Account:

(a) To the Interest Account, an amount such that the balance in the Interest Account one Business Day prior to each Interest Payment Date is equal to the installment of interest due on the Bonds and any Parity Bonds on said Interest Payment Date and any installment of interest due on a previous Interest Payment Date

that remains unpaid. Moneys in the Interest Account will be used for the payment of interest on the Bonds and any Parity Bonds as the same become due.

(b) To the Principal Account, an amount such that the balance in the Principal Account one Business Day prior to October 1 of each year is equal to the principal payment (including any Sinking Fund Payment) due on the Bonds and any Parity Bonds maturing on such October 1 and any principal payment due on a previous October 1 which remains unpaid. Moneys in the Principal Account will be used for the payment of the principal (including any Sinking Fund Payment) of such Bonds and any Parity Bonds as the same become due at maturity.

Redemption Account. After making the deposits to the Administrative Expenses Account, the Interest Account and the Principal Account of the Special Tax Fund as described above, the Trustee will transfer from the Special Tax Fund and deposit in the Redemption Account moneys available for the purpose and sufficient to pay the principal and the premiums, if any, payable on the Bonds called for optional redemption; provided, however, that amounts in the Special Tax Fund (other than the Administrative Expenses Account therein) may be applied to optionally redeem Bonds only if immediately following such redemption the amount in the Reserve Account will equal the Reserve Requirement, as determined by the District.

Prepayments deposited to the Redemption Account will be applied on the redemption date established pursuant to the Indenture for the use of such Prepayments to the payment of the principal of, premium (if any), and interest on the Bonds and any Parity Bonds to be redeemed with such Prepayments.

Moneys set aside in the Redemption Account will be used solely for the purpose of redeeming Bonds, and Parity Bonds, will be applied on or after the redemption date to the payment of principal of and premium, if any, on the Bonds or Parity Bonds to be redeemed upon presentation and surrender (if required) of such Bonds or Parity Bonds and, in the case of an optional redemption or an extraordinary redemption from Prepayments, to pay the interest thereon; provided, however, that in lieu or partially in lieu of such call and redemption, moneys deposited in the Redemption Account may be used to purchase Outstanding Bonds or Parity Bonds in the manner provided in the Indenture. Purchases of Outstanding Bonds may be made by the District at public or private sale as and when and at such prices as the District may in its discretion determine, but only at prices (including brokerage or other expenses) not more than par plus accrued interest, plus, in the case of moneys set aside for an optional redemption or an extraordinary redemption, the premium applicable at the next following call date according to the premium schedule established pursuant to the Indenture. Any accrued interest payable upon the purchase of Bonds may be paid from the amount reserved in the Interest Account of the Special Tax Fund for the payment of interest on the next following Interest Payment Date.

Reserve Account of the Special Tax Fund. There will be maintained in the Reserve Account of the Special Tax Fund cash and investments in an amount equal to 50% of the Reserve Requirement and the Reserve Policy in an amount equal to 50% of the Reserve Requirement. The Reserve Account will be drawn upon solely for the purpose of paying the principal of, including Sinking Fund Payments, and interest on the Bonds when due in the event that the moneys in the Interest Account and the Principal Account of the Special Tax Fund are insufficient therefor or moneys in the Redemption Account of the Special Tax Fund are insufficient to make a Sinking Fund Payment when due, and for the purpose of making any required transfer to the Rebate Fund pursuant to the Indenture upon written direction from the District. If the amounts in the Interest Account, the Principal Account or the Redemption Account of the Special Tax Fund are insufficient to pay the principal of, including Sinking Fund Payments, or interest on any Bonds when due, or amounts in the Special Tax Fund are insufficient to make transfers to the Rebate Fund when required, the Trustee will draw upon the Reserve Account for deposit in the Interest Account, the Principal Account or the Redemption Account of the Special Tax Fund or the Rebate Fund, as applicable, moneys necessary for such purposes.

The Insurer has made a commitment to issue, simultaneously with the initial issuance of the Bonds, the Reserve Policy in the amount equal to 50% of the Reserve Requirement for deposit in the Reserve Account, effective as of the date of issuance of the Bonds. Under the terms of the Reserve Policy, the Insurer

will unconditionally and irrevocably guarantee to pay that portion of the scheduled payments of principal of and interest on the Bonds that becomes due for payment but shall be unpaid by reason of nonpayment by the District, to the extent set forth in the Reserve Policy and in the Indenture. The remaining 50% of the Reserve Requirement, effective as of the date of issuance of the Bonds, will be funded with cash from proceeds of the Bonds.

"**Reserve Requirement**" means, as of the date of calculation: (a) with respect to the Bonds, an amount equal to the least of: (i) Maximum Annual Debt Service with respect to the Bonds; (ii) 125% of average Annual Debt Service on the then Outstanding Bonds; or (iii) ten percent (10%) of the initial outstanding principal amount of the Bonds; provided that the Reserve Requirement shall never exceed the amount established pursuant to the foregoing calculation at the time of issuance of the Bonds; and (b) with respect to such Parity Bonds, an amount equal to the least of: (i) Maximum Annual Debt Service with respect to such Parity Bonds; (ii) 125% of average Annual Debt Service on such Parity Bonds; or (iii) ten percent (10%) of the initial outstanding principal amount of such Parity Bonds.

In the event of a draw on the Reserve Policy or the failure by the Insurer to honor a draw request, the District has no obligation to replenish the Reserve Account with cash or to provide an alternate reserve policy.

Levy and Collection of Special Taxes

The Special Taxes are to be levied and collected by the Treasurer-Tax Collector of the County of Orange in the same manner and at the same time as *ad valorem* property taxes; provided, however, that the District may directly bill the Special Tax or collect Special Taxes at a different time or in a different manner if necessary to meet its financial obligations.

The District has made certain covenants in the Indenture for the purpose of ensuring that the current maximum Special Tax rates and method of collection of the Special Taxes are not altered in a manner that would impair the District's ability to collect sufficient Special Taxes to pay debt service on Bonds and Administrative Expenses when due, including the following:

(1) Beginning in Fiscal Year 2026-27 and continuing so long as any Bonds or Parity Bonds are Outstanding, the legislative body of the District covenants to levy the Special Tax in an amount sufficient, together with other amounts on deposit in the Special Tax Fund and available for such purpose, to pay: (i) the principal of and interest on the Bonds when due; (ii) the Administrative Expenses; and (iii) any amounts required to replenish the Reserve Account of the Special Tax Fund and any reserve account established in connection with the issuance of such Parity Bonds to the Reserve Requirement. The District further covenants that it will take no actions that would discontinue or cause the discontinuance of the Special Tax levy or the District's authority to levy the Special Tax for so long as the Bonds are Outstanding.

(2) To the maximum extent that the law permits it to do so, the District will not initiate proceedings to reduce the maximum Special Tax rates for the District.

(3) In the event that any initiative is adopted by the qualified electors in the District which purports to reduce the maximum Special Tax below the levels specified in the Indenture or to limit the power of the District to levy the Special Taxes for the purposes set forth in the Indenture, the District will commence and pursue legal action in order to preserve its ability to comply with such covenants.

Although the Special Taxes constitute liens on taxable parcels within the District, such taxes do not constitute a personal indebtedness of the owners of such property within the District. Moreover, other liens for taxes and assessments already exist on the property located within the District and other such liens could come into existence in the future in certain situations without the consent or knowledge of the City or the landowners therein. See Table 7 under the caption "THE DISTRICT" for a description of the direct and overlapping tax and assessment debt levied within the District. See also the captions "SPECIAL RISK FACTORS—Direct

and Overlapping Debt" and "SPECIAL RISK FACTORS—Cumulative Burden of Parity Taxes and Special Assessments." There is no assurance that property owners will be financially able to pay the annual Special Taxes or that they will pay such taxes even if they are financially able to do so, all as more fully described under the caption "SPECIAL RISK FACTORS—The Special Taxes are Not Personal Obligations of the Owners."

Rate and Method of Apportionment of Special Taxes

General. The District is legally authorized and has covenanted to cause the levy of the Special Taxes in an amount determined according to a methodology, i.e., the Rate and Method, which the City Council, as the legislative body of the District, and the electors within the District have approved. The Rate and Method apportions the total amount of Special Taxes to be collected among the taxable parcels in the District as more particularly described below.

The following is a synopsis of the provisions of the Rate and Method for the District, which should be read in conjunction with the complete text of the Rate and Method which is attached as Appendix E. The meaning of the defined terms used in this section are as set forth in Appendix E. This section provides only a summary of the Rate and Method, and is qualified by more complete and detailed information contained in the entire Rate and Method attached as Appendix E.

Assignment to Land Use Categories. Each Fiscal Year, subject to the limitations set forth in the Rate and Method, the City levies the Special Tax on Taxable Property in the District, until the amount of Special Taxes levied equals the Special Tax Requirement for Facilities. The Special Tax Requirement for Facilities means the amount required in any Fiscal Year to: (1) pay debt service on and other periodic costs of the Bonds and Parity Bonds due in the calendar year commencing in such Fiscal Year; (2) pay the cost of acquisition or construction of facilities authorized to be financed by the District; (3) pay all or a portion of Administrative Expenses; (4) pay any amount required to replenish any reserve fund established in association with the Bonds and Parity Bonds; (5) pay for reasonably anticipated delinquent Special Taxes based on the delinquency rate for Special Taxes levied in the previous Fiscal Year; (6) pay the costs of remarketing, credit enhancement and liquidity facility fees (including such fees for instruments that serve as the basis of a reserve fund related to any indebtedness in lieu of cash); less (7) a credit for funds available to reduce the annual Special Tax A levy, as determined by the CFD Administrator pursuant to the Trustee Agreement. Pursuant to the Rate and Method, the Special Tax will be levied for the time period necessary to fully satisfy items (1), (3), (4) and (6) of the Special Tax Requirement for Facilities, but in no event will it be levied after Fiscal Year 2046-47.

Pursuant to the Rate and Method, each Fiscal Year, all Taxable Property within the District (which includes all Assessor's Parcels within the boundaries of the District that are not exempt from the Special Tax levy under the Rate and Method) is classified as one of the following: Developed Property, Taxable Public Property, Taxable Property Owner Association Property, or Undeveloped Property. In addition, a Developed Property that is also a Residential Property falls within one of the Land Use Classes numbering 1 through 10, based on the type of residence (i.e., detached or attached) and square footage of living area. Non-Residential Property is Land Use Class 11. Since fiscal year 2007-08, the City has been able to satisfy the Special Tax Requirement for Facilities each Fiscal Year by levying the Special Tax only on Developed Property in the District.

For any fiscal year, the Maximum Special Tax A for each Assessor's Parcel of Developed Property is equal to the greater of (i) the amount derived by application of the Assigned Special Tax A, or (ii) the amount derived by application of the Backup Special Tax A. The Rate and Method sets forth a schedule of Assigned Special Tax A for each Land Use Class for fiscal year 2007-08. The Rate and Method also identifies four separate Planning Areas within the District and sets forth a schedule of Backup Special Tax A Revenues for each Planning Area for fiscal year 2007-08. On each July 1, commencing July 1, 2008, each of the Assigned Special Tax and the Backup Special Tax increases by an amount equal to two percent of the amount in effect for the previous fiscal year.

"*Developed Property*" means for each Fiscal Year, all Taxable Property for which a building permit for new construction was issued prior to March 1 of the prior Fiscal Year.

"*Taxable Property*" means all of the Assessor's Parcels within the boundaries of CFD No. 06-1, which are which are not exempt from the Special Tax pursuant to law or Section F of the Rate and Method.

"*Undeveloped Property*" means, for each Fiscal Year, all Taxable Property not classified as Developed Property.

Exemptions. Up to 18.0 Acres of Property Owner Association Property and 29.5 Acres of Public Property are exempt from the Special Tax levy.

Method of Apportionment of Special Tax. The Special Tax is levied each Fiscal Year as needed to satisfy the Special Tax Requirement for Facilities as follows:

First: The Special Tax is levied Proportionately on each Assessor's Parcel of Developed Property at up to 100% of the applicable Assigned Special Tax A;

Second: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first step has been completed, the Special Tax is levied Proportionately on each Assessor's Parcel of Undeveloped Property at up to 100% of the Maximum Special Tax A for Undeveloped Property;

Third: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first two steps have been completed, then the levy of the Special Tax on each Assessor's Parcel of Developed Property whose Maximum Special Tax is determined through the application of the Backup Special Tax A is increased in equal percentages from the Assigned Special Tax up to the Maximum Special Tax for each such Assessor's Parcel;

Fourth: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first three steps have been completed, then the Special Tax is levied Proportionately on each Assessor's Parcel of Taxable Property Owner Association Property at up to the Maximum Special Tax for Taxable Property Owner Association Property;

Fifth: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first three steps have been completed, then the Special Tax is levied Proportionately on each Assessor's Parcel of Taxable Public Property at up to the Maximum Special Tax for Taxable Public Property.

In Fiscal Year 2025-26, the District levied the Special Taxes at approximately 44% of the Assigned Special Tax. See the caption "THE DISTRICT—Special Tax Levy."

Notwithstanding the fact that the Rate and Method specifies a higher maximum Special Tax rate, in accordance with Section 53321(d) of the Government Code, under no circumstances will the Special Tax levied against any Assessor's Parcel of Residential Property for which an occupancy permit for private residential use has been issued be increased by more than 10% as a consequence of delinquency or default by the owner of any other Assessor's Parcel. See "SPECIAL RISK FACTORS – Insufficiency of Special Taxes."

Prepayment of Special Taxes. The owner of a parcel of Taxable Property for which a building permit has been issued may voluntarily prepay the Special Tax obligation for such parcel in whole or in part at certain times as permitted by the Rate and Method. Such a prepayment of Special Taxes will result in a redemption of Bonds. See "Prepayment of Special Taxes" and "THE BONDS—Redemption— Extraordinary Redemption of the Bonds from Special Tax Prepayments." No Special Tax Prepayment shall be allowed unless the amount of Maximum Special Tax A that may be levied on Taxable Property (excluding any Taxable Property Owner Association Property and Taxable Public Property) both prior to and after the proposed prepayment is at least

1.1 times the maximum annual debt service on all Outstanding Bonds. Since the formation of the District, there has not been any prepayment of Special Taxes by the property owners in the District. While the City has not undertaken to inquire, and makes no representation regarding, whether any current owner of a Taxable Property in the District intends to make a prepayment of Special Taxes, the City has not received any notice from current owners of properties in the District regarding any such intention to prepay Special Taxes.

The Special Tax shall not be levied on Developed Property or Undeveloped Property after Fiscal Year 2046-2047.

See Appendix E for further information with respect to the apportionment of Special Taxes.

No Teeter Plan

The Board of Supervisors of the County of Orange has approved the implementation of the Alternative Method of Distribution of Tax Levies and Collections and of Tax Sale Proceeds (the "**Teeter Plan**"), as provided for in Section 4701 *et seq*. of the Revenue and Taxation Code of the State. As a result of the implementation of the Teeter Plan by the County of Orange, the County of Orange apportions secured property taxes and assessments on an accrual basis when due (irrespective of actual collections) to participating local political subdivisions for which the County of Orange acts as the levying or collecting agency. The District does *not* participate in the Teeter Plan. As a result, the collection of Special Taxes is subject to delinquency risk. As further described under the caption "SPECIAL RISK FACTORS—Insufficiency of Special Taxes" and "SPECIAL RISK FACTORS—Bankruptcy and Foreclosure Delays," delinquencies in the payment of Special Taxes could have an adverse effect on the District's ability to make timely debt service payments on the Bonds and any Parity Bonds. Conversely, the District will benefit from Special Taxes generated by penalties and interest charged on delinquent Special Taxes.

See Table 6 under the caption "THE DISTRICT—Delinquency History" for historical delinquency information with respect to the District for the last five Fiscal Years.

Covenant to Foreclose

The net proceeds received following a judicial foreclosure sale of land within the District resulting from a landowner's failure to pay the Special Taxes when due are included within the Special Taxes from which principal of and interest on the Bonds and any Parity Bonds are paid under the Indenture.

Pursuant to Section 53356.1 of the CFD Act, in the event of any delinquency in the payment of any Special Tax or receipt by the District of Special Taxes in an amount which is less than the Special Tax levied, the City Council, as the legislative body of the District, may order that Special Taxes be collected by a superior court action to foreclose the lien within specified time limits. In such an action, the real property subject to the unpaid amount may be sold at a judicial foreclosure sale. Under the CFD Act, the commencement of judicial foreclosure following the nonpayment of a Special Tax is not mandatory.

However, the District has covenanted in the Indenture to commence judicial foreclosure proceedings against parcels with delinquent Special Taxes in excess of $10,000 by the October 1 following the close of each Fiscal Year in which such Special Taxes were due and to diligently pursue such foreclosure proceedings until the delinquent Special Taxes are paid; provided, however, that the District is not required to undertake any such foreclosure proceedings if: (i) the amount of Special Taxes collected by the October 1 for the most recent Fiscal Year was equal to 95% or more of the total Special Tax levied in such Fiscal Year; and (ii) the amount on deposit in the Reserve Account and any reserve account established in connection with the issuance of such Parity Bonds as of October 1 was at least equal to the Reserve Requirement.

The City is authorized to employ counsel to conduct any such foreclosure proceedings. The fees and expenses of any such counsel and costs and expenses of the City (including a charge for City staff time) in conducting foreclosure proceedings will be Administrative Expenses under the Indenture.

Notwithstanding any provision of the CFD Act or other law of the State to the contrary, in connection with any foreclosure related to delinquent Special Taxes:

(a) The District or the Trustee is expressly authorized to credit bid at any foreclosure sale, without any requirement that funds be placed in the Special Tax Fund or otherwise be set aside in the amount so credit bid, in the amount specified in Section 53356.5 of the CFD Act or such lesser amount as determined under clause (b) below or otherwise under Section 53356.6 of the CFD Act. Notwithstanding anything to the contrary in the Indenture, in no event will the Trustee be required to undertake foreclosure proceedings thereunder.

(b) The District may permit, in its sole and absolute discretion, property with delinquent Special Tax payments to be sold for less than the amount specified in Section 53356.5 of the CFD Act, if it determines that such sale is in the interest of the Bond owners. The Bond owners, by their acceptance of the Bonds, consent to such sale for such lesser amounts (as such consent is described in Section 53356.6 of the CFD Act), and release the District, its officers and its agents from any liability in connection therewith.

(c) The District is expressly authorized to use amounts in the Special Tax Fund to pay costs of foreclosure of delinquent Special Taxes.

(d) The District may forgive all or any portion of the Special Taxes levied or to be levied on any parcel in the District, so long as the District determines that such forgiveness is not expected to adversely affect its obligation to pay principal of and interest on the Bonds under the Indenture.

The District covenants that it will deposit the net proceeds of any foreclosure to the Special Tax Fund and will apply such proceeds remaining after the payment of Administrative Expenses to make current payments of principal of and interest on the Bonds and any Parity Bonds, to bring the amount on deposit in the Reserve Account, if any, up to the Reserve Requirement and to pay any delinquent installments of principal or interest due on the Bonds and any Parity Bonds.

If foreclosure is necessary and other funds (including amounts in the Reserve Account) have been exhausted, debt service payments on the Bonds and any Parity Bonds could be delayed until the foreclosure proceedings have ended with the receipt of any foreclosure sale proceeds. Judicial foreclosure actions are subject to the normal delays associated with court cases and may be further slowed by bankruptcy actions, involvement by agencies of the federal government and other factors beyond the control of the City and the District. See the caption "SPECIAL RISK FACTORS—Bankruptcy and Foreclosure Delays." Moreover, no assurances can be given that the real property subject to foreclosure and sale at a judicial foreclosure sale will be sold or, if sold, that the proceeds of such sale will be sufficient to pay any delinquent Special Tax installment. See the caption "SPECIAL RISK FACTORS—Land Values." Although the CFD Act authorizes the District to cause such an action to be commenced and diligently pursued to completion, the CFD Act does not impose on the District or the City any obligation to purchase or acquire any lot or parcel of property sold at a foreclosure sale if there is no other purchaser at such sale. However, the District does have the ability to use the foreclosure judgment to purchase property by credit bid at a foreclosure sale, in which case the District would have no obligation to pay such credit bid for 24 months. The CFD Act provides that, in the case of a delinquency, the Special Tax will have the same lien priority as is provided for *ad valorem* taxes.

No Parity Bonds Except for Refunding Purposes

The District has covenanted in the Indenture that, except as described below, it will not issue any other obligations payable, as to principal or interest, from the Net Taxes which have, or purport to have, any lien

upon the Net Taxes superior to or on a parity with the lien of the Bonds, other than Parity Bonds. Under the Indenture, the District may at any time after the issuance and delivery of the Bonds issue Parity Bonds payable from the Net Taxes and other amounts deposited in the Special Tax Fund (other than in the Administrative Expenses Account therein) and secured by a lien and charge upon such amounts equal to the lien and charge securing the Outstanding Bonds and any other Parity Bonds theretofore issued under the Indenture or under any Supplemental Indenture; provided, however, that Parity Bonds may only be issued for the purpose of refunding all or a portion of the Bonds or any Parity Bonds then Outstanding and the conditions precedent in the Indenture are satisfied, including the requirement that the issuance of such Parity Bonds will result in a reduction of Annual Debt Service on the Bonds and any Parity Bonds to be Outstanding following the issuance of such Parity Bonds.

See Appendix A under the caption "DEFEASANCE AND PARITY BONDS—Conditions for the Issuance of Parity Bonds and Other Additional Indebtedness" for a description of the conditions under which Parity Bonds may be issued.

Priority of Lien

The Special Taxes levied within the District, and each installment thereof and any interest and penalties thereon, constitute a lien against each of the respective parcels within the District until the same are paid. There are other liens for special taxes and the recurring lien for general property taxes on parcels within the District. See the captions "THE DISTRICT—Direct and Overlapping Debt" and "SPECIAL RISK FACTORS—Direct and Overlapping Debt."

No Obligation of the City Upon Delinquency

The City is under no obligation to transfer any funds of the City into the Special Tax Fund for the payment of the principal of or interest on the Bonds or any Parity Bonds if a delinquency occurs in the payment of any Special Taxes. See the caption "—Covenant to Foreclose" for a discussion of the District's obligation to foreclose Special Tax liens upon delinquencies.

Prepayment of Special Taxes

A property owner may prepay its Special Taxes and thereby cause a partial redemption of the Bonds and any Parity Bonds. See the captions "THE BONDS—Redemption—Extraordinary Redemption of the Bonds from Special Tax Prepayments" and "SPECIAL RISK FACTORS—Potential Early Redemption of Bonds from Prepayments."

[BOND INSURANCE

The information under this caption has been prepared by the Insurer for inclusion in this Official Statement. None of the District, the City or the Underwriter has reviewed this information, nor do the District, the City or the Underwriter make any representation with respect to the accuracy or completeness thereof. The following information is not a complete summary of the terms of the Policy and reference is made to Appendix G for a specimen of the Policy.

[Bond Insurance Policy

Concurrently with the issuance of the Bonds, [Insurer] ("**[INSURER]**") will issue its Municipal Bond Insurance Policy (the "**Policy**") for the Bonds maturing on October 1 of the years 20__ through 20__, inclusive (collectively, the "**Insured Bonds**"). The Policy guarantees the scheduled payment of principal of and interest on the Insured Bonds when due as set forth in the form of the Policy set forth in Appendix F.]

THE DISTRICT

General

The District is located in the northwestern portion of the City, adjacent to the City of Anaheim, west of Glassell Avenue and north of Lincoln Avenue. A portion of the boundary of the District runs along the bank of the Santa Ana River. The District is part of an area known as the Riverbend community. The District is fully built out. The District includes approximately 73.64 gross acres, within which there are approximately 43 acres of developed single family residential properties (comprising 597 taxable parcels), a 10.5 acre public sports park, six acres of bio-swale area and 13.5 acres of public streets. The District was formed in December 2006.

The District was formed by the City pursuant to the CFD Act and constitutes a governmental entity separate and apart from the City. The CFD Act was enacted by the California legislature to provide an alternative method of financing certain public capital facilities and services, especially in developing areas of the State. Any local agency (as defined in the CFD Act) may establish a community facilities district to provide for and finance the cost of eligible public facilities and services. Generally, the legislative body of the local agency which forms a community facilities district acts on behalf of such district as its legislative body. Subject to approval by two-thirds of the votes cast at an election and compliance with the other provisions of the CFD Act, a legislative body of a local agency may issue bonds for a community facilities district and may levy and collect a special tax within such district to repay such indebtedness.

The residential properties in the District were constructed by two builders: Lennar Homes of California ("Lennar") and Centex Homes ("Centex Homes"). The initial master developer of the District, North Orange Del Rio, LLC (affiliated with SunCal Companies), sold the developable land in the District in 2006 and 2007 to an entity jointly owned by Lennar and Centex Homes, which subsequently transferred the land to Lennar and Centex Homes, respectively. Lennar and Centex Homes developed the residences in six tracts, consisting of a total of 597 units. The land within the District is fully developed and the 597 units constitute the entirety of the taxable property subject to the lien of the Special Tax. Since the formation of the District, no homes have fully prepaid their Special Taxes nor has any home partially prepaid the Special Taxes.

Debt Service Coverage

The Rate and Method provides for the levy of annual Special Taxes against each parcel that is no higher than the Maximum Special Tax under the Rate and Method as escalated in each year. For fiscal year 2025-26, approximately 44% of the Maximum Special Tax is being levied against each parcel of Taxable Property. Assuming the refunding described in this Official Statement, the Maximum Special Tax A will be approximately 2.47[*] times annual debt service on the Bonds. The actual amount of Special Tax that will be levied against each parcel in each year will be determined in accordance with the Rate and Method, and the aggregate amount of Special Taxes that will be levied in each year will be equal to the lesser of the Special Tax Requirement for Facilities and the total Maximum Special Tax for such year. See APPENDIX E — "RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAXES."

All of the Taxable Property within the District is classified as Residential Property. The Special Tax on any residential property is limited to an increase of 10% for delinquencies under Section 53321 of the Act as applied to the District. That section provides that under no circumstances will the special tax levied in any fiscal year against any parcel used for private residential purposes be increased as a consequence of delinquency or default by the owner or owners of any other parcel or parcels within the District by more than 10% above the amount that would have been levied in that fiscal year had there never been any such delinquencies or defaults. "SPECIAL RISK FACTORS –Insufficiency of Special Taxes."

[*] *Preliminary, subject to change.*

Historical Assessed Values

The following table sets forth assessed values within the District for the current and prior seven Fiscal Years.

TABLE 4
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
SECURED ASSESSED VALUATION
FISCAL YEARS 2018-19 THROUGH 2025-26

Fiscal Year Ending June 30	*Land*	*Structure*	*Total*	*% Change in Total Secured Assessed Value*	*Number of Developed Parcels*
2019	$141,326,127	$172,218,873	$313,545,000	3.06%	597
2020	148,643,296	175,571,972	324,215,268	3.40	597
2021	153,766,894	179,364,866	333,131,760	2.75	597
2022	159,382,513	181,734,646	341,117,159	2.40	597
2023	168,472,638	185,119,297	353,591,935	3.66	597
2024	179,965,086	190,326,778	370,291,864	4.72	597
2025	185,799,849	194,596,390	380,396,239	2.73	597
2026	192,107,586	199,214,451	391,322,037	2.87	597

Source: Orange County Secured Roll, compiled by Willdan Financial Services.

Major Property Ownership

According to the County's records as of January 1, 2025, no single property owner in the District is responsible for more than one percent of the total Special Tax levy in the District in fiscal year 2025-26, and only 6 individuals appear to be an owner or co-owner of the more than one property in the District: two property owners own three parcels each and four property owners own two parcels each. The properties owned by such individuals collectively represent less than 2.5% percent of the total fiscal year 2025-26 special tax levy.

Special Tax Levy

The table below summarizes the Assigned Special Tax A, the projected Special Tax A and projected total Special Tax levy for each class of Residential Property for Fiscal year 2026-27, based on the scheduled principal and interest expected to be due with respect to the Bonds.

TABLE 5
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
ASSIGNED SPECIAL TAX A, PROJECTED SPECIAL TAX A AND TOTAL PROJECTED LEVY FOR FISCAL YEAR 2026-27[3]

Land Use Class	*Description*	*Residential Floor Area (square feet)*	*Number of Parcels*	*Assigned Special Tax A per Parcel[1]*	*Projected Special Tax A per Parcel [2]**	*Total Projected Special Tax A Levy**
1	Single Family Detached Property	≥ 2,400	21	$ 8,193.10	$ 3,353.91	$ 70,432.09
2	Single Family Detached Property	2,200 - 2,399	62	7,208.30	2,950.77	182,947.97
3	Single Family Detached Property	2,000 - 2,199	102	7,129.62	2,918.57	297,693.67
4	Single Family Detached Property	1,800 - 1,999	38	6,593.52	2,699.11	102,566.13
5	Single Family Detached Property	1,600 - 1,799	47	6,407.04	2,622.77	123,270.27
6	Single Family Detached Property	1,400 - 1,599	61	5,515.48	2,257.80	137,726.08
7	Single Family Detached Property	< 1,400	25	5,164.38	2,114.08	52,851.98
8	Single Family Attached Property	≥ 1,700	101	5,581.04	2,284.64	230,748.85
9	Single Family Attached Property	1,500 - 1,699	95	5,023.08	2,056.24	195,342.50
10	Single Family Attached Property	< 1,500	45	4,162.10	1,703.79	76,670.46
Total			597			$ 1,478,250

* *Preliminary, subject to change.*

(1) Pursuant to the Rate and Method, the Assigned Special Tax A Rate increases on July 1 of each year by two percent of the amount in effect for the prior fiscal year.

(2) Estimated based on principal and interest due with respect to the Bonds, plus $30,000 Administrative Expenses.

(3) The actual Special Tax A levy will be established in an amount sufficient to pay Debt Service and Administrative Expenses, to cover estimated delinquencies, and to cover other amounts required under the Indenture.

Source: Willdan Financial Services.

Delinquency History

The table below summarizes the historical Special tax levies and delinquencies for the District for the current and last five Fiscal Years.

TABLE 6
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
SPECIAL TAX LEVY, DELINQUENCY AND COLLECTION
FISCAL YEARS 2020-21 THROUGH 2024-25[1]

Fiscal Year	*Special Tax Levy*	*Special Tax Collection as of June 30 of each Fiscal Year*	*Delinquencies as of June 30 of each Fiscal Year[1] [2]*	*Delinquency Rate as of June 30 of each Fiscal Year*	*Amount Collected as of May 3, 2026*	*Remaining Delinquencies as of May 3, 2026[2]*	*Remaining Delinquency Rate as of May 3, 2026*
2020-2021	$1,411,928.88	$1,397,499.41	$14,429.47	1.02%	$1,411,928.88	$0.00	0.00%
2021-2022	1,441,913.96	1,426,045.46	15,868.50	1.10	1,441,913.96	0.00	0.00
2022-2023	1,472,082.86	1,464,262.95	7,819.91	0.53	1,472,082.86	0.00	0.00
2023-2024	1,499,065.10	1,491,916.03	7,149.07	0.48	1,499,065.10	0.00	0.00
2024-2025	1,528,304.98	1,518,332.28	9,972.70	0.65	1,528,304.98	0.00	0.00
2025-2026	1,559,101.32	N/A	N/A	N/A	1,538,385.62	20,715.70	1.33

(1) Amount delinquent as of June 30 in the fiscal year in which the Special Taxes were levied.
(2) Amount does not include any penalties, interest or fees.
Source: Orange County Tax Collector, as compiled by Willdan Financial Services.

Direct and Overlapping Debt

Set forth below is the statement of direct and overlapping debt (the "**Debt Report**") for the District which excludes the issuance of the Bonds and the refunding of the 2015 Bonds. The table indicates that the assessed value of the developed property within the District is $391,322,037 for Fiscal Year 2025-26. The Debt Report has been derived from data assembled and reported to the District by Willdan Financial Services. None of the District, the City or the Underwriter has independently verified the information in the Debt Report, and such parties do not guarantee its completeness or accuracy.

TABLE 7
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
DIRECT AND OVERLAPPING DEBT
AS OF MARCH 1, 2026

2025-26 Local Secured Assessed Valuation: $391,322,037

DIRECT AND OVERLAPPING TAX AND ASSESSMENT DEBT:	*% Applicable*	*Debt 1/1/15*
Metropolitan Water District General Obligation Bonds	0.009%	$ 1,473
Rancho Santiago Community College District General Obligation Bonds	0.367	394,892
Orange Unified School District General Obligation Bonds	0.786	2,157,406
Orange Unified School District Community Facilities District No. 2005-2	100.000	4,305,000
City of Orange Community Facilities District No. 06-1	**100.000**	18,795,000[1]
TOTAL DIRECT AND OVERLAPPING TAX AND ASSESSMENT DEBT		$ 25,653,771

Ratios to Assessed Valuation:
Direct Debt ($18,795,000) 4.80%
Total Direct and Overlapping Tax and Assessment Debt 6.56%

(1) Represents 2015 Bonds to be refunded.
Source: California Municipal Statistics, Inc.

Estimated Average Effective Tax Rate

The effective tax rate of a parcel of property in the District is likely to be different from the effective tax rate of another parcel in the District. The difference is attributable to a number of factors, including, but not limited to, the assessed value of the particular property. The table below sets forth the Fiscal Year 2025-26 tax rate for one parcel with a single family detached home and one parcel with a single family attached home in the District. The 2025-26 secured assessed value of one of the two parcels was $739,587. That parcel falls under Land Use Class 3 (single family detached property with Residential Floor Area between 2,000 and 2,199 square feet) under the Rate and Method. The 2025-26 secured assessed value of the other parcel was $617,688. That parcel falls under Land Use Class 8 (single family attached property with Residential Floor Area of 1,700 or more square feet) under the Rate and Method.

TABLE 8
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
TAX RATES FOR TWO SAMPLE SINGLE FAMILY DETACHED RESIDENCE
FISCAL YEAR 2025-26

Assessed Valuations and Property Taxes		***Parcel 1*[(1)]**	***Parcel 2*[(2)]**
Total Secured Assessed Value		$ 708,655	$ 624,688
Less: Homeowner Exemption		(7,000)	(7,000)
Net Assessed Value[(3)]		$ 701,655	$ 617,688
***Ad Valorem* Property Taxes**	***Rate***	***Amount***	***Amount***
Basic Levy Rate	1.00000%	$ 7,016.55	$ 6,176.88
Rancho Santiago Com	0.02746%	192.67	169.61
Orange Unified	0.02485%	174.36	153.50
Metro Water D-MWDOC	0.00700%	49.12	43.24
Total *Ad Valorem* Property Taxes		$ 7,432.70	$ 6,543.23
Special Assessment Charges			
Vector Control District Charge		$ 1.92	$ 0.67
Mosquito, Fire Ant and Disease Control Assessment		9.06	5.44
Metropolitan Water District Water Standby Charge		10.08	10.08
Orange County Sanitation Regional Sewer Fee		384.00	384.00
Orange Unified School District CFD No. 2005-2		877.64	689.91
City of Orange CFD No. 06-1 Special Tax A [(4)]		2,918.57	2,284.64
City of Orange CFD No. 06-1 Special Tax B [(5)]		210.76	165.85
Total Special Assessment Charges		$ 4,412.02	$ 3,540.59
Total Property Taxes and Assessment Charges		$ 11,844.73	$ 10,083.82
Tax rate as % of secured assessed value		1.688%	1.633%

(1) Land Use Class 3 (single family detached property with Residential Floor Area between 2,000 and 2,199 square feet) under the Rate and Method.

(2) Land Use Class 8 (single family attached property with Residential Floor Area greater than 1,700 square feet) under the Rate and Method.

(3) Net secured assessed value reflects total assessed value for the parcel net of homeowner's exemption. Not all residences applied or qualified for the exemption.

(4) See Table 1 for the estimated Fiscal Year 2026-27 Special Tax A levy for these parcels, which are expected to be lower than the Fiscal Year 2025-26 because of the refunding described herein.

(5) The City, on behalf of the District, levies Special Tax B to fund services authorized to be financed by the District. See "APPENDIX E — RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAXES". The fiscal year 2025-26 Special Tax B was levied at rates significantly below the Maximum Special Tax B rates permitted under the Rate and Method. The City is currently evaluating the level of funding needed for relevant services and, with this, is considering the potential levy of Special Tax B in the future at rates higher than those for fiscal year 2025-26. Proceeds from the levy of Special Tax B are neither pledged to secure, nor available to pay, the Bonds.

Source: Orange County Tax Collector, as compiled by Willdan Financial Services.

Estimated Assessed Value-to-Lien Ratios

As shown in Tables 7 and 8, taxable properties in the District are also subject to special taxes levied by the Orange Unified School District ("OUSD"), on behalf of OUSD's Community Facilities District No. 2005-1 ("OUSD CFD 2005-2"). The District Administrator is not aware of any other community facilities district or assessment district formed by other agencies that have areas overlapping the District. The following table shows, with respect to Taxable Property in the District after the issuance of the Bonds: (i) the ratio of total secured assessed value to Special Tax burden, and (ii) the ratio of the total secured assessed value to combined bonded debt of the District and the OUSD CFD 2005-2. SPECIAL RISK FACTORS—Direct and Overlapping Debt."

TABLE 9
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
SECURED ASSESSED VALUE TO SPECIAL TAX A BURDEN RATIO AND SECURED ASSESSED VALUE TO COMBINED COMMUNITY FACILITIES DISTRICTS BONDED DEBT BURDEN RATIO BASED ON FISCAL YEAR 2025-26 SECURED ASSESSED VALUE*

Total Secured Assessed Value[(1)]	*The Bonds*[(2)*]	*Secured Assessed Value to Special Tax A Burden Ratio*	*OUSD CFD 2005-2 Debt Burden*[(3)]	*Combined Special Tax A and OUSD CFD 2005-2 Bonded Debt*[(4)]	*Secured Assessed Value to Combined Special Tax A and OUSD CFD 2005-2 Debt Burden Ratio*
$391,322,037	$16,005,000	24.45	$4,305,000	$20,310,000	19.27

* Preliminary, subject to change.
(1) Based on 2025-26 County of Orange Secured Tax Roll.
(2) Equals the principal amount of the Bonds.
(3) Based on information provided by California Municipal Statistics, Inc. See Table 7.
(4) Equals to sum of "Special Tax A Burden" and "OUSD CFD 2005-2 Debt Burden".
Source: Willdan Financial Services.

In comparing the aggregate assessed value of the real property within the District and the principal amount of the Bonds, it should be noted that an individual parcel may only be foreclosed upon to pay delinquent installments of the Special Taxes attributable to that parcel. The principal amount of the Bonds are not allocated pro rata among the parcels within the District. The total Special Taxes are allocated among the parcels within the District according to the Rate and Method. See "SECURITY FOR THE BONDS - RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAX."

The following table shows the estimated assessed value to lien ratios by aggregating parcels within given ranges of ratios, based on the principal amount of the Bonds and the outstanding principal amount of the OUSD CFD 2005-2 bonded debt as shown in Table 7.

TABLE 10
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
DISTRIBUTION OF 2025-26 SECURED ASSESSED VALUE TO LIEN RATIOS*

Estimated Secured Assessed Value to Lien Ratio[1]	*No. of Parcels*	*Fiscal Year 2025-26 Secured Assessed Value*[1]	*Projected Fiscal Year 2026-27 Special Tax A Levy*[2]*	*% of Total Levy**	*Special Tax A Burden based on 2026 Bonds*[3]*	*OUSD CFD 2005-2 Bonded Debt Burden*[4]	*Combined Special Tax and OUSD CFD 2005-2 Debt Burden*[5]*
25:1 or Greater	65	$ 52,100,178	$ 138,951	9.45%	$ 1,512,607	$ 383,225	$ 1,895,832
20:1 to 24.99:1	163	110,916,427	372,741	25.35	4,057,624	1,052,027	5,109,651
15:1 to 19.99:1	318	201,668,628	819,994	55.77	8,926,376	2,453,873	11,380,249
10:1 to 14.99:1	51	26,636,804	138,564	9.42	1,508,394	415,874	1,924,268
Total[6]	597	$ 391,322,037	$ 1,470,250	100.00%	$ 16,005,000	$ 4,305,000	$20,310,000

* *Preliminary, subject to change.*
(1) Based on combined refunding bonds and OUSD CFD 2005-2 debt burden.
(1) Based on 2025-26 County of Orange Secured Tax Roll.
(2) Estimated based on principal and interest expected to be due with respect to the Bonds, plus administrative expenses.
(3) Total equals to sum of the principal amount of the Bonds.
(4) Based on information provided by California Municipal Statistics, Inc. See Table 7.
(5) Equals to sum of "Special Tax A Burden based on 2026 Bonds" and "OUSD 2005-2 Bonded Debt Burden".
(6) Total may not foot due to rounding.
Source: Willdan Financial Services.

THE CITY OF ORANGE

The following information relating to the City is included only for the purpose of supplying general information regarding the City. Neither the faith and credit nor taxing power of the City have been pledged to the payment of the Bonds and the Bonds will not be payable from any of City's revenues or assets.

The City is located in the north-central portion of Orange County (the "**County**"), California, approximately 32 miles southeast of Los Angeles and 94 miles north of San Diego. Incorporated on April 6, 1888 as a general law city, the City currently functions under a Council/Manager form of government. A five member City Council, including the Mayor, is elected at large. According to State of California Department of Finance estimates, the City has a population of approximately 139,724 as of January 1, 2025.

The City Council is responsible for, among other things, passing ordinances, adopting the budget, appointing committees, and hiring the City Manager and City Attorney. The City Manager is responsible for carrying out the policies and ordinances of the City Council, overseeing day-to-day City operations, and appointing the heads of various departments. The City Council is elected on a non-partisan basis. See Appendix F for certain demographic and economic information regarding the City.

SPECIAL RISK FACTORS

There are certain risks associated with the purchase of the Bonds and the following information should be considered by prospective investors in evaluating the Bonds. However, the following does not purport to be an exhaustive listing of the risks and other considerations which may be relevant to an investment in the Bonds. In addition, the order in which the following information is presented is not intended to reflect the relative importance of any such risks. If any risk factor materializes to a sufficient degree, it alone could delay or preclude payment of principal of or interest on the Bonds.

The Bonds are Limited Obligations of the District

The principal of, premium, if any, and interest on the Bonds are not a debt of the City or a legal or equitable pledge, charge, lien or encumbrance upon any of the City's or the District's property or upon any of the City's or the District's income, receipts or revenues, except the amounts pledged under the Indenture. Funds for the payment of the principal of and the interest on the Bonds are derived only from annual payments of Special Taxes. The amount of annual installments of Special Taxes that are collected could be insufficient to pay principal of and interest on the Bonds due to non-payment of such Special Taxes levied or due to insufficient proceeds received from a judicial foreclosure sale of land within the District following delinquency. The District's legal obligations with respect to any delinquent Special Taxes are limited to: (1) payments from the Reserve Account to the extent of funds and instruments on deposit therein; and (2) the institution of judicial foreclosure proceedings under certain circumstances with respect to any parcels for which Special Taxes are delinquent. See the caption "SECURITY FOR THE BONDS—Covenant to Foreclose." The Bonds cannot be accelerated in the event of any default.

The obligation to pay Special Taxes does not constitute a personal obligation of the current or subsequent owners of the respective parcels which are subject to such liens. Enforcement of Special Tax payment obligations by the District is limited to judicial foreclosure in the Superior Court of California, County of Orange. There is no assurance that any current or subsequent owner of a parcel that is subject to a Special Tax lien will be able to pay the amounts due or that such owner will choose to pay such amounts even though financially able to do so.

The Special Taxes are Not Personal Obligations of the Owners

An owner of a taxable parcel is not personally obligated to pay the Special Tax. Rather, the Special Tax is an obligation which is secured only by a lien against the taxable parcel. If the value of a taxable parcel

is not sufficient, taking into account other liens imposed by public agencies, to secure fully the Special Tax, the District has no recourse against the owner and its only remedy is to pursue judicial foreclosure on the delinquent parcel. See the caption "SECURITY FOR THE BONDS—Covenant to Foreclose."

Potential Early Redemption of Bonds from Prepayments

Property owners within the District are permitted to prepay their Special Taxes at any time, and many owners have previously done so. Any additional prepayments of Special Taxes which are made after the date of issuance of the Bonds will result in a redemption of Bonds on the first April 1 or October 1 which is more than 30 days following the receipt of the prepayment. See the caption "THE BONDS—Redemption—Extraordinary Redemption of the Bonds from Special Tax Prepayments." The resulting extraordinary redemption of Bonds that were purchased at a price greater than par could reduce the otherwise expected yield on such Bonds.

Risks of Real Estate Secured Investments Generally

The Bond owners will be subject to the risks generally incident to an investment secured by real estate, including, without limitation: (i) adverse changes in local market conditions, such as changes in the market value of real property in the vicinity of the District, the supply of or demand for competitive properties in such area, and the market value of comparable residential property in the event of sale or foreclosure; (ii) changes in real estate tax rates and other operating expenses, government rules (including, without limitation, zoning laws and laws relating to threatened and endangered species and hazardous materials) and fiscal policies; and (iii) natural disasters (including, without limitation, earthquakes, fires and floods), which may result in uninsured losses.

No assurance can be given that individual homeowners will pay Special Taxes in the future or that they will be able to pay such Special Taxes on a timely basis. See the caption "—Bankruptcy and Foreclosure Delays" for a discussion of certain limitations on the District's ability to pursue judicial proceedings with respect to delinquent parcels. Moreover, because assessed values do not necessarily indicate fair market values, decreases in fair market values may be even greater than decreases in assessed valuations, which could reduce the amount that can be raised to cover unpaid Special Taxes from a judicial foreclosure and sale of a delinquent parcel.

Concentration of Ownership

No single individual owner of residential property owns more than 3 parcels or will be responsible for more than 1% of the Special Taxes levied within the District in Fiscal Year 2026-27, with the two largest property owners each responsible for .43% of the Special Taxes estimated to be levied within the District in Fiscal Year 2026-27. See the caption "THE DISTRICT—Major Property Ownership." However, there may be subsequent transfers of ownership of the property within the District. Failure of the owners of property to pay the annual Special Taxes when due could result in a default in payments of the principal of and interest on the Bonds when due. Such risk may be greater or its consequence more severe when ownership is concentrated and may be expected to decrease as ownership is diversified.

Insufficiency of Special Taxes

Although the maximum amount of Special Taxes that may be levied in the District exceeds debt service due on the Bonds, the Special Taxes that are actually collected could be inadequate to make timely payment of debt service either because of nonpayment or because property becomes exempt from taxation as permitted in the Rate and Method.

As discussed under the caption "SECURITY FOR THE BONDS—No Teeter Plan," the Teeter Plan is not available for community facilities districts such as the District. The collection of Special Taxes is therefore

subject to the risk of delinquency, while the District is also generally entitled to collect penalties and interest on delinquent Special Taxes.

In the event of significant delinquencies in the District causing a default in payment of debt service on the Bonds and depletion of all amounts and instruments on deposit in the Reserve Account, there would not be sufficient Net Taxes to pay the full amount of annual debt service on the Bonds until the delinquent Special Taxes were collected through foreclosure action or otherwise. See the caption "—Bankruptcy and Foreclosure Delays" for a discussion of potential delays in foreclosure actions.

The CFD Act provides that, if any property within the District which is not otherwise exempt from the Special Tax is acquired by a public entity through a negotiated transaction, or by gift or devise, the Special Tax will continue to be levied on and enforceable against the public entity that acquired the property. In addition, the CFD Act provides that, if property which is subject to the Special Tax is acquired by a public entity through eminent domain proceedings, the obligation to pay the Special Tax with respect to that property is to be treated as if it were a special assessment and be paid from the eminent domain award. The constitutionality and operation of these provisions of the CFD Act have not been tested in the courts.

If for any reason property which is subject to the Special Tax becomes exempt from taxation by reason of ownership by a nontaxable entity such as the federal government, or another public agency that asserts immunity from the Special Tax, subject to the limitation of the maximum Special Tax rates, the Special Taxes will be reallocated to the remaining properties within the District. This would result in the owners of such properties paying a greater amount of the Special Tax and could have an adverse effect on the timely payment of the Special Tax. Due to the problems of collecting taxes from public agencies, if a substantial portion of land within the District were to become owned by public agencies, collection of the Special Tax might become more difficult and could result in collections of the Special Tax which might not be sufficient to pay principal of and interest on the Bonds when due, and a default could occur with respect to the payment of such principal and interest. See the captions "—FDIC/Federal Government Interests in Properties" and "—Bankruptcy and Foreclosure" for a discussion of the policy of the Federal Deposit Insurance Corporation (the "**FDIC**") regarding the payment of special taxes and assessments and limitations on the District's ability to foreclose on the lien of the Special Taxes in certain circumstances.

The annual levy of Special Taxes is subject to the maximum tax rates authorized. The levy cannot be made at a higher rate even if the failure to do so means that the estimated proceeds of the levy and collection of the Special Tax, together with other available funds, will not be sufficient to pay debt service on the Bonds. Other funds that might be available include moneys and reserve fund surety policies or similar instruments deposited in the Reserve Account, funds derived from the payment of penalties on delinquent Special Taxes and funds derived from the tax sale or foreclosure and sale of parcels on which levies of the Special Tax are delinquent.

In addition, the District may not be able to levy the Special Tax up to the maximum authorized rates. Pursuant to Section 53321(d) of the Government Code of the State, the Special Tax levied against any parcel for which an occupancy permit for private residential use has been issued may not be increased as a consequence of delinquency or default by the owner of any other parcel within the District by more than 10% above the amount that would have been levied in such Fiscal Year had there never been any such delinquencies or defaults. Consequently, although the maximum Special Tax prescribed by the Rate and Method could be materially higher than the expected Special Tax levy in a given year, the Special Tax levy cannot be increased for residential property by more than 10% in such year.

The levy of the Special Tax will rarely, if ever, result in a uniform relationship between the value of particular property and the amount of the levy of the Special Tax against such property. Thus, there will rarely, if ever, be a uniform relationship between the value of such property and the proportionate share of debt service on the Bonds, and certainly not a direct relationship.

Billing of Special Taxes

A special tax formula can result in a substantially heavier property tax burden being imposed upon properties within a community facilities district than elsewhere in a city or county, and this in turn can lead to problems in the collection of the special tax. In some community facilities districts (although not in the District), taxpayers have refused to pay the special tax and have commenced litigation challenging the special tax, the community facilities district and bonds issued by the community facilities district.

Under provisions of the CFD Act, the Special Taxes are to be billed to the properties within the District that were entered on the Assessment Roll of the County of Orange Assessor by January 1 of the previous Fiscal Year. Such Special Tax installments are due and payable, and bear the same penalties and interest for non-payment, as do regular property tax installments. The Special Tax installment payments cannot be made separately from property tax payments. Therefore, the unwillingness or inability of a property owner to pay regular property tax bills may also indicate an unwillingness or inability to make regular property tax payments and installment payments of Special Taxes in the future. See the caption "SECURITY FOR THE BONDS—Covenant to Foreclose" for a discussion of the provisions that apply, and the procedures that the District is obligated to follow, in the event of delinquency in the payment of installments of Special Taxes.

Non-Cash Payments of Special Taxes

Under the CFD Act, the City Council of the City, as the legislative body of the District, may reserve to itself the right and authority to allow the owner of any taxable parcel to tender a Bond in full or partial payment of any installment of the Special Taxes or the interest or penalties thereon. A Bond so tendered is to be accepted at par and credit is to be given for any interest accrued thereon to the date of the tender. Thus, if Bonds can be purchased in the secondary market at a discount, it may be to the advantage of an owner of a taxable parcel to pay the Special Taxes applicable thereto by tendering a Bond. Such a practice would decrease the cash flow available to the District to make payments with respect to other Bonds then outstanding; and, unless the practice was limited by the District, the Special Taxes paid in cash could be insufficient to pay the debt service due with respect to such other Bonds.

The District has covenanted in the Indenture that it will not adopt any policy pursuant to Section 53341.1 of the CFD Act permitting the tender of Bonds in full or partial payment of any Special Taxes unless the District has first received a certificate from an Independent Financial Consultant that the acceptance of such a tender will not result in the District having insufficient Special Tax revenues to pay the principal of and interest on the Bonds when due.

Bankruptcy and Foreclosure Delays

Bankruptcy, insolvency and other laws generally affecting creditors' rights could adversely impact the interests of owners of the Bonds in at least two ways. First, the payment of property owners' taxes and the ability of the District to foreclose the lien of delinquent unpaid Special Taxes pursuant to its covenant to pursue judicial foreclosure proceedings set forth in the Indenture (see the caption "SECURITY FOR THE BONDS—Covenant to Foreclose") may be limited by bankruptcy, insolvency or other laws generally affecting creditors' rights (including the Soldiers and Sailors Civil Relief Act of 1940, which is discussed below) or by the laws of the State relating to judicial foreclosure. In addition, the prosecution of a foreclosure could be delayed for many reasons, including crowded local court calendars or lengthy procedural delays.

Second, the United States Bankruptcy Code might prevent moneys on deposit in the Special Tax Fund from being applied to pay interest on the Bonds and/or to redeem Bonds if bankruptcy proceedings were brought by or against a landowner and if the court found that any of such landowner had an interest in such moneys within the meaning of Section 541(a)(1) of the United States Bankruptcy Code.

Although a bankruptcy proceeding would not cause the lien of the Special Taxes to become extinguished, the amount and priority of any Special Tax lien could be reduced or modified if the value of the property falls below the value of the lien. If the value of the property is less than the lien, such excess amount could be treated as an unsecured claim by a bankruptcy court. In addition, the bankruptcy of a property owner could result in a stay of enforcement or other delay in procuring Superior Court foreclosure proceedings or adversely affect the ability or willingness of a property owner to pay the Special Taxes. If enough parcels were involved in bankruptcy proceedings, court delays would increase the likelihood of a delay or default in payment of the principal of, and interest on, the Bonds and the possibility of delinquent tax installments not being paid in full.

On July 30, 1992, the United States Court of Appeal, Ninth Circuit (the "**Ninth Circuit**"), issued its opinion in a bankruptcy case entitled *In re Glasply Marine Industries* ("***Glasply***"). In that case, the Ninth Circuit held that *ad valorem* property taxes levied by Snohomish County in the State of Washington after the date that the property owner filed a petition for bankruptcy were not entitled to priority over a secured creditor with a prior lien on the property. Although the court upheld the priority of unpaid taxes imposed before the bankruptcy petition, unpaid taxes imposed after the filing of the bankruptcy petition were declared to be "administrative expenses" of the bankruptcy estate, payable after all secured creditors. As a result, the secured creditor was able to foreclose on the property and retain all the proceeds of the sale except the amount of the pre-petition taxes.

The Bankruptcy Reform Act of 1994 included a provision which excepts from the United States Bankruptcy Code's automatic stay provisions, "the creation of a statutory lien for an *ad valorem* property tax imposed by . . . a political subdivision of a state if such tax comes due after the filing of the petition [by a debtor in bankruptcy court]." This amendment effectively makes the *Glasply* holding inoperative as it relates to *ad valorem* real property taxes. However, it is possible that the original rationale of the *Glasply* ruling could still result in the treatment of post-petition special taxes as "administrative expenses," rather than as tax liens secured by real property, at least during the pendency of bankruptcy proceedings.

According to the Ninth Circuit's ruling, as administrative expenses, post-petition taxes would be paid, assuming that the debtor had sufficient assets to do so. In certain circumstances, payment of such administrative expenses may be allowed to be deferred. Once the property is transferred out of the bankruptcy estate (through foreclosure or otherwise), it would at that time become subject to current *ad valorem* taxes.

The CFD Act provides that the Special Taxes are secured by a continuing lien which is subject to the same lien priority in the case of delinquency as *ad valorem* taxes. No case law exists with respect to how a bankruptcy court would treat the lien for Special Taxes (which are not *ad valorem* taxes) levied after the filing of a petition in bankruptcy. *Glasply* is controlling precedent on bankruptcy courts in the State. If the *Glasply* precedent with respect to *ad valorem* taxes was applied to the levy of the Special Taxes, the amount of Special Taxes received from parcels whose owners declare bankruptcy could be reduced.

The various legal opinions to be delivered concurrently with the delivery of the Bonds (including Bond Counsel's approving legal opinion) will be qualified as to the enforceability of the various legal instruments, including the Bonds, by moratorium, bankruptcy, reorganization, insolvency or other similar laws affecting the rights of creditors generally, by the application of equitable principles and by the exercise of judicial discretion in appropriate cases.

Other laws generally affecting creditors' rights or relating to judicial foreclosure may affect the ability to enforce payment of Special Taxes or the timing of enforcement of Special Taxes. For example, the Soldiers and Sailors Civil Relief Act of 1940 affords protections such as a stay in enforcement of the foreclosure covenant, a six-month period after termination of military service to redeem property sold to enforce the collection of a tax or assessment and a limitation on the interest rate on the delinquent tax or assessment to persons in military service if a court concludes that the ability to pay such taxes or assessments is materially affected by reason of such service.

FDIC/Federal Government Interests in Properties

General. The ability of the District to foreclose the lien of delinquent unpaid Special Tax installments may be limited with regard to properties in which the FDIC, the Drug Enforcement Administration, the Internal Revenue Service (the "**IRS**") or other federal agencies such as the Federal National Mortgage Association ("**FNMA**") has or obtains an interest.

The supremacy clause of the United States Constitution reads as follows: "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the contrary notwithstanding."

The foregoing is generally interpreted to mean that, unless the United States Congress has otherwise provided, if a federal governmental entity owns a parcel that is subject to Special Taxes within the District but does not pay taxes and assessments levied on the parcel (including Special Taxes), the applicable State and local governments cannot foreclose on the parcel to collect the delinquent taxes and assessments.

Moreover, unless the United States Congress has otherwise provided, if the federal government has a mortgage interest in the parcel and the District wishes to foreclose on the parcel as a result of delinquent Special Taxes, the property cannot be sold at a foreclosure sale unless it can be sold for an amount that is sufficient to pay delinquent taxes and assessments on a parity with the Special Taxes and preserve the federal government's mortgage interest. In *Rust v. Johnson* 597 F.2d 174 (9th Cir. 1979), the Ninth Circuit held that FNMA is a federal instrumentality for purposes of this doctrine, and not a private entity, and that, as a result, an exercise of state power over a mortgage interest held by FNMA constitutes an exercise of state power over property of the United States. For a discussion of risks associated with taxable parcels within the District becoming owned by the federal government, federal government entities or federal government sponsored entities, see the caption "—Insufficiency of Special Taxes."

The District has not undertaken to determine whether any federal governmental entity currently has, or is likely to acquire, any interest (including a mortgage interest) in any of the parcels subject to the Special Taxes within the District, and therefore expresses no view concerning the likelihood that the risks described above will materialize while the Bonds are outstanding.

FDIC. In the event that any financial institution making any loan which is secured by real property within the District is taken over by the FDIC, and prior thereto or thereafter the loan or loans go into default, resulting in ownership of the property by the FDIC, then the ability of the District to collect interest and penalties specified by State law and to foreclose the lien of delinquent unpaid Special Taxes may be limited. The FDIC's policy statement regarding the payment of state and local real property taxes (the "**Policy Statement**") provides that property owned by the FDIC is subject to state and local real property taxes only if those taxes are assessed according to the property's value, and that the FDIC is immune from real property taxes assessed on any basis other than property value. According to the Policy Statement, the FDIC will pay its property tax obligations when they become due and payable and will pay claims for delinquent property taxes as promptly as is consistent with sound business practice and the orderly administration of the institution's affairs, unless abandonment of the FDIC's interest in the property is appropriate. The FDIC will pay claims for interest on delinquent property taxes owed at the rate provided under state law, to the extent that the interest payment obligation is secured by a valid lien. The FDIC will not pay any amounts in the nature of fines or penalties and will neither pay nor recognize liens for such amounts. If any property taxes (including interest) on FDIC-owned property are secured by a valid lien (in effect before the property became owned by the FDIC), the FDIC will pay those claims. The Policy Statement further provides that no property of the FDIC is subject to levy, attachment, garnishment, foreclosure or sale without the FDIC's consent. In addition, the FDIC will not permit a lien or security interest held by the FDIC to be eliminated by foreclosure without the FDIC's consent.

The Policy Statement states that the FDIC generally will not pay non-*ad valorem* taxes, including special assessments, on property in which it has a fee interest unless the amount of tax is fixed at the time that the FDIC acquires its fee interest in the property, nor will it recognize the validity of any lien to the extent that it purports to secure the payment of any such amounts. Special taxes imposed under the CFD Act and a special tax formula which determines the special tax due each year are specifically identified in the Policy Statement as being imposed each year and therefore covered by the FDIC's federal immunity. The Ninth Circuit issued a ruling on August 28, 2001 in which it determined that the FDIC, as a federal agency, is exempt from CFD Act special taxes. With respect to property in the State that is owned by the FDIC on January 9, 1997 and that was owned by the Resolution Trust Company (the "**RTC**") on December 31, 1995, or that became the property of the FDIC through foreclosure of a security interest held by the RTC on that date, the FDIC will continue the RTC's prior practice of paying special taxes imposed pursuant to the CFD Act if the taxes were imposed prior to the RTC's acquisition of an interest in the property. All other special taxes may be challenged by the FDIC.

The District is unable to predict what effect the application of the Policy Statement would have in the event of a delinquency in the payment of Special Taxes on a parcel within the District in which the FDIC has or obtains an interest, although prohibiting the lien of the Special Taxes from being foreclosed at a judicial foreclosure sale could reduce or eliminate the number of persons willing to purchase a parcel at a foreclosure sale. Such an outcome could cause a draw on the Reserve Account and perhaps, ultimately, if enough property were to become owned by the FDIC, a default in payment on the Bonds.

Direct and Overlapping Debt

Neither the City nor the District have control over the amount of additional debt payable from taxes or assessments levied on all or a portion of the property within the District which may be incurred in the future by other governmental agencies having jurisdiction over all or a portion of the property within the District. Other public agencies may issue additional indebtedness on property within the District at any time. Furthermore, nothing prevents the owners of property within the District from consenting to or petitioning for the issuance of additional debt by other governmental agencies which would be secured by taxes on a parity with the Special Taxes or assessments which would be subordinate to the Special Taxes. Such consent may occur without the knowledge of the City or the District. To the extent that such indebtedness is payable from assessments, other special taxes levied pursuant to the CFD Act or taxes, such assessments, special taxes and taxes will be secured by liens on the property within the District.

Accordingly, the debt on the property within the District could increase, without any corresponding increase in the value of the property therein. The imposition of such additional indebtedness could reduce the value-to-lien ratio of property in the District and the willingness and ability of the property owners within the District to pay the Special Taxes when due. See the caption "—Cumulative Burden of Parity Taxes and Special Assessments." Moreover, in the event of a delinquency in the payment of Special Taxes, no assurance can be given that the proceeds of any foreclosure sale of property with delinquent Special Taxes would be sufficient to pay the delinquent Special Taxes. See the caption "—Land Values."

Disclosures to Future Purchasers

The willingness or ability of an owner of a parcel to pay the Special Tax even if the value of the parcel is sufficient may be affected by whether or not the owner was given due notice of the Special Tax authorization at the time the owner purchased the parcel, was informed of the amount of the Special Tax on the parcel should the Special Tax be levied at the maximum tax rate and the risk of such a levy, and, at the time of such a levy, has the ability to pay it as well as pay other expenses and obligations. The District has caused a notice of the Special Tax lien to be recorded in the Office of the Recorder of the County of Orange against each parcel. While title companies normally refer to such notices in title reports, there can be no guarantee that such reference will be made or, if made, that a prospective purchaser or lender will consider such Special Tax obligation in the purchase of a property within the District or lending of money thereon.

The CFD Act requires the subdivider (or its agent or representative) of a subdivision to notify a prospective purchaser or long-term lessor of any lot, parcel, or unit that is subject to a Mello-Roos special tax of the existence and maximum amount of such special tax using a statutorily prescribed form. Section 1102.6b of the Civil Code of the State requires that in the case of transfers other than those covered by the above requirement, the seller must at least make a good faith effort to notify the prospective purchaser of the special tax lien in a format prescribed by statute. Failure by an owner of the property to comply with the above requirements, or failure by a purchaser or lessor to consider or understand the nature and existence of the Special Tax, could adversely affect the willingness and ability of the purchaser or lessor to pay the Special Tax when due.

Shapiro Decision

On August 1, 2014, the California Court of Appeal, Fourth Appellate District, Division One (the "**Court**"), issued its opinion in *City of San Diego v. Melvin Shapiro, et al.* (D063997). The case involved a Convention Center Facilities District (the "**CCFD**") established by the City of San Diego. The CCFD was a financing district established under the City of San Diego's charter (the "**Charter**") and was intended to function much like a community facilities district established under the provisions of the CFD Act. The CCFD was comprised of all of the real property in the entire City of San Diego. However, the special tax to be levied within the CCFD was to be levied only on properties improved with a hotel located within the CCFD.

At the election to authorize such special tax, the Charter proceeding limited the electorate to owners of hotel properties and lessees of real property owned by a governmental entity on which a hotel is located. Thus, the election was limited to owners and lessees of properties on which the special tax would be levied, and not a registered voter election. Such approach to determining who would constitute the qualified electors of the CCFD was based on Section 53326(c) of the CFD Act, which generally provides that, if a special tax will not be apportioned in any tax year on residential property, the legislative body may provide that the vote will be by the landowners of the proposed district whose property would be subject to the special tax. The Court held that the CCFD special tax election did not comply with applicable requirements of Article XIIIA, Section 4, and Article XIIIC, Section 2, of the State Constitution, or with applicable provisions of the Charter, because the electors in such an election were not the registered voters residing within the district.

In the case of the CCFD, at the time of the election there were several hundred thousand registered voters within the CCFD (*viz.*, all of the registered voters in the City of San Diego). In the case of the District, there were no registered voters within the District at the time of the elections to authorize the Special Tax levy for the District. In the *Shapiro* decision, the Court expressly stated that it was not addressing the validity of landowner voting to impose special taxes pursuant to the CFD Act in situations where there are fewer than 12 registered voters. Thus, by its terms, the Court's holding does not apply to the special tax election in the District. Moreover, Section 53341 of the CFD Act provides that any "action or proceeding to attack, review, set aside, void or annul the levy of a special tax … shall be commenced within 30 days after the special tax is approved by the voters." Similarly, Section 53359 of the CFD Act provides that any action to determine the validity of bonds issued pursuant to the CFD Act or the levy of special taxes authorized pursuant to the CFD Act be brought within 30 days of the voters approving the issuance of such bonds or the special tax. Voters approved the Special Tax and the issuance of bonds for the District in compliance with all applicable requirements of the CFD Act at the time of formation of the District in 2013. Therefore, under the provisions of Sections 53341 and 53359 of the CFD Act, the statute of limitations period to challenge the validity of the Special Tax for the District has expired.

Natural Disasters

The District, like all California communities, may be subject to unpredictable seismic activity, high winds, wildfires and urban fires, landslides and slope failures, or flooding in the event of unseasonable rainfall or other natural disasters. Seismically induced ground shaking has affected Orange County in the past and is expected to affect Orange County in the future. Seismic activity represents a potential risk for damage to

buildings, roads, bridges and property within the District. In addition, land that is susceptible to seismic activity may be subject to liquefaction during the occurrence of such event. The City's coastal and canyon bluffs and hillsides can be steep and subject to landslides and slope failures. Potential geologic and soil hazards can be increased by inappropriate development, seismic activity and heavy rains. No faults transect the District. The closest known active faults to the District are the El Modeno fault (approximately 6 to 7 miles distant) and the Peralta Hills Fault (approximately 4 to 5 miles distant).

The occurrence of seismic activity, fires, landslides and slope failures, coastal erosion, expansive soils, dam and reservoir failure, act of terrorism or other cause severely damaging property or infrastructure within the District, flooding or other natural disasters in or around the District could result in substantial damage to properties in the District which, in turn, could substantially reduce the value of such properties. As a result of the occurrence of such an event, a substantial portion of the property owners may be unable or unwilling to pay the Special Tax installments when due, and the Reserve Account may eventually become depleted. In addition, the value of land in the District could be diminished in the aftermath of such natural events, reducing the resulting proceeds of foreclosure sales in the event of delinquencies in the payment of the Special Tax installments.

In recent years, drought conditions in the State have led to increased risk of wildfire. In particular, certain electrical operators in the State have seen their distribution/transmission lines cause billions of dollars in property damage and the loss of lives. In 2023, as in several prior years, for example, devastating wildfires burned in various communities in the State, causing wide-spread damage. In 2025, communities in Los Angeles County, including Pacific Palisades, Malibu and Altadena (the "**Palisades Fire**"), experienced widespread devastation from wildfires causing losses of life, thousands of burned homes, and billions of dollars in property damage. Orange County is also periodically subject to large-scale wildfires and is expected to be subject to wildfires in the future. In recent years, wildfires have burned hundreds of acres at a time and destroyed dozens of homes and structures in Orange County. The City is situated in a wildland urban interface, an area where development meets undeveloped wildland.

On March 24, 2025, CAL FIRE released an updated Fire Hazard Severity Zone ("FHSZ") map for the Southern California region. This map evaluates "Hazard," defined as the likelihood and expected fire behavior over a 30 to 50-year period, without considering mitigation measures such as home hardening, recent wildfires, or fuel reduction efforts. Pursuant to Sections 4201-4204 of the California Public Resources Code, the State Fire Marshal is mandated to classify State Responsibility Areas ("SRAs")—where the state has financial responsibility for wildfire protection—into FHSZs categorized as "Moderate," "High," or "Very High." These classifications are based on fuel loading, slope, fire weather, and other relevant factors, including wind-driven wildfire spread patterns. In Local Responsibility Areas ("LRAs"), where local agencies have financial responsibility for wildfire protection, agencies are required to adopt FHSZ maps encompassing all three hazard classes. Following the completion of the SRA mapping process in late 2025, the City completed the local adoption process for its LRA maps in early 2026 to align with the 2025 California Fire Code and the City's updated Local Hazard Mitigation Plan. While areas of the City where development meets undeveloped wildland have historically been subject to high wind-driven wildfire risk, the District's specific classification is determined by the most recent City-adopted FHSZ boundaries. As of May 2026, no portion of the District is located within a FHSZ.

On January 16, 2025, Governor Gavin Newsom issued Executive Order N-10-25 (the "**Governor's Order**), which canceled penalties, costs and interest on overdue property taxes (including special taxes) within certain zip codes affected by the Palisades Fire during calendar year 2025. This order resulted in significant delays in the collection of special taxes within impacted community facilities districts. In several instances, these districts were required to draw upon established reserve funds to meet debt service obligations on outstanding special tax revenue bonds. Though the District is not directly impacted by the Governor's Order, in the event of a major fire or other natural disaster affecting the City or the District, a similar order affecting the City or the District in the future could impact the debt service payment for the Bonds.

Property Insurance

In recent years, homeowners in many areas in the State have experienced significant increases in premiums for property and homeowners' insurance policies as well as difficulty in obtaining such insurance from commercial insurance companies. The increases have been driven by, among other factors, the risk of wildfire damage to property in the State.

In addition, no assurances can be made that adequate homeowners' insurance coverage will be available in the future from reputable insurance companies, with premiums comparable to historical rates, or at all. The inability to obtain adequate insurance coverage could impact the ability of the homeowners' in the District to reconstruct their homes in the event of damage.

Land Values

The value of land within the District is an important factor in evaluating the investment quality of the Bonds. In the event that a property owner defaults in the payment of a Special Tax installment, the District's only remedy is to commence judicial foreclosure proceedings on such property. Prospective purchasers of the Bonds should not assume that the property within the District could be sold for the assessed value described herein at a foreclosure sale for delinquent Special Tax installments or for an amount adequate to pay delinquent Special Tax installments, because market values in a foreclosure sale may be less than assessed values. Reductions in property values within the District due to a downturn in the economy or the real estate market, events such as earthquakes, wildfires, droughts or floods, stricter land use regulations, threatened or endangered species or other events may adversely impact the security underlying the liens.

The assessed values set forth in this Official Statement do not represent market values arrived at through an appraisal process and generally reflect only the sales price of a parcel when acquired by its current owner, adjusted annually by an amount determined by the County of Orange Assessor, generally not to exceed an increase of more than 2% per Fiscal Year as limited by Proposition 13, as amended by Proposition 8. Several counties in the State, including the County of Orange, have reassessed certain properties acquired in recent years at the peak of the real estate market. The District cannot predict whether the County of Orange will reduce assessed values within the District in future years. If the County of Orange did decide to broadly reassess recent home transactions in the County of Orange, it is possible that in future years the assessed values which are shown in this Official Statement could be adjusted downward from the values reflected on the current Assessor's Roll. No assurance can be given that current assessed values reflect market values or that a parcel could actually be sold for its assessed value.

The actual market value of the property is subject to future events such as a downturn in the economy, occurrences of certain acts of nature and the decisions of various governmental agencies as to land use, all of which could adversely impact the value of the land in the District, which is the security for the Bonds. As discussed herein, many factors could adversely affect property values within the District.

Hazardous Substances

A claim with regard to a hazardous substance on a parcel of land subject to any of the Special Taxes can result in a significant potential reduction in the value of the parcel. In general, the owners and operators of a parcel may be required by law to remedy conditions relating to releases or threatened releases of hazardous substances. The federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, sometimes referred to as "CERCLA" or the "Superfund Act," is well known, but State laws with regard to hazardous substances are also stringent and similar in effect. Under many of these laws, the owner (or operator) is obligated to remedy a hazardous substance condition of a parcel whether or not the owner (or operator) had anything to do with creating or handling the hazardous substance. The effect, therefore, should any of the parcels within the District be affected by a hazardous substance, is to reduce the marketability and value by the costs of remedying the condition because the prospective purchaser of such a parcel will, upon

becoming the owner of such parcel, become obligated to remedy the condition just as the seller of such a parcel is obligated to remedy the condition.

Hazardous substance liabilities may arise in the future with respect to any of the parcels within the District resulting from the existence, currently, of a substance presently classified as hazardous but which has not been released or the release of which is not presently threatened, or may arise in the future resulting from the existence, currently, on the parcel of a substance not presently classified as hazardous but which may in the future be so classified. Additionally, such liabilities may arise from the method of handling such substance. These possibilities could significantly affect the value of a parcel.

While the District is not aware that the owner (or operator) of any of Taxable Property has such a current liability with respect to any of the Taxable Property, it is possible that such liabilities do currently exist and that the District is not aware of them.

Cumulative Burden of Parity Taxes and Special Assessments

Property within the District is subject to taxes imposed by public agencies that also have jurisdiction over the land within the District. See the caption "THE DISTRICT—Direct and Overlapping Debt."

The Special Taxes and any penalties thereon constitute a lien against the parcels of land on which they have been levied. Such lien is on a parity with all special taxes or assessments levied by other agencies and is co-equal to and independent of the lien for general property taxes, regardless of when they are imposed upon the same property.

Neither the City nor the District have control over the ability of other entities to issue indebtedness secured by *ad valorem* taxes, special taxes or assessments levied on all or a portion of the property within the District. In addition, the owners of the property within the District may, without the consent or knowledge of the City or the District, petition other public agencies to issue public indebtedness secured by *ad valorem* taxes, special taxes or assessments. The property within the District is subject to a number of overlapping tax and assessment liens, some of which secure outstanding indebtedness. See the caption "THE DISTRICT—Direct and Overlapping Debt."

California Constitution Article XIIIC and Article XIIID

On November 5, 1996, the voters of the State approved Proposition 218, known as the "Right to Vote on Taxes Act." Proposition 218 added Articles XIIIC and XIIID to the State Constitution, which contain, among other things, a number of provisions affecting the ability of the District to levy and collect both existing and future taxes, assessments, fees and charges.

Among other things, Section 3 of Article XIIIC states that "… the initiative power shall not be prohibited or otherwise limited in matters of reducing or repealing any local tax, assessment, fee or charge." The CFD Act provides for a procedure which includes notice, hearing, protest and voting requirements to alter the rate and method of apportionment of an existing special tax. However, the CFD Act prohibits a legislative body from adopting any resolution to reduce the rate of any special tax or terminate the levy of any special tax pledged to repay any debt incurred pursuant to the CFD Act unless such legislative body determines that the reduction or termination of the special tax would not interfere with the timely retirement of that debt. On July 1, 1997, a bill was signed into law by the Governor of the State enacting Section 5854 of the Government Code of the State, which states that:

> "Section 3 of Article XIIIC of the California Constitution, as adopted at the November 5, 1996, general election, shall not be construed to mean that any owner or beneficial owner of a municipal security, purchased before or after that date, assumes the risk of, or in any way consents to, any action by initiative measure that constitutes

an impairment of contractual rights protected by Section 10 of Article I of the United States Constitution."

Accordingly, although the matter is not free from doubt, it is likely that Proposition 218 has not conferred on the voters the power to repeal or reduce Special Taxes if such reduction would interfere with the timely retirement of the Bonds. The provisions of Proposition 218 relating to the exercise of the initiative power have not been interpreted by the courts and no assurance can be given as to the outcome of any such litigation.

It may be possible, however, for voters or the City Council of the City, acting as the legislative body of the District, to reduce the Special Taxes in a manner which does not interfere with the timely repayment of the Bonds, but which does reduce the maximum amount of Special Taxes that may be levied in any year below the existing levels. Furthermore, no assurance can be given with respect to the future levy of the Special Taxes in amounts greater than the amount necessary for the timely retirement of the Bonds. Therefore, no assurance can be given with respect to the levy of Special Taxes for Administrative Expenses. Nevertheless, the District has covenanted that it will not modify, alter or amend the Rate and Method in any manner that reduces the maximum Special Taxes that may be levied in each year on property within the District to an amount which is less than 110% of the principal and interest due in each corresponding future Bond Year with respect to the Bonds and Parity Bonds Outstanding as of the date of such amendment. The District has further covenanted that, in the event that an initiative is adopted which purports to reduce the maximum Special Taxes that may be levied, the District will commence and pursue legal action in order to preserve its ability to comply with the foregoing covenant. See the caption "SECURITY FOR THE BONDS—Levy and Collection of Special Taxes." However, no assurance can be given as to the enforceability of the foregoing covenants.

The interpretation and application of Proposition 218 will ultimately be determined by the courts with respect to a number of the matters discussed above, and it is not possible at the current time to predict with certainty the outcome of such determination or the timeliness of any remedy afforded by the courts. See the caption "—Limitations on Remedies."

No Acceleration

Under the Indenture, the Bonds are not subject to acceleration in the event of payment default. Similarly, there is no provision in the CFD Act or the Indenture for the acceleration of the Special Taxes in the event of a payment default by an owner of a parcel within the District or otherwise.

Limited Secondary Market

There can be no guarantee that there will be a secondary market for the Bonds or, if a secondary market exists, that such Bonds can be sold for any particular price. Although the District has committed to provide certain financial and operating information on an annual basis, there can be no assurance that such information will be available to Bond owners on a timely basis. See the caption "CONCLUDING INFORMATION—Continuing Disclosure." The failure to provide the required annual financial information does not give rise to monetary damages but merely an action for specific performance. Occasionally, because of general market conditions, lack of current information, or because of adverse history or economic prospects connected with a particular issue, secondary marketing practices in connection with a particular issue are suspended or terminated. Additionally, prices of issues for which a market is being made will depend upon then prevailing circumstances. Such prices could be substantially different from the original purchase price.

Ballot Initiatives

Proposition 218, which is discussed under the caption "—California Constitution Article XIIIC and Article XIIID," was adopted pursuant to a measure that qualified for the ballot pursuant to the State's Constitutional initiative process, and the State Legislature has in the past enacted legislation that has altered the

spending limitation or established minimum funding provisions for particular activities. On March 6, 1995, in the case of *Rossi v. Brown*, the State Supreme Court held that an initiative can repeal a tax ordinance and prohibit the imposition of further such taxes and that the exemption from the referendum requirements does not apply to initiative. From time to time, other initiative measures could be adopted by State voters or legislation enacted by the State Legislature. The adoption of any such initiative or enactment of legislation might place limitations on the ability of the State, the County of Orange or local districts to increase revenues or appropriations or affect the levy or collection of Special Taxes.

Limitations on Remedies

Remedies available to the Owners may be limited by a variety of factors and may be inadequate to assure the timely payment of principal of and interest and premium, if any, on the Bonds.

Bond Counsel has limited its opinion as to the enforceability of the Bonds and the Indenture to the extent that enforceability may be limited by bankruptcy, insolvency, reorganization, fraudulent conveyance or transfer, moratorium or other similar laws affecting generally the enforcement of creditors' rights, by equitable principles and by the exercise of judicial discretion. Additionally, the Bonds are not subject to acceleration in the event of the breach of any covenant or duty under the Indenture. The lack of availability of certain remedies or the limitation of remedies may entail risks of delay in the exercise of, or limitations on or modifications to, the rights of the Owners.

Enforceability of the rights and remedies of the Owners of the Bonds, and the obligations incurred by the District, may become subject to the federal bankruptcy code and applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws relating to or affecting the enforcement of creditors' rights generally, now or hereafter in effect, equity principles which may limit the specific enforcement under State law of certain remedies, the exercise by the United States of America of the powers delegated to it by the federal Constitution, the reasonable and necessary exercise, in certain exceptional situations, of the police powers inherent in the sovereignty of the State and its governmental bodies in the interest of serving a significant and legitimate public purpose and the limitations on remedies against governmental entities in the State. See the captions "—Bankruptcy and Foreclosure Delays," and "—FDIC/Federal Government Interests in Properties."

Cybersecurity

Municipal agencies, like other business entities, face significant risks relating to the use and application of computer software and hardware. Recently, there have been significant cyber security incidents affecting municipal agencies, including a ransomware attack targeting Los Angeles Unified School District, a freeze affecting computer systems of the City of Atlanta, an attack on the City of Baltimore's 911 system, an attack on the Colorado Department of Transportation's computers, an attack that resulted in the temporary closure of the Port of Los Angeles' largest terminal and an attack on a water treatment facility in Oldsmar, Florida.

The City employs a multi-level cyber protection scheme that includes (but is not limited to) firewalls, anti-virus software, anti-spam/malware software, intrusion protection and domain name system filtering software. The City also contracts with third party vendors to audit, monitor and augment internal monitoring of the City's computer systems. To date, the City has not experienced an attack on its computer operating systems. However, the City believes that it is well prepared with an extensive disaster recovery plan should an attack occur. The City employs sophisticated on-premise, off-premise and cloud-based disaster recovery systems to support recovery. In addition, the City maintains administrative, technical, and operational safeguards designed to reduce cybersecurity risk and protect City systems and data, including managed network security tools, endpoint protection, multi-factor authentication, employee cybersecurity awareness training, regular software and security patching protocols, data backup and recovery systems, and third-party IT support services. The City also maintains incident response and continuity procedures intended to mitigate

operational disruption in the event of a cybersecurity incident. The City also maintains incident response and continuity procedures intended to mitigate operational disruption in the event of a cybersecurity incident. These systems and protocols allow the City to recover quickly if systems are compromised.

The City is also reliant on other entities and service providers, such as the County Treasurer, for the levy and collection of Special Taxes securing payment of the Bonds. No assurance can be given that the City may not be affected by cyber threats and attacks against other entities or service providers in a manner which may affect the Bondowners.

While there can be no assurance that a future attack or attempted attack would not result in disruption of City operations, the City expects that these disruptions would be temporary in nature.

Loss of Tax Exemption

General. In order to maintain the exclusion from gross income for federal income tax purposes of the interest on the Bonds, the District must comply with the applicable requirements of the Code, and may not take any action or fail to take any action if such action or failure to take such action would adversely affect the exclusion from gross income of interest on the Bonds thereunder. Interest on the Bonds could become includable in gross income for purposes of federal income taxation retroactive to the date of issuance of such Bonds as a result of acts or omissions of the District in violation of this or other covenants in the Indenture. The Bonds are not subject to redemption or any increase in interest rates should an event of taxability occur and will remain outstanding until maturity or prior redemption in accordance with the provisions contained in the Indenture.

Federal Tax Law Changes. From time to time, there are legislative proposals in Congress and IRS rulemaking activities that could adversely affect the market value or marketability of the Bonds. It cannot be predicted whether future legislation, rules, regulations or other guidance may be proposed or enacted that would affect the federal tax treatment of interest received on the Bonds. Prospective purchasers of the Bonds should consult with their own tax advisors regarding any pending or proposed legislation or regulations that would change the federal tax treatment of interest on the Bonds. Risks to the status of federal tax exemption affecting interest on the Bonds are also discussed under "CONCLUDING INFORMATION—Tax Matters" below.

Climate Change

The State has historically been susceptible to wildfires and hydrologic variability. As greenhouse gas emissions continue to accumulate in the atmosphere, climate change is expected to intensify, increasing the frequency, severity and timing of extreme weather events such as coastal storm surges, drought, wildfires, floods and heat waves, and raising sea levels. The City has evaluated the potential effects of climate change on the City in its latest Emergency Planning Program which provides emergency preparedness and administrative services in support of the City and its residents and visitors. The future fiscal impact of climate change on the District and the residents of the District is difficult to predict, but it could be significant and it could have a material adverse effect on the receipt of Special Taxes if property values are affected. See the captions "—Natural Disasters" and "—Land Values."

Risks Associated with Bond Insurance

In the event that the District defaults in the payment of principal of or interest on the Insured Bonds when due, the Owners of the Insured Bonds will have a claim under the Policy for such payments. See the caption "BOND INSURANCE." In the event that the Insurer becomes obligated to make payments on the Insured Bonds, no assurance can be given that such event will not adversely affect the market for the Bonds. In the event that the Insurer is unable to make payments of principal of or interest on the Insured Bonds when due under the Policy, the Insured Bonds will be payable solely from Net Taxes and amounts that are held in

certain funds and accounts established under the Indenture, as described under the caption "SECURITY FOR THE BONDS."

The long-term credit rating on the Insured Bonds is dependent in part on the financial strength of the Insurer and its claims-paying ability. The Insurer's financial strength and claims-paying ability are predicated upon a number of factors which could change over time. If the long-term ratings of the Insurer are lowered, such event could adversely affect the market for the Bonds. See the caption "CONCLUDING INFORMATION—Ratings."

None of the District, the City or the Underwriter has made an independent investigation of the claims-paying ability of the Insurer, and no assurance or representation regarding the financial strength or projected financial strength of the Insurer is being made by the District, the City or the Underwriter in this Official Statement. Therefore, when making an investment decision with respect to the Insured Bonds, potential investors should carefully consider the ability of the District to pay principal and interest on the Insured Bonds, assuming that the Policy is not available to pay principal and interest on the Insured Bonds, and the claims-paying ability of the Insurer through final maturity of the Insured Bonds.

So long as the Policy remains in effect and the Insurer is not in default of its obligations thereunder, the Insurer has certain notice, consent and other rights under the Indenture and will have the right to control all remedies in the event of a default under the Indenture as to the Insured Bonds. The Insurer is not required to obtain the consent of the Owners of the Insured Bonds with respect to the exercise of remedies. See Appendix A.

CONCLUDING INFORMATION

Underwriting

The Bonds are being purchased by Stifel, Nicolaus & Company, Incorporated (the "**Underwriter**") pursuant to a Bond Purchase Agreement, dated the date hereof (the "**Purchase Agreement**"), by and between the Underwriter and the District. The Underwriter has agreed to purchase the Bonds at a price of $_____ (being the aggregate principal amount thereof, plus a net original issue premium of $_____ and less an Underwriter's discount of $_____). The Purchase Agreement provides that the Underwriter will purchase all of the Bonds if any are purchased. The obligation to make such purchase is subject to certain terms and conditions set forth in the Purchase Agreement, the approval of certain legal matters by counsel and certain other conditions.

The initial offering prices stated on the inside front cover page of this Official Statement may be changed from time to time by the Underwriter. The Underwriter may offer and sell the Bonds to certain dealers (including dealers depositing Bonds into investment trusts), dealer banks, banks acting as agent and others at prices lower than said public offering prices.

The Underwriter and its affiliates comprise a full-service financial institution engaged in activities which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. The Underwriter and its affiliates may have provided, and may in the future provide, a variety of these services to the City and/or the District and to persons and entities with relationships with the City and/or the District, for which they received or will receive customary fees and expenses.

In the ordinary course of these business activities, the Underwriter and its affiliates may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the City and/or the District (directly,

as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the City and/or the District.

The Underwriter and its affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire such assets, securities and instruments. Such investment and securities activities may involve securities and instruments of the City and/or the District.

Municipal Advisor

Fieldman, Rolapp & Associates, Inc., Irvine, California (the "**Municipal Advisor**"), served as municipal advisor with respect to the sale of the Bonds. The Municipal Advisor is an independent registered municipal advisory firm and is not engaged in the business of underwriting, trading or distributing municipal or other public securities. The Municipal Advisor will receive compensation contingent upon the sale and delivery of the Bonds. The Municipal Advisor has not undertaken to make an independent verification or to assume responsibility for the accuracy, completeness, or fairness of the information contained in this Official Statement.

Legal Opinion; Legal Matters

The legality of the Bonds and certain other legal matters are subject to the approval of Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, Bond Counsel. Bond Counsel will render an opinion with respect to the validity and enforceability of the Bonds and the Indenture, and a copy of the opinion will accompany each Bond. Such opinion will be subject to the various assumptions, exceptions and limitations stated therein. See Appendix B. Certain legal matters will be passed upon for the City and the District by the City Attorney, and by Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, Disclosure Counsel, for the Underwriter by Anzel Galvan LLP, San Francisco, California, for the Insurer by its counsel and for the Trustee by its counsel. Payment of the fees and expenses of Bond Counsel, Disclosure Counsel, Underwriter's counsel and the Trustee is contingent upon the sale and delivery of the Bonds. Bond Counsel and Disclosure Counsel have from time to time represented the Underwriter in connection with various matters unrelated to the Bonds.

Tax Matters

In the opinion of Stradling Yocca Carlson & Rauth LLP, Newport Beach, California, Bond Counsel, under existing statutes, regulations, rulings and judicial decisions, and assuming the accuracy of certain representations and compliance with certain covenants and requirements described herein, interest (and original issue discount) on the Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of calculating the federal alternative minimum tax imposed on individuals. However, it should be noted that, with respect to applicable corporations as defined in Section 59(k) of the Code, generally certain corporations with more than $1,000,000,000 of average annual adjusted financial statement income, interest (and original issue discount) on the Bonds might be taken into account in determining adjusted financial statement income for purposes of computing the alternative minimum tax imposed by Section 55 of the Code on such corporations.

In the further opinion of Bond Counsel, interest (and original issue discount) on the Bonds is exempt from State personal income tax.

In the opinion of Bond Counsel, the difference between the issue price of a Bond (the first price at which a substantial amount of the Bonds of the same series and maturity is to be sold to the public) and the stated redemption price at maturity with respect to such Bond constitutes original issue discount. Original issue discount accrues under a constant yield method, and original issue discount will accrue to a Bond Owner

before receipt of cash attributable to such excludable income. The amount of original issue discount deemed received by the Bond Owner will increase the Bond Owner's basis in the Bond.

The amount by which a Bond Owner's original basis for determining loss on sale or exchange in the applicable Bond (generally, the purchase price) exceeds the amount payable on maturity (or on an earlier call date) constitutes amortizable bond premium, which must be amortized under Section 171 of the Code; such amortizable bond premium reduces the Bond Owner's basis in the applicable Bond (and the amount of tax exempt interest received), and is not deductible for federal income tax purposes. The basis reduction as a result of the amortization of Bond premium may result in a Bond Owner realizing a taxable gain when a Bond is sold by the Owner for an amount equal to or less (under certain circumstances) than the original cost of the Bond to the Owner. Purchasers of the Bonds should consult their own tax advisors as to the treatment, computation and collateral consequences of amortizable bond premium.

Bond Counsel's opinion as to the exclusion from gross income of interest (and original issue discount) on the Bonds is based upon certain representations of fact and certifications made by the District and others and is subject to the condition that the District comply with all requirements of the Code that must be satisfied subsequent to the issuance of the Bonds to assure that interest (and original issue discount) on the Bonds will not become includable in gross income for federal income tax purposes. Failure to comply with such requirements of the Code might cause interest (and original issue discount) on the Bonds to be included in gross income for federal income tax purposes retroactive to the date of issuance of the Bonds. The District has covenanted to comply with all such requirements.

The Internal Revenue Service (the "**IRS**") has initiated an expanded program for the auditing of tax exempt bond issues, including both random and targeted audits. It is possible that the Bonds will be selected for audit by the IRS. It is also possible that the market value of the Bonds might be affected as a result of such an audit of the Bonds (or by an audit of similar municipal obligations). No assurance can be given that in the course of an audit, as a result of an audit, or otherwise, Congress or the IRS might not change the Code (or interpretation thereof) subsequent to the issuance of the Bonds to the extent that it adversely affects the exclusion from gross income of interest on the Bonds or their market value.

SUBSEQUENT TO THE ISSUANCE OF THE BONDS, THERE MIGHT BE FEDERAL, STATE OR LOCAL STATUTORY CHANGES (OR JUDICIAL OR REGULATORY CHANGES TO OR INTERPRETATIONS OF FEDERAL, STATE OR LOCAL LAW) THAT AFFECT THE FEDERAL, STATE OR LOCAL TAX TREATMENT OF THE BONDS, INCLUDING THE IMPOSITION OF ADDITIONAL FEDERAL INCOME OR STATE TAXES ON OWNERS OF TAX-EXEMPT STATE OR LOCAL OBLIGATIONS, SUCH AS THE BONDS. THESE CHANGES COULD ADVERSELY AFFECT THE MARKET VALUE OR LIQUIDITY OF THE BONDS. NO ASSURANCE CAN BE GIVEN THAT SUBSEQUENT TO THE ISSUANCE OF THE BONDS STATUTORY CHANGES WILL NOT BE INTRODUCED OR ENACTED OR JUDICIAL OR REGULATORY INTERPRETATIONS WILL NOT OCCUR HAVING THE EFFECTS DESCRIBED ABOVE. BEFORE PURCHASING ANY OF THE BONDS, ALL POTENTIAL PURCHASERS SHOULD CONSULT THEIR TAX ADVISORS REGARDING POSSIBLE STATUTORY CHANGES OR JUDICIAL OR REGULATORY CHANGES OR INTERPRETATIONS, AND THEIR COLLATERAL TAX CONSEQUENCES RELATING TO THE BONDS.

Bond Counsel's opinions may be affected by actions taken (or not taken) or events occurring (or not occurring) after the date hereof. Bond Counsel has not undertaken to determine, or to inform any person, whether any such actions or events are taken or do occur. Bond Counsel's engagement with respect to the Bonds terminates upon their issuance and Bond Counsel disclaims any obligation to update the matters set forth in its opinion. The Indenture and the Tax Certificate relating to the Bonds permit certain actions to be taken or to be omitted if a favorable opinion of Bond Counsel is provided with respect thereto. Bond Counsel expresses no opinion as to the effect on the exclusion from gross income of interest (and original issue

discount) on the Bonds for federal income tax purposes with respect to any Bond if any such action is taken or omitted based upon the advice of counsel other than Stradling Yocca Carlson & Rauth LLP.

Although Bond Counsel has rendered an opinion that interest (and original issue discount) on the Bonds is excluded from gross income for federal income tax purposes provided that the District continue to comply with certain requirements of the Code, the ownership of the Bonds and the accrual or receipt of interest (and original issue discount) on the Bonds may otherwise affect the tax liability of certain persons. Bond Counsel expresses no opinion regarding any such tax consequences. Accordingly, before purchasing any of the Bonds, all potential purchasers should consult their tax advisors with respect to collateral tax consequences relating to the Bonds.

Should interest (and original issue discount) on the Bonds become includable in gross income for federal income tax purposes, the Bonds are not subject to early redemption or an increase in interest rates and will remain outstanding until maturity or until redeemed in accordance with the Indenture.

A copy of the proposed form of opinion of Bond Counsel is attached hereto as Appendix B.

No Litigation

There is no action, suit, or proceeding pending or, to the best knowledge of the City or the District, threatened at the present time restraining or enjoining the delivery of the Bonds or in any way contesting or affecting the validity of the Bonds or any proceedings of the City or the District taken with respect to the execution or delivery thereof. A no litigation opinion rendered by the City Attorney will be required to be delivered to the Underwriter simultaneously with the delivery of the Bonds.

Ratings

S&P Global Ratings ("**S&P**") is expected to assign the Insured Bonds the rating of "____" based upon the delivery of the Policy by the Insurer at the time of issuance of the Insured Bonds. S&P has assigned the Bonds the underlying rating of "_____" without respect to the delivery of the Policy for the Insured Bonds. There is also no assurance that the criteria required to achieve a rating on the Bonds will not change during the period that the Bonds remain outstanding. Any downward revision or withdrawal of such ratings may have an adverse effect on the market price of the Bonds. Such ratings reflect only the current views and current rating criteria of S&P (which views and rating criteria could change at any time), and an explanation of the significance of such ratings may be obtained from S&P. Generally, a rating agency bases its ratings on the information and materials that are furnished to it (which may include information and material from the City or the District that is not included in this Official Statement) and on investigations, studies and assumptions of its own.

The District has covenanted in the Continuing Disclosure Agreement to file notices of any rating changes on the Bonds on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures, maintained on the Internet at http://emma.msrb.org/ ("**EMMA**"). See the caption "—Continuing Disclosure" and Appendix C. Notwithstanding such covenant, information relating to rating changes on the Bonds may be publicly available from S&P prior to such information being provided to the City or the District and prior to the date by which the District is obligated to file a notice of rating change. Purchasers of the Bonds are directed to the rating agencies and their respective websites and official media outlets for the most current ratings with respect to the Bonds after the initial issuance of the Bonds.

The City and the District make no representation as to the Insurer's creditworthiness and no representation that the Insurer's credit rating will be maintained in the future. S&P has previously taken action to downgrade the ratings of certain municipal bond insurers and has published various releases outlining the processes that S&P intends to follow in evaluating the ratings of financial guarantors. For some financial

guarantors, the result of such evaluations could be a rating affirmation, a change in rating outlook, a review for downgrade or a downgrade. Potential investors are directed to S&P for additional information on S&P's evaluations of the financial guaranty industry and individual financial guarantors, including the Insurer. See the caption "BOND INSURANCE" for further information relating to the Insurer.

Continuing Disclosure

The District has covenanted for the benefit of holders and beneficial owners of the Bonds: (1) to provide certain financial information and operating data (the "**Annual Report**") relating to the District and the property in the District not later than each April 1 after the end of the District's Fiscal Year, commencing on April 1, 2027 with the Annual Report for Fiscal Year 2025-26; and (2) to provide notices of the occurrence of certain enumerated events. The Annual Report and notices of enumerated events will be timely filed by the District or a dissemination agent appointed by the District with EMMA. The specific nature of the information to be contained in the Annual Report or the notices of enumerated events is set forth in the Continuing Disclosure Agreement. See Appendix C for the form of the Continuing Disclosure Agreement. These covenants have been made in order to assist the Underwriter in complying with Rule 15c2-12(b)(5) of the Securities and Exchange Commission (the "**Rule**").

It should be noted that the District is required to file certain financial statements with the Annual Report. This requirement has been included in the Continuing Disclosure Agreement solely to satisfy the provisions of the Rule. The inclusion of this information does not mean that the Bonds are secured by any resources or property of the District or the City other than as described in this Official Statement. See the captions "SPECIAL RISK FACTORS—The Bonds are Limited Obligations of the District."

In the past five years, the City failed to file certain annual reports and operating data on a timely basis with respect to the City of Orange 2021 Taxable Pension Obligation Bonds (filed 201 days late for Fiscal Year 2021) and the Orange City Public Facilities Financing Authority Lease Revenue Bonds, Series 2020A (with the audit filed 118 days late and certain other financial and operating data filed up to 137 days late for Fiscal Year 2021). With respect to the 2015 Bonds, the audited financial statements were unavailable when the annual report was filed for Fiscal Year 2023 and for Fiscal Year 2024 and such audited financial statements were filed 31 days later and 4 days later, respectively.

Miscellaneous

All of the preceding summaries of the Indenture, applicable legislation, agreements and other documents are made subject to the provisions of such documents and legislation and do not purport to be complete statements of any or all of such provisions. Reference is hereby made to such documents on file with the District for further information in connection therewith.

This Official Statement does not constitute a contract with the purchasers of the Bonds.

Any statements made in this Official Statement involving matters of opinion or of estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized.

The execution and delivery of this Official Statement have been authorized by the members of the City Council of the City, as the legislative body of the District.

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

By:_____
City Manager of the City of Orange

APPENDIX A

SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

The following is a summary of selected provisions of the Indenture. This summary does not purport to be complete or definitive and is qualified in its entirety by reference to the full terms of the Indenture. Purchasers of the Bonds are referred to the complete text of the Indenture, copies of which are available upon request from the Trustee.

APPENDIX B

FORM OF BOND COUNSEL OPINION

Upon issuance of the Bonds, Stradling Yocca Carlson & Rauth LLP, Bond Counsel, proposes to render its final approving opinion in substantially the following form:

_____, 2026

City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements)
Orange, California

Re: $_____ City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2026 Special Tax Refunding Bonds

Ladies and Gentlemen:

We have examined the Constitution and the laws of the State of California (the "State"), a certified record of the proceedings of the City of Orange (the "City") taken in connection with the formation of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "District") and the authorization and issuance of the District's 2026 Special Tax Refunding Bonds in the aggregate principal amount of $_____ (the "Bonds") and such other information and documents as we consider necessary to render this opinion. In rendering this opinion, we have relied upon certain representations of fact and certifications made by the City, the District, the initial purchaser of the Bonds and others. We have not undertaken to verify through independent investigation the accuracy of the representations and certifications relied upon by us.

The Bonds have been issued pursuant to the Mello-Roos Community Facilities Act of 1982, as amended (comprising Chapter 2.5 of Part 1 of Division 2 of Title 5 of the Government Code of the State of California) (the "Act"), and a Bond Indenture, dated as of July 1, 2026 (the "Indenture"), by and between the District and U.S. Bank Trust Company, National Association, as trustee. All capitalized terms that are not defined herein have the meanings set forth in the Indenture.

Based upon our examination of the foregoing, and in reliance thereon and on all matters of fact as we deem relevant under the circumstances, and upon consideration of applicable laws, we are of the opinion that:

1. The Bonds have been duly and validly authorized by the District and are legal, valid and binding limited obligations of the District, enforceable in accordance with their terms and the terms of the Indenture, and the Bonds are entitled to the benefits of the Indenture. The Bonds are limited obligations of the District, but are not a debt of the City, the State or any other political subdivision thereof within the meaning of any constitutional or statutory limitation, and, except for the Special Taxes, neither the faith and credit nor the taxing power of the City, the State or any of its political subdivisions is pledged to the payment thereof.

2. The execution and delivery of the Indenture has been duly authorized by the District, and the Indenture is valid and binding upon the District and enforceable in accordance with its terms, provided, however, that we express no opinion as to the enforceability of the covenant of the District contained in the Indenture to levy Special Taxes for the payment of Administrative Expenses or as to any indemnification, penalty, choice of law, choice of forum or waiver provisions contained therein.

3. The Indenture creates a valid pledge of that which the Indenture purports to pledge, subject to the provisions of the Indenture.

4. Under existing statutes, regulations, rulings and judicial decisions, interest (and original issue discount) on the Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of calculating the federal alternative minimum tax imposed on individuals; however, with respect to applicable corporations as defined in Section 59(k) of the Internal Revenue Code of 1986, as amended (the "Code"), interest (and original issue discount) with respect to the Bonds might be taken into account in determining adjusted financial statement income for the purposes of computing the alternative minimum tax imposed on such corporations.

5. Interest (and original issue discount) on the Bonds is exempt from State personal income tax.

6. The difference between the issue price of a Bond (the first price at which a substantial amount of the Bonds of the same series and maturity is to be sold to the public) and the stated redemption price at maturity with respect to such Bond constitutes original issue discount. Original issue discount accrues under a constant yield method, and original issue discount will accrue to a Bond Owner before receipt of cash attributable to such excludable income. The amount of original issue discount deemed received by the Bond Owner will increase the Bond Owner's basis in the Bond.

7. The amount by which a Bond owner's original basis for determining loss on sale or exchange in the applicable Bond (generally the purchase price) exceeds the amount payable on maturity (or on an earlier call date) constitutes amortizable Bond premium which must be amortized under Section 171 of the Code; such amortizable Bond premium reduces the Bond owner's basis in the applicable Bond (and the amount of tax-exempt interest received), and is not deductible for federal income tax purposes. The basis reduction as a result of the amortization of Bond premium may result in a Bond owner realizing a taxable gain when a Bond is sold by the owner for an amount equal to or less (under certain circumstances) than the original cost of the Bond to the owner. Purchasers of the Bonds should consult their own tax advisors as to the treatment, computation and collateral consequences of amortizable bond premium.

The opinions that are expressed in paragraph (4) above as to the exclusion from gross income for federal income tax purposes of interest (and original issue discount) on the Bonds are based upon certain representations of fact and certifications made by the District and are subject to the condition that the District comply with certain covenants and all requirements of the Code that must be satisfied subsequent to the issuance of the Bonds to assure that such interest (and original issue discount) will not become includable in gross income for federal income tax purposes. Failure to comply with such covenants and requirements of the Code may cause interest (and original issue discount) on the Bonds to be included in gross income for federal income tax purposes retroactive to the date of issuance of the Bonds. The District has covenanted to comply with all such requirements. Except as set forth in paragraphs (4), (5), (6) and (7) above, we express no opinion as to any tax consequences related to the Bonds.

The opinions that are expressed herein are based upon our analysis and interpretation of existing laws, regulations, rulings and judicial decisions and cover certain matters that are not directly addressed by such authorities. We call attention to the fact that the rights and obligations of the District under the Indenture and the Bonds are subject to and may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance and other similar laws affecting creditors' rights, to the application of equitable principles if equitable remedies are sought, to the exercise of judicial discretion in appropriate cases and to limitations on legal remedies against public agencies in the State.

Our opinion is limited to matters that are governed by the laws of the State of California and federal law. We assume no responsibility with respect to the applicability or the effect of the laws of any other jurisdiction and express no opinion as to the enforceability of the choice of law provisions contained in the Indenture.

We express no opinion herein as to the accuracy, completeness or sufficiency of the Official Statement relating to the Bonds or other offering material relating to the Bonds, and we expressly disclaim any duty to advise the owners of the Bonds with respect to matters contained in the Official Statement.

Certain requirements and procedures that are contained or referred to in the Indenture and Tax Certificate may be changed, and certain actions may be taken or omitted, under the circumstances and subject to the terms and conditions set forth in the Indenture and Tax Certificate relating to the Bonds, upon the advice or with the approving opinion of counsel nationally recognized in the area of tax-exempt obligations. We express no opinion as to the effect on the exclusion from gross income for federal income tax purposes of the interest (and original issue discount) on any Bonds if any such change occurs or action is taken or omitted upon the advice or approval of counsel other than Stradling Yocca Carlson & Rauth LLP.

We call attention to the fact that the foregoing opinions may be affected by actions taken (or not taken) or events occurring (or not occurring) after the date hereof. We have not undertaken to determine, or to inform any person, whether such actions or events are taken (or not taken) or do occur (or do not occur). Our engagement as bond counsel to the District terminates upon the issuance of the Bonds.

Respectfully submitted,

APPENDIX C

FORM OF CONTINUING DISCLOSURE AGREEMENT

Upon issuance of the Bonds, the District proposes to enter into a Continuing Disclosure Agreement in substantially the following form:

This Continuing Disclosure Agreement, dated as of July 1, 2026 (the "Disclosure Agreement"), is entered into by and between City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "District"), and Willdan Financial Services, as dissemination agent (the "Dissemination Agent"), in connection with the issuance by the District of its $_____ 2026 Special Tax Refunding Bonds (the "Bonds"). The Bonds are being issued pursuant to a Bond Indenture, dated as of July 1, 2026 (the "Indenture"), by and between the District and U.S. Bank Trust Company, National Association, as trustee (the "Trustee"). The District and the Dissemination Agent hereby covenant and agree as follows:

Section 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the District for the benefit of the Owners and Beneficial Owners of the Bonds and in order to assist the Participating Underwriter in complying with the Rule.

Section 2. Definitions. In addition to the definitions set forth in the Indenture, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

Annual Report. The term "Annual Report" means any Annual Report provided by the District pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

Beneficial Owner. The term "Beneficial Owner" means any person which: (a) has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any Bonds (including persons holding Bonds through nominees, depositories or other intermediaries); or (b) is treated as the owner of any Bonds for federal income tax purposes.

Disclosure Representative. The term "Disclosure Representative" means the General Manager, the Chief Financial Officer/Treasurer or the Director of Financial Planning and Analytics of the City, or their designee, or such other officer or employee as the City shall designate in writing to the Dissemination Agent from time to time.

Dissemination Agent. The term "Dissemination Agent" means, initially, Willdan Financial Services, or any successor Dissemination Agent designated in writing by the District which has filed with the then-current Dissemination Agent a written acceptance of such designation.

EMMA. The term "EMMA" means the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures, maintained on the Internet at http://emma.msrb.org/.

Financial Obligation. The term "Financial Obligation" means: (a) a debt obligation; (b) a derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (c) guarantee of (a) or (b). The term "Financial Obligation" does not include municipal securities as to which a final official statement has been provided to the Municipal Securities Rulemaking Board consistent with the Rule and the issuer thereof has entered into a continuing disclosure undertaking for such municipal securities.

Fiscal Year. The term "Fiscal Year" means the one-year period ending on the last day of June of each year.

Insurer. The term "Insurer" means [Insurer].

Listed Events. The term "Listed Events" means any of the events listed in Sections 5(a) or (b) of this Disclosure Agreement.

Official Statement. The term "Official Statement" means the final Official Statement, dated _____, 2026, relating to the Bonds.

Participating Underwriter. The term "Participating Underwriter" means the original underwriter of the Bonds required to comply with the Rule in connection with the offering of the Bonds.

Rule. The term "Rule" means Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

Section 3. Provision of Annual Reports.

(a) The District shall, or shall cause the Dissemination Agent by written direction to such Dissemination Agent to, not later than each April 1 after the end of the District and the City's Fiscal Year (commencing on April 1, 2027 with the Annual Report for Fiscal Year 2025-26), provide to EMMA an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. The Annual Report may be submitted as a single document or as separate documents comprising a package, and may include by reference other information as provided in Section 4 of this Disclosure Agreement; provided, however, that the audited financial statements of the District and the City, if any are prepared, may be submitted separately from and later than the balance of the Annual Report if they are not available by the date required above for the filing of the Annual Report.

An Annual Report shall be provided at least annually notwithstanding any Fiscal Year longer than 12 calendar months. The District and the City's Fiscal Year is currently effective from July 1 to the immediately succeeding June 30 of the following year. The District will promptly notify EMMA, the Dissemination Agent and the Participating Underwriter of a change in the District or the City's Fiscal Year dates.

(b) So long as the Dissemination Agent is an entity other than the District, then the provisions of this Section 3(b) shall apply. Not later than fifteen (15) Business Days prior to the date specified in subsection (a) for providing the Annual Report to EMMA and the Participating Underwriter, the District shall provide the Annual Report to the Dissemination Agent. If by fifteen (15) Business Days prior to such date the Dissemination Agent has not received a copy of the Annual Report, the Dissemination Agent shall contact the District to determine if the District will be filing the Annual Report in compliance with subsection (a). The District shall provide a written certification with each Annual Report furnished to the Dissemination Agent to the effect that such Annual Report constitutes the Annual Report required to be furnished by it hereunder. If the Dissemination Agent is an entity other than the District, it may conclusively rely upon such certification of the District and shall have no duty or obligation to review such Annual Report.

(c) If the District is the Dissemination Agent and the District is unable to provide to EMMA an Annual Report by the date required in subsection (a), the District shall, in a timely manner, send a notice to EMMA and the Dissemination Agent in the manner prescribed by the Municipal Securities Rulemaking Board. If the Dissemination Agent is other than the District and if the Dissemination Agent is unable to verify that an Annual Report has been provided to EMMA by the date required in subsection (a), the Dissemination Agent shall, in a timely manner, send a notice to EMMA in the form prescribed by the Municipal Securities Rulemaking Board.

(d) The Dissemination Agent, if other than the District, shall promptly after receipt of the Annual Report, file a report with the District certifying that the Annual Report has been provided pursuant to this Disclosure Agreement and stating the date it was provided.

Section 4. Content of Annual Reports. The Annual Report shall contain or include by reference the following:

(a) Financial Statements. The audited financial statements of the District, if any have been prepared, for the most recent Fiscal Year of the District then ended. If the audited financial statements are being prepared and are not available by the time that the Annual Report is required to be filed pursuant to Section 3(a), the Annual Report shall contain any available unaudited financial statements, and the audited financial statements shall be filed in the same manner as the Annual Report when they become available. Audited financial statements, if any, of the District shall be audited by such auditor as shall then be required or permitted by State law. Audited financial statements, if prepared by the District, shall be prepared in accordance with generally accepted accounting principles as prescribed for governmental units by the Governmental Accounting Standards Board; provided, however, that the District may from time to time, if required by federal or state legal requirements, modify the basis upon which its financial statements are prepared. In the event that the District shall modify the basis upon which its financial statements are prepared, the District shall provide a notice of such modification to EMMA, including a reference to the specific federal or state law or regulation specifically describing the legal requirements for the change in accounting basis.

The financial statements of the City shall be filed to the extent that the District does not prepare audited financial statements, but the financial statements of the City shall not be deemed to be the financial statements of the District unless such audited financial statements contain specific information as to the District, its revenues, expenses and account balances. If the City's audited financial statements contain specific information as to the District, its revenues, expenses and account balances, the District's Annual Report shall contain or incorporate by reference the City's audited financial statements. If the City's audited financial statements contain specific information as to the District, its revenues, expenses and account balances, but are not available at the time required for filing, unaudited financial statements of the City that contain specific information as to the District, its revenues, expenses and account balances shall be submitted with the Annual Report and the City audited financial statements shall be submitted once available.

(b) Financial and Operating Data.

(i) The principal amount of Bonds and any Parity Bonds outstanding as of the last day of the most recent completed Fiscal Year of the District, or a more recent date;

(ii) The balance in each fund under the Indenture and the Reserve Requirement as of October 2 within the then current Fiscal Year of the District, or a more recent date;

(iii) The status of any judicial foreclosure proceedings initiated by the District as a result of the delinquency in the payment of special taxes and a summary of the results of foreclosure sales, if available;

(iv) An update of Tables 4, 6, 9 and 10 in the Official Statement as of the last day of the most recent completed Fiscal Year of the District, or a more recent date but only as to the most recently completed Fiscal Year; and

(v) The principal amount of prepayments of the Special Taxes with respect to the District for the preceding Fiscal Year.

Any or all of the items listed above may be included by specific reference to other documents, including official statements of debt issues of the District, the City or related public entities, which have been

submitted to EMMA or the Securities and Exchange Commission. If the document included by reference is a final official statement, it must be available from the Municipal Securities Rulemaking Board. The District shall clearly identify each such other document so included by reference.

Section 5. Reporting of Significant Events.

(a) Pursuant to the provisions of this Section 5, the District shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Bonds in a timely manner not more than ten (10) Business Days after the event:

1. principal and interest payment delinquencies;

2. unscheduled draws on debt service reserves reflecting financial difficulties;

3. unscheduled draws on credit enhancements reflecting financial difficulties;

4. substitution of credit or liquidity providers, or their failure to perform;

5. adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability or Notices of Proposed Issue (IRS Form 5701 TEB);

6. tender offers;

7. defeasances;

8. ratings changes;

9. a default, event of acceleration, termination event, modification of terms or other similar events under the terms of a Financial Obligation of the District, any of which reflect financial difficulties; and

10. bankruptcy, insolvency, receivership or similar proceedings.

Note: For the purposes of the event identified in subparagraph (10), the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the District, or if such jurisdiction has been assumed by leaving the existing governmental body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the District.

(b) Pursuant to the provisions of this Section 5, the District shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Bonds, if material, in a timely manner not more than ten (10) Business Days after the occurrence of the event:

1. unless described in Section 5(a)(5), other notices or determinations by the Internal Revenue Service with respect to the tax status of the Bonds or other events affecting the tax status of the Bonds;

2. modifications to the rights of Bond holders;

3. Bond calls;

4. release, substitution or sale of property securing repayment of the Bonds;

5. non-payment related defaults;

6. the consummation of a merger, consolidation, or acquisition involving the District or the sale of all or substantially all of the assets of the District, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms;

7. appointment of a successor or additional trustee or the change of the name of a trustee; and

8. incurrence of a Financial Obligation of the District or agreement to covenants, events of default, remedies, priority rights or other similar terms of a Financial Obligation of the District, any of which affect security holders.

(c) If the District determines that knowledge of the occurrence of a Listed Event under subsection (b) would be material under applicable federal securities laws, the District shall file, or shall cause the Dissemination Agent to file, a notice of such occurrence with EMMA in a timely manner not more than ten (10) Business Days after the event.

(d) If the District determines that the Listed Event under subsection (b) would not be material under applicable federal securities laws and if the Dissemination Agent is other than the District, the District shall so notify the Dissemination Agent in writing and instruct the Dissemination Agent not to report the occurrence.

(e) The District hereby agrees that the undertaking set forth in this Disclosure Agreement is the responsibility of the District and, if the Dissemination Agent is other than the District, the Dissemination Agent shall not be responsible for determining whether the District's instructions to the Dissemination Agent under this Section 5 comply with the requirements of the Rule.

Section 6. Termination of Reporting Obligation. The obligations of the District and the Dissemination Agent under this Disclosure Agreement shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Bonds. If such termination occurs prior to the final maturity of the Bonds, the District shall give notice of such termination in the same manner as for a Listed Event under Section 5(a) hereof.

Section 7. Dissemination Agent. The District may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement, and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent appointed by the District may resign by providing thirty (30) days written notice to the District, and upon appointment of a new Dissemination Agent hereunder.

Section 8. Amendment.

(a) This Disclosure Agreement may be amended, by written agreement of the parties, without the consent of the Owners if all of the following conditions are satisfied: (1) such amendment is made in connection with a change in circumstances that arises from a change in legal (including regulatory) requirements, a change in law, or a change in the identity, nature or status of the District or the type of business conducted thereby; (2) this Disclosure Agreement as so amended would have complied with the requirements of the Rule as of the date of this Disclosure Agreement, after taking into account any amendments or

interpretations of the Rule, as well as any change in circumstances; (3) the District shall have delivered to the Dissemination Agent an opinion of a nationally recognized bond counsel or counsel expert in federal securities laws, addressed to the District, to the same effect as set forth in clause (2) above; (4) the District shall have delivered to the Dissemination Agent an opinion of nationally recognized bond counsel or counsel expert in federal securities laws, addressed to the District, to the effect that the amendment does not materially impair the interests of the Owners or Beneficial Owners; and (5) the District shall have delivered copies of such opinion and amendment to the Participating Underwriter.

(b) This Disclosure Agreement also may be amended by written agreement of the parties upon obtaining consent of the Owners in the same manner as provided in the Indenture for amendments to the Indenture with the consent of the Owners of the Bonds; provided that the conditions set forth in clauses (1), (2), (3) and (5) of section 8(a) have been satisfied.

(c) To the extent that any amendment to this Disclosure Agreement results in a change in the type of financial information or operating data provided pursuant to this Disclosure Agreement, the first Annual Report provided thereafter shall include a narrative explanation of the reasons for the amendment and the impact of the change in the type of operating data or financial information being provided.

(d) If an amendment is made to the basis on which financial statements are prepared, the Annual Report for the year in which the change is made shall present a comparison between the financial statements or information prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles. Such comparison shall include a quantitative and, to the extent reasonably feasible, qualitative discussion of the differences in the accounting principles and the impact of the change in the accounting principles on the presentation of the financial information.

Section 9. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the District from disseminating any other information, using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Agreement. If the District chooses to include any information in any Annual Report or notice of occurrence of a Listed Event in addition to that which is specifically required by this Disclosure Agreement, the District shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

Section 10. Default. In the event of a failure of the District or the Dissemination Agent to comply with any provision of this Disclosure Agreement, any Owner or Beneficial Owner of the Bonds may take such actions as may be necessary and appropriate, including seeking mandamus or specific performance by court order, to cause the District and/or the Dissemination Agent to comply with their respective obligations under this Disclosure Agreement. A default under this Disclosure Agreement shall not be deemed an Event of Default under the Indenture, and the sole remedy under this Disclosure Agreement in the event of any failure of the District or the Dissemination Agent to comply with this Disclosure Agreement shall be an action to compel performance.

Section 11. Duties, Immunities and Liabilities of Dissemination Agent. The Dissemination Agent shall have only such duties as are specifically set forth in this Disclosure Agreement, and the District agrees to indemnify and save the Dissemination Agent, and its officers, directors, employees and agents, harmless against any loss, expense and liabilities which it may incur arising out of or in the exercise or performance of their powers and duties hereunder, including the costs and expenses (including attorneys' fees) of defending against any claim of liability, but excluding liabilities due to the Dissemination Agent's negligence or willful misconduct. Any Dissemination Agent other than the District shall be paid: (i) compensation by the District for its services provided hereunder in accordance with a schedule of fees to be mutually agreed to; and (ii) all expenses, legal fees and advances made or incurred by the Dissemination Agent

in the performance of its duties hereunder. The obligations of the District under this Section shall survive resignation or removal of the Dissemination Agent and payment of the Bonds.

Section 12. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the District, the Insurer, the Dissemination Agent, the Participating Underwriter and Owners and Beneficial Owners from time to time of the Bonds, and shall create no rights in any other person or entity.

Section 13. Notices. Notices with respect to this Disclosure Agreement should be sent in writing to:

If to the District:	City of Orange Community Facilities District 06-1 (Del Rio Public Improvements) c/o City of Orange 300 E. Chapman Ave. Orange, CA 92866 Attention: City Manager
If to the Dissemination Agent:	Willdan Financial Services 27368 Via Industria, Suite 200 Temecula, CA Federal Compliance Group
If to the Participating Underwriter:	Stifel, Nicolaus & Company, Incorporated 2121 Avenue of the Stars, Suite 2150 Los Angeles, CA 90067
If to the Insurer:	[Insurer] [To come]

Section 14. Severability. In case any one or more of the provisions contained herein shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof.

Section 15. State of California Law Governs. The validity, interpretation and performance of this Disclosure Agreement shall be governed by the laws of the State of California.

Section 16. Counterparts. This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 17. Merger. Any person succeeding to all or substantially all of the Dissemination Agent's corporate trust business shall be the successor Dissemination Agent without the filing of any paper or any further act.

IN WITNESS WHEREOF, the parties have caused their duly authorized officer to execute and deliver this Disclosure Agreement on the date first written above.

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

By: _____
Name: _____
Title: _____

WILLDAN FINANCIAL SERVICES, as Dissemination Agent

By: _____
Name: _____
Title: _____

APPENDIX D

INFORMATION CONCERNING DTC

The information in this Appendix concerning DTC and DTC's book-entry only system has been obtained from sources that the District, the City and the Underwriter believe to be reliable, but none of the District, the City or the Underwriter takes any responsibility for the completeness or accuracy thereof. The following description of the procedures and record keeping with respect to beneficial ownership interests in the Bonds, payment of principal, premium, if any, accreted value and interest on the Bonds to DTC Participants or Beneficial Owners, confirmation and transfers of beneficial ownership interests in the Bonds and other related transactions by and between DTC, the DTC Participants and the Beneficial Owners is based solely on information provided by DTC.

The Depository Trust Company ("DTC"), New York, NY, will act as securities depository for the Bonds. The Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered bond will be issued for each annual maturity of the Bonds, each in the aggregate principal amount of such annual maturity, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has a Standard & Poor's rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive bonds representing their ownership interests in the Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts

such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the Bond documents. For example, Beneficial Owners of Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the District as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions, and dividend payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the District or the Trustee, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee or the District, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the District or the Trustee, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

A Bond Owner shall give notice to elect to have its Bonds purchased or tendered, through its Participant, to the Trustee, and shall effect delivery of such Bonds by causing the Direct Participant to transfer the Participant's interest in the Bonds, on DTC's records, to the Trustee. The requirement for physical delivery of Bonds in connection with an optional tender or a mandatory purchase will be deemed satisfied when the ownership rights in the Bonds are transferred by Direct Participants on DTC's records and followed by a book-entry credit of tendered Bonds to the Trustee's DTC account.

DTC may discontinue providing its services as depository with respect to the Bonds at any time by giving reasonable notice to the District or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, physical certificates are required to be printed and delivered.

The District may decide to discontinue use of the system of book-entry only transfers through DTC (or a successor securities depository). In that event, bonds will be printed and delivered to DTC.

THE TRUSTEE, AS LONG AS A BOOK-ENTRY ONLY SYSTEM IS USED FOR THE BONDS, WILL SEND ANY NOTICE OF REDEMPTION OR OTHER NOTICES TO OWNERS ONLY TO DTC. ANY FAILURE OF DTC TO ADVISE ANY DTC PARTICIPANT, OR OF ANY DTC PARTICIPANT TO NOTIFY ANY BENEFICIAL OWNER, OF ANY NOTICE AND ITS CONTENT OR EFFECT WILL NOT AFFECT THE VALIDITY OF SUFFICIENCY OF THE PROCEEDINGS RELATING TO THE REDEMPTION OF THE BONDS CALLED FOR REDEMPTION OR OF ANY OTHER ACTION PREMISED ON SUCH NOTICE.

APPENDIX E

RATE AND METHOD OF APPORTIONMENT OF SPECIAL TAXES

*The following sets forth the Revised Rate and Method of Apportionment for the levy and collection of Special Taxes of Community Facilities District No. No. 06-1 of the City of Orange (the "**District**"). A Special Tax shall be levied on and collected in the District each Fiscal Year, in an amount determined through the application of the Revised Rate and Method of Apportionment described below. All of the real property in the District, unless exempted by law or by the provisions hereof, shall be taxed for the purposes, to the extent, and in the manner herein provided.*

A Special Tax as hereinafter defined shall be levied on all Assessor's Parcels in the City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) ("CFD No. 06-1") and collected each Fiscal Year commencing in Fiscal Year 2007-08, in an amount determined by the CFD Administrator (as defined below) through the application of the procedures described below. All of the real property in CFD No. 06-1, unless exempted by law or by the provisions hereof, shall be taxed for the purposes, to the extent and in the manner herein provided.

A. DEFINITIONS

The terms hereinafter set forth have the following meanings:

"Acre or Acreage" means the number of acres of land area of an Assessor's Parcel as shown on an Assessor's Parcel Map, or if the land area is not shown on an Assessor's Parcel Map, the land area shown on the applicable final map, parcel map, condominium plan, or other recorded County parcel map.

"Act" means the Mello-Roos Community Facilities Act of 1982, as amended, being Chapter 2.5 of Part 1 of Division 2 of Title 5 of the Government Code of the State of California.

"Administrative Expenses" means the following actual or reasonably estimated costs related to the administration of CFD No. 06-1: the costs of computing the Special Taxes and preparing the annual Special Tax collection schedules (whether by the City or designee thereof or both); the costs of collecting the Special Taxes (whether by the County, the City, through foreclosure proceedings, or otherwise); the costs of remitting the Special Taxes to the Fiscal Agent; the costs of the Fiscal Agent (including its legal counsel) in the discharge of the duties required of it under the Fiscal Agent Agreement; the costs to the City, CFD No. 06-1 or any designee thereof of complying with arbitrage rebate requirements; the costs to the City, CFD No. 06-1 or any designee thereof of complying with City, CFD No. 06-1 or obligated persons disclosure requirements associated with applicable federal and state securities laws and of the Act; the costs associated with preparing Special Tax disclosure statements and responding to public inquiries regarding the Special Taxes; the costs of the City, CFD No. 06-1 or any designee thereof related to an appeal of the Special Tax; the costs associated with the release of funds from an escrow account; and the City's annual administration fees and third party expenses. Administrative Expenses shall also include amounts estimated or advanced by the City or CFD No. 06-1 for any other administrative purposes of CFD No. 06-1, including attorney's fees and other costs related to commencing and pursuing to completion any foreclosure of delinquent Special Taxes.

"Assessor's Parcel" means a lot or parcel shown in an Assessor's Parcel Map with an assigned Assessor's Parcel number.

"Assessor's Parcel Map" means an official map of the Assessor of the County designating parcels by Assessor's Parcel number.

"Assigned Special Tax A" means the Special Tax A for each Land Use Class of Developed Property, as determined in accordance with Section C.1 below.

"Backup Special Tax A" means the Special Tax A applicable to each Assessor's Parcel of Developed Property, as determined in accordance with Section D below.

"Bonds" means any bonds or other debt (as defined in Section 53317(d) of the Act), whether in one or more series, issued by CFD No. 06-1 under the Act.

"CFD Administrator" means the Director of Finance of the City, or designee thereof, who is responsible for determining the Special Tax Requirement for Facilities and the Special Tax Requirement for Services and providing for the levy and collection of the Special Taxes.

"CFD No. 06-1" means the City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements).

"City" means the City of Orange.

"Condominium Unit" means a residential unit meeting the statutory definition of a condominium contained in the California Civil Code, Section 1351, and for which a condominium plan has been recorded pursuant to California Civil Code, Section 1352.

"Council" means the City Council of the City, acting as the legislative body of CFD No. 06-1.

"County" means the County of Orange.

"Developed Property" means, for each Fiscal Year, all Taxable Property, exclusive of Taxable Property Owner Association Property or Taxable Public Property, for which a building permit for new construction was issued after January 1, 2006 and prior to March 1 of the prior Fiscal Year.

"Equivalent Dwelling Unit" or "EDU" means the numeric designation in Table 1 for each Land Use Class of Developed Property, which reflects the relationship between the Assigned Special Tax for that Land Use Class as compared to the Assigned Special Taxes for other Land Use Classes, and which is used in Section D in the calculation of the Backup Special Tax A.

"Fiscal Agent" means the fiscal agent under the Fiscal Agent Agreement.

"Fiscal Agent Agreement" means the fiscal agent agreement or other instrument pursuant to which Bonds are issued, as modified, amended and/or supplemented from time to time, and any instrument replacing or supplementing the same.

"Fiscal Year" means the period starting July 1 and ending on the following June 30.

"Land Use Class" means any of the classes listed in Table 1 or Table 2.

"Maximum Special Tax" means the Maximum Special Tax A and/or Maximum Special Tax B, as applicable.

"Maximum Special Tax A" means the Maximum Special Tax A, determined in accordance with Section C.1 below, that can be levied in any Fiscal Year on any Assessor's Parcel.

"Maximum Special Tax B" means the Maximum Special Tax B, determined in accordance with Section C.2 below, that can be levied in any Fiscal Year on any Assessor's Parcel.

"Non-Residential Property" means all Assessor's Parcels of Developed Property for which a building permit(s) was issued for a non-residential use.

"Outstanding Bonds" means all Bonds which are outstanding under and in accordance with the provisions of the Fiscal Agent Agreement.

"Property Owner Association Property" means any property within the boundaries of CFD No. 06-1 that is owned by or irrevocably dedicated to a property owner association, including any master or sub-association.

"Proportionately" means for Developed Property that the ratio of the actual Special Tax A levy to the Assigned Special Tax A is equal for all Assessor's Parcels of Developed Property and that the ratio of the actual Special Tax B levy to the Maximum Special Tax B is equal for all Assessor's Parcels of Developed Property. For Undeveloped Property, "Proportionately" means that the ratio of the actual Special Tax A levy per Acre or actual Special Tax B levy per Acre to the Maximum Special Tax A per Acre or Maximum Special Tax B per Acre is equal for all Assessor's Parcels of Undeveloped Property. For Taxable Public Property and Taxable Property Owner Association Property, "Proportionately" means that the ratio of the actual Special Tax A levy per Acre to the Maximum Special Tax A per Acre is equal for all Assessor's Parcels of Taxable Public Property and Taxable Property Owner Association Property, as applicable.

"Public Property" means, for each Fiscal Year, any property within the boundaries of CFD No. 06-1 that (i) is owned by or irrevocably offered for dedication to the federal government, the State, the County, the City or any other public agency, provided however that any property leased by a public agency to a private entity and subject to taxation under Section 53340.1 of the Act shall be taxed and classified in accordance with its use; or (ii) is encumbered by a public utility easement making impractical its use for any purpose other than that set forth in the easement.

"Residential Floor Area" means all of the square footage of living area within the perimeter of a residential structure, not including any carport, walkway, garage, overhang, patio, enclosed patio, or similar area. The determination of Residential Floor Area shall be made by reference to the building permit(s) issued for such Assessor's Parcel.

"Residential Property" means all Assessor's Parcels of Developed Property for which a building permit has been issued for purposes of constructing one or more residential dwelling units.

"Single Family Attached Property" means all Assessor's Parcels of Residential Property for which building permits have been issued for attached residential units.

"Single Family Detached Property" means all Assessor's Parcels of Residential Property for which building permits have been issued for detached residential units.

"Special Tax" means the Special Tax A and/or Special Tax B, as applicable.

"Special Tax A" means the special tax to be levied in each Fiscal Year on each Assessor's Parcel of Developed Property, Undeveloped Property, Taxable Property Owner Association Property, and Taxable Public Property to fund the Special Tax Requirement for Facilities.

"Special Tax B" means the annual special tax to be levied in each Fiscal Year on each Assessor's Parcel of Developed Property and Undeveloped Property to fund the Special Tax Requirement for Services.

"Special Tax Requirement for Facilities" means that amount required in any Fiscal Year to pay: (1) debt service and other periodic costs on the Bonds due in the calendar year commencing in such Fiscal Year; (2) the cost of acquisition or construction of authorized facilities of CFD No. 06-1; (3) all or a portion of

the Administrative Expenses as determined by the CFD Administrator; (4) any amount required to replenish any reserve fund established in association with the Bonds; (5) for reasonably anticipated delinquent Special Taxes based on the delinquency rate for Special Taxes levied in the previous Fiscal Year; and (6) the costs of remarketing, credit enhancement and liquidity facility fees (including such fees for instruments that serve as the basis of a reserve fund related to any indebtedness in lieu of cash); less (7) a credit for funds available to reduce the annual Special Tax A levy, as determined by the CFD Administrator pursuant to the Fiscal Agent Agreement.

"Special Tax Requirement for Services" means that amount required in any Fiscal Year to pay: (1) directly for services authorized to be funded by CFD No. 06-1; and (2) Administrative Expenses not funded through the Special Tax Requirement for Facilities as determined by the CFD Administrator; less (3) a credit for funds available to reduce the annual Special Tax B levy, as determined by the CFD Administrator.

"State" means the State of California.

"Taxable Property" means all of the Assessor's Parcels within the boundaries of CFD No. 06-1 which are not exempt from the Special Tax pursuant to law or Section F below.

"Taxable Property Owner Association Property" means all Assessor's Parcels of Property Owner Association Property that are not exempt pursuant to Section F below.

"Taxable Public Property" means all Assessor's Parcels of Public Property that are not exempt pursuant to Section F below.

"Undeveloped Property" means, for each Fiscal Year, all Taxable Property not classified as Developed Property, Taxable Property Owner Association Property, or Taxable Public Property.

B. ASSIGNMENT TO LAND USE CATEGORIES

Each Fiscal Year, all Taxable Property within CFD No. 06-1 shall be classified as Developed Property, Taxable Public Property, Taxable Property Owner Association Property, or Undeveloped Property, and shall be subject to Special Taxes in accordance with the rate and method of apportionment determined pursuant to Sections C, D and E below.

The Assigned Special Tax A and Maximum Special Tax B for Residential Property shall be based on the Residential Floor Area located on the Assessor's Parcel. The Assigned Special Tax A and Maximum Special Tax B for Non-Residential Property shall be based on the Acreage of the Assessor's Parcel.

C. MAXIMUM SPECIAL TAX RATE

1. Special Tax A

a. <u>Developed Property</u>

(1) Maximum Special Tax A

The Maximum Special Tax A for each Assessor's Parcel classified as Developed Property shall be the greater of (i) the amount derived by application of the Assigned Special Tax A or (ii) the amount derived by application of the Backup Special Tax A.

(2) Assigned Special Tax A

The Assigned Special Tax A for Fiscal Year 2007-08 for each Land Use Class is shown below in Table 1.

TABLE 1
ASSIGNED SPECIAL TAX A FOR DEVELOPED PROPERTY
FOR FISCAL YEAR 2007-08

Land Use Class	*EDU*	*Description*	*Residential Floor Area*	*Assigned Special Tax A Per unit/Acre*
1	1.000	Single Family Detached Property	> 2,400 sq. ft.	$5,624 per unit
2	0.905	Single Family Detached Property	2,200 - 2,399 sq. ft.	$4,948 per unit
3	0.845	Single Family Detached Property	2,000 - 2,199 sq. ft.	$4,894 per unit
4	0.808	Single Family Detached Property	1,800 - 1,999 sq. ft.	$4,526 per unit
5	0.722	Single Family Detached Property	1,600 - 1,799 sq. ft.	$4,398 per unit
6	0.606	Single Family Detached Property	1,400 - 1,599 sq. ft.	$3,786 per unit
7	0.568	Single Family Detached Property	< 1,400 sq. ft.	$3,545 per unit
8	0.691	Single Family Attached Property	> 1,700 sq. ft.	$3,831 per unit
9	0.587	Single Family Attached Property	1,500 - 1,699 sq. ft.	$3,448 per unit
10	0.543	Single Family Attached Property	< 1,500 sq. ft.	$2,857 per unit
11	18.622	Non-Residential Property	Not Applicable	$107,818 per Acre

(3) Increase in the Assigned Special Tax A

On each July 1, commencing on July 1, 2008, the Assigned Special Tax A shall be increased by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

(4) Multiple Land Use Classes

In some instances an Assessor's Parcel of Developed Property may contain more than one Land Use Class. The Assigned Special Tax A levied on an Assessor's Parcel shall be the sum of the Assigned Special Tax A for all Land Use Classes located on that Assessor's Parcel. The Maximum Special Tax A that can be levied on an Assessor's Parcel shall be the sum of the Maximum Special Tax A that can be levied for all Land Use Classes located on that Assessor's Parcel. For an Assessor's Parcel that contains both Residential Property and Non-Residential Property, the Acreage of such Assessor's Parcel shall be allocated to each type of property based on the building square footage designated for each land use as determined by reference to the site plan approved for such Assessor's Parcel. The CFD Administrator's allocation to each type of property shall be final.

b. <u>Undeveloped Property, Taxable Property Owner Association Property, and Taxable Public Property</u>

(1) Maximum Special Tax A

The Fiscal Year 2007-08 Maximum Special Tax A for Undeveloped Property, Taxable Property Owner Association Property, and Taxable Public Property shall be $107,818 per Acre.

(2) Increase in the Maximum Special Tax A

On each July 1, commencing on July 1, 2008, the Maximum Special Tax A for Undeveloped Property, Taxable Property Owner Association Property, and Taxable Public Property shall be increased by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

2. Special Tax B

a. Developed Property

(1) Maximum Special Tax B

The Maximum Special Tax B for Fiscal Year 2007-08 for each Land Use Class is shown below in Table 2.

TABLE 2
MAXIMUM SPECIAL TAX B FOR DEVELOPED PROPERTY
FOR FISCAL YEAR 2007-08

Land Use Class	*Description*	*Residential Floor Area*	*Maximum Special Tax B Per unit/Acre*
1	Single Family Detached Property	> 2,400 sq. ft.	$281 per unit
2	Single Family Detached Property	2,200 - 2,399 sq. ft.	$250 per unit
3	Single Family Detached Property	2,000 - 2,199 sq. ft.	$244 per unit
4	Single Family Detached Property	1,800 - 1,999 sq. ft.	$227 per unit
5	Single Family Detached Property	1,600 - 1,799 sq. ft.	$218 per unit
6	Single Family Detached Property	1,400 - 1,599 sq. ft.	$187 per unit
7	Single Family Detached Property	< 1,400 sq. ft.	$175 per unit
8	Single Family Attached Property	> 1,700 sq. ft.	$192 per unit
9	Single Family Attached Property	1,500 - 1,699 sq. ft.	$164 per unit
10	Single Family Attached Property	< 1,500 sq. ft.	$148 per unit
11	Non-Residential Property	Not Applicable	$4,603 per Acre

(2) Increase in the Maximum Special Tax B

On each July 1, commencing on July 1, 2008, the Maximum Special Tax B shall be increased by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

(3) Multiple Land Use Classes

In some instances an Assessor's Parcel of Developed Property may contain more than one Land Use Class. The Maximum Special Tax B that can be levied on an Assessor's Parcel shall be the sum of the Maximum Special Tax B that can be levied for all Land Use Classes located on that Assessor's Parcel. For an Assessor's Parcel that contains both Residential Property and Non-Residential Property, the Acreage of such Assessor's Parcel shall be allocated to each type of property based on the building square footage designated for each land use as determined by reference to the site plan approved for such Assessor's Parcel. The CFD Administrator's allocation to each type of property shall be final.

b. <u>Undeveloped Property</u>

(1) Maximum Special Tax B

The Fiscal Year 2007-08 Maximum Special Tax B for Undeveloped Property shall be $4,603 per Acre.

On each July 1, commencing on July 1, 2008, the Maximum Special Tax B for Undeveloped Property shall be increased by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

D. BACKUP SPECIAL TAX A

The following definitions apply to this Section D:

"Final Map" means (i) a final map, or portion thereof, approved by the City pursuant to the Subdivision Map Act (California Government Code Section 66410 *et seq*.) that creates individual lots for which building permits may be issued without any further subdivision or (ii) for condominiums, a final map, or portion thereof, approved by the City and a condominium plan recorded pursuant to California Civil Code Section 1352 that creates individual lots for which building permits may be issued.

"Planning Area" means Planning Areas 1A/2A, Planning Areas 1B/2B, Planning Area 3, or Planning Area 4, as applicable.

"Planning Area 1A/2A" means the land geographically identified as Lots 1 through 50 of Tract Map 16768 and Lots 1 through 50 of Tract Map 16853.

"Planning Area 1B/2B" means the land geographically identified as Lots 51 through 59 of Tract Map 16768 and Lots 1 through 13 of Tract Map 16866.

"Planning Area 3" means the land geographically identified as Parcel 1 of Lot Line Adjustment 2006-03.

"Planning Area 4" means the land geographically identified as Parcel 2 of Lot Line Adjustment 2006-03.

"Required Backup Special Tax A Revenues" means, with respect to each Planning Area, the amount shown in the column so labeled in Table 3 for Fiscal Year 2007-08. On each July 1, commencing on July 1, 2008, the Required Backup Special Tax A Revenues shall be increased by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

1. Required Backup Special Tax A Revenues

Table 3 below identifies the Fiscal Year 2007-08 Required Backup Special Tax A Revenues for each Planning Area as well as the number of units expected in each Planning Area. The CFD Administrator shall escalate the Fiscal Year 2007-08 Required Backup Special Tax A Revenues on each July 1, commencing on July 1, 2008, by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

TABLE 3

Planning Area	*Expected Product Type*	*Number of Units*	*Fiscal Year 2007-08 Required Backup Special Tax A Revenues*
1A/2A	Residential Property	100 units	$531,310
1B/2B	Residential Property	135 units	$675,821
3	Residential Property	121 units	$499,777
4	Residential Property	241 units	$892,238
Total	Residential Property	597 units	$2,599,146

2. Calculation of Backup Special Tax A

Each time building permits are issued for new construction, the CFD Administrator shall calculate the Backup Special Tax A for each Assessor's Parcel for which building permits are requested, as follows:

a) For the Planning Area in which the building permits are to be issued, compute the total number of EDUs from property for which building permits were previously issued by multiplying the expected number of units (based on such previously issued building permits) of Residential Property in each Land Use Class and expected Acreage (based on such previously issued building permits) of Non-Residential Property by the applicable EDU factor indicated in Table 1.

b) Compute the total number of remaining EDUs for the Planning Area based on any Final Maps, condominium plans, sequence sheets, and any other available information by multiplying the projected number of units of Residential Property in each Land Use Class and the projected number of Acres of Non-Residential Property for which building permits have not yet been issued (including those units or Acres for which permits are currently being requested) by the applicable EDU factor indicated in Table 1.

c) Compute the total number of expected EDUs within the Planning Area by adding the results in steps D.2.a and D.2.b above.

d) Compute the total Backup Special Tax A Revenues from property in the Planning Area for which building permits were previously issued by summing the current amount (including any escalation pursuant to Section D.3 below) of the Backup Special Tax A for each parcel of property for which building permits were previously issued.

e) Subtract the total Backup Special Tax A Revenues calculated in step D.2.d above from the Required Backup Special Tax A Revenues for the Planning Area as indicated in Table 3 (as escalated pursuant to Section D.1 above).

f) Calculate the Backup Special Tax A per EDU by dividing the remaining Backup Special Tax A Revenues calculated in step D.2.e above by the remaining EDUs calculated in step D.2.b above.

g) The Backup Special Tax A for each Assessor's Parcel for which building permits are being requested shall equal the Backup Special Tax A per EDU calculated in step D.2.f. above multiplied by the applicable EDU factor for such Assessor's Parcel.

Once the Backup Special Tax A is calculated for an Assessor's Parcel, it shall not change, other than through application of the annual escalator described in Section D.3 below.

3. Increase in the Backup Special Tax A

Once calculated, the Backup Special Tax A applicable to an Assessor's Parcel shall be increased on each July 1 by an amount equal to two percent (2%) of the amount in effect for the previous Fiscal Year.

E. METHOD OF APPORTIONMENT OF THE SPECIAL TAX

1. Special Tax A

Commencing with Fiscal Year 2007-08 and for each following Fiscal Year, the CFD Administrator shall determine the Special Tax Requirement for Facilities and shall levy the Special Tax A as follows:

First: The Special Tax A shall be levied Proportionately on each Assessor's Parcel of Developed Property at up to 100% of the applicable Assigned Special Tax A as needed to satisfy the Special Tax Requirement for Facilities;

Second: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first step has been completed, the Special Tax A shall be levied Proportionately on each Assessor's Parcel of Undeveloped Property at up to 100% of the Maximum Special Tax A for Undeveloped Property;

Third: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first two steps have been completed, then the levy of the Special Tax A on each Assessor's Parcel of Developed Property whose Maximum Special Tax is determined through the application of the Backup Special Tax A shall be increased in equal percentages from the Assigned Special Tax A up to the Maximum Special Tax A for each such Assessor's Parcel;

Fourth: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first three steps have been completed, then the Special Tax A shall be levied Proportionately on each Assessor's Parcel of Taxable Property Owner Association Property at up to the Maximum Special Tax A for Taxable Property Owner Association Property.

Fifth: If additional monies are needed to satisfy the Special Tax Requirement for Facilities after the first four steps have been completed, then the Special Tax A shall be levied Proportionately on each Assessor's Parcel of Taxable Public Property at up to the Maximum Special Tax A for Taxable Public Property.

2. Special Tax B

Commencing with Fiscal Year 2007-08 and for each following Fiscal Year, the CFD Administrator shall determine the Special Tax Requirement for Services and shall levy the Special Tax B as follows:

First: The Special Tax B shall be levied Proportionately on each Assessor's Parcel of Developed Property at up to 100% of the applicable Maximum Special Tax B as needed to satisfy the Special Tax Requirement for Services;

Second: If additional monies are needed to satisfy the Special Tax Requirement for Services after the first step has been completed, the Special Tax B shall be levied Proportionately on each Assessor's Parcel of Undeveloped Property at up to 100% of the Maximum Special Tax B for Undeveloped Property.

Notwithstanding the above, under no circumstances will the Special Tax levied against any Assessor's Parcel of Residential Property for which an occupancy permit for private residential use has been issued be

increased by more than ten percent as a consequence of delinquency or default by the owner of any other Assessor's Parcel within the CFD.

F. EXEMPTIONS

1. Special Tax A

No Special Tax A shall be levied on up to 18.0 Acres of Property Owner Association Property and 29.5 Acres of Public Property. Tax-exempt status will be assigned by the CFD Administrator in the chronological order in which property becomes Property Owner Association Property or Public Property.

However, should an Assessor's Parcel no longer be classified as Property Owner Association Property or Public Property, its tax-exempt status will be revoked. Property Owner Association Property or Public Property that is not exempt from Special Tax A under this section shall be subject to the levy of the Special Tax A and shall be taxed Proportionately as part of the fourth and/or fifth steps in Section E.1 above, as applicable, at up to 100% of the applicable Maximum Special Tax A for Taxable Property Owner Association Property or Taxable Public Property.

2. Special Tax B

No Special Tax B shall be levied on Property Owner Association Property and Public Property.

G. APPEALS

Any property owner claiming that the amount or application of the Special Tax is not correct and requesting a refund may file a written notice of appeal and refund to that effect with the CFD Administrator not later than one calendar year after having paid the Special Tax that is disputed. The CFD Administrator shall promptly review the appeal, and if necessary, meet with the property owner, consider written and oral evidence regarding the amount of the Special Tax, and decide the appeal. If the CFD Administrator's decision requires the Special Tax be modified or changed in favor of the property owner, a cash refund shall not be made (except for the last year of levy), but an adjustment shall be made to the next Special Tax levy. Any dispute over the decision of the CFD Administrator shall be referred to the City Council and the decision of the City Council shall be final. This procedure shall be exclusive and its exhaustion by any property owner shall be a condition precedent to any legal action by such owner.

H. MANNER OF COLLECTION

The Special Tax shall be collected in the same manner and at the same time as ordinary *ad valorem* property taxes; provided, however, that CFD No. 06-1 may directly bill the Special Tax, may collect Special Taxes at a different time or in a different manner if necessary to meet its financial obligations, and may covenant to foreclose and may actually foreclose on delinquent Assessor's Parcels as permitted by the Act.

I. PREPAYMENT OF SPECIAL TAX A

The following definition applies to this Section I:

"CFD Public Facilities" means either $37.0 million in 2006 dollars, which shall increase by the Construction Inflation Index on July 1, 2007, and on each July 1 thereafter, or such lower number as (i) shall be determined by the CFD Administrator as sufficient to provide the public facilities to be provided by CFD No. 06-1 under the authorized bonding program for CFD No. 06-1, or (ii) shall be determined by the Council concurrently with a covenant that it will not issue any more Bonds to be supported by Special Taxes levied under this Rate and Method of Apportionment as described in Section E.

"Construction Fund" means an account specifically identified in the Fiscal Agent Agreement to hold funds which are currently available for expenditure to acquire or construct public facilities eligible under the Act.

"Construction Inflation Index" means the annual percentage change in the Engineering News-Record Building Cost Index for the City of Los Angeles, measured as of the calendar year which ends in the previous Fiscal Year. In the event this index ceases to be published, the Construction Inflation Index shall be another index as determined by the CFD Administrator that is reasonably comparable to the Engineering News-Record Building Cost Index for the City of Los Angeles.

"Future Facilities Costs" means the CFD Public Facilities minus (i) public facility costs previously paid from the Construction Fund, (ii) moneys currently on deposit in the Construction Fund, and (iii) moneys currently on deposit in an escrow fund that are expected to be available to finance public facilities costs.

"Outstanding Bonds" means all Bonds which are deemed to be outstanding under the Fiscal Agent Agreement after the first interest and/or principal payment date following the current Fiscal Year.

1. Prepayment in Full

Any Assessor's Parcel of Developed Property or Undeveloped Property for which a building permit has been issued may be prepaid. The Special Tax A obligation applicable to such Assessor's Parcel in CFD No. 06-1 may be fully prepaid and the obligation of the Assessor's Parcel to pay the Special Tax A permanently satisfied as described herein; provided that a prepayment may be made only if there are no delinquent Special Taxes with respect to such Assessor's Parcel at the time of prepayment. An owner of an Assessor's Parcel intending to prepay the Special Tax A obligation shall provide the CFD Administrator with written notice of intent to prepay. Within 30 days of receipt of such written notice, the CFD Administrator shall notify such owner of the prepayment amount of such Assessor's Parcel. The CFD Administrator may charge a reasonable fee for providing this amount.

The Special Tax B may not be prepaid.

The Prepayment Amount (defined below) shall be calculated as summarized below (capitalized terms as defined below):

Bond Redemption Amount	
plus	Redemption Premium
plus	Future Facilities Amount
plus	Defeasance Amount
plus	Administrative Fees and Expenses
less	Reserve Fund Credit
less	Capitalized Interest Credit
Total: equals	Prepayment Amount

As of the proposed date of prepayment, the Prepayment Amount (defined below) shall be calculated as follows:

Paragraph No.:

1. For Assessor's Parcels of Developed Property, compute the Assigned Special Tax A and Backup Special Tax A applicable for the Assessor's Parcel to be prepaid. For Assessor's Parcels of Undeveloped Property for which a building permit has been issued, compute the Assigned Special Tax A and Backup Special Tax A for that Assessor's Parcel as though it was already designated as Developed Property, based upon the building permit which has already been issued for that Assessor's Parcel.

2. (a) Divide the Assigned Special Tax A computed pursuant to paragraph 1 by the total estimated Assigned Special Tax A for the entire CFD No. 06-1 based on the Developed Property Special Tax A which could be charged in the current Fiscal Year on all expected development through buildout of CFD No. 06-1, and

(b) Divide the Backup Special Tax A computed pursuant to paragraph 1 by the total estimated Backup Special Tax A at buildout for the entire CFD No. 06-1.

3. Multiply the larger quotient computed pursuant to paragraph 2(a) or 2(b) by the Outstanding Bonds to compute the amount of Outstanding Bonds to be retired and prepaid (the "Bond Redemption Amount").

4. Multiply the Bond Redemption Amount computed pursuant to paragraph 3 by the applicable redemption premium, if any, on the Outstanding Bonds to be redeemed (the "Redemption Premium").

5. Compute the current Future Facilities Costs.

6. Multiply the larger quotient computed pursuant to paragraph 2(a) or 2(b) by the amount determined pursuant to paragraph 5 to compute the amount of Future Facilities Costs to be prepaid (the "Future Facilities Amount").

7. Compute the amount needed to pay interest on the Bond Redemption Amount from the first bond interest and/or principal payment date following the current Fiscal Year until the earliest redemption date for the Outstanding Bonds.

8. Confirm that no Special Tax delinquencies apply to such Assessor's Parcel.

9. Determine the Special Tax A levied on the Assessor's Parcel in the current Fiscal Year which have not yet been paid.

10. Compute the minimum amount the CFD Administrator reasonably expects to derive from the reinvestment of the Prepayment Amount less the Future Facilities Amount and the Administrative Fees and Expenses from the date of prepayment until the redemption date for the Outstanding Bonds to be redeemed with the prepayment.

11. Add the amounts computed pursuant to paragraphs 7 and 9 and subtract the amount computed pursuant to paragraph 10 (the "Defeasance Amount").

12. Verify the administrative fees and expenses of No. 06-1, including the costs of computation of the prepayment, the costs to invest the prepayment proceeds, the costs of redeeming Bonds, and the costs of recording any notices to evidence the prepayment and the redemption (the "Administrative Fees and Expenses").

13. If reserve funds for the Outstanding Bonds, if any, are at or above 100% of the reserve requirement (as defined in the Fiscal Agent Agreement) on the prepayment date, a reserve fund credit shall be calculated as a reduction in the applicable reserve fund for the Outstanding Bonds to be redeemed pursuant to the prepayment (the "Reserve Fund Credit"). No Reserve Fund Credit shall be granted if reserve funds are below 100% of the reserve requirement.

14. If any capitalized interest for the Outstanding Bonds will not have been expended at the time of the first interest and/or principal payment following the current Fiscal Year, a capitalized interest credit shall be calculated by multiplying the larger quotient computed pursuant to paragraph 2(a) or 2(b) by the expected

balance in the capitalized interest fund after such first interest and/or principal payment (the "Capitalized Interest Credit").

15. The Special Tax A prepayment is equal to the sum of the amounts computed pursuant to paragraphs 3, 4, 6, 11 and 12, less the amounts computed pursuant to paragraphs 13 and 14 (the "Prepayment Amount").

16. From the Prepayment Amount, the amounts computed pursuant to paragraphs 3, 4, 11, 13 and 14 shall be deposited into the appropriate fund as established under the Fiscal Agent Agreement and be used to retire Outstanding Bonds or make debt service payments. The amount computed pursuant to paragraph 6 shall be deposited into the Construction Fund. The amount computed pursuant to paragraph 12 shall be retained by CFD No. 06-1.

The Prepayment Amount may be sufficient to redeem other than a $5,000 increment of Bonds. In such cases, the increment above $5,000 or integral multiple thereof will be retained in the appropriate fund established under the Fiscal Agent Agreement to be used with the next prepayment of bonds or to make debt service payments.

As a result of the payment of the current Fiscal Year's Special Tax A levy as determined under paragraph 11 (above), the CFD Administrator shall remove the current Fiscal Year's Special Tax levy for such Assessor's Parcel from the County tax rolls. With respect to any Assessor's Parcel that is prepaid, the Council shall cause a suitable notice to be recorded in compliance with the Act, to indicate the prepayment of Special Taxes and the release of the Special Tax A lien on such Assessor's Parcel, and the obligation of such Assessor's Parcel to pay the Special Tax A shall cease.

Notwithstanding the foregoing, no Special Tax A prepayment shall be allowed unless the Maximum Special Tax A that may be levied on Taxable Property, excluding Taxable Property Owner Association Property and Taxable Public Property, within CFD No. 06-1 both prior to and after the proposed prepayment is at least 1.1 times the maximum annual debt service on all Outstanding Bonds.

2. Prepayment in Part

The Maximum Special Tax A on an Assessor's Parcel of Developed Property or Undeveloped Property for which a building permit has been issued may be partially prepaid. The amount of the prepayment shall be calculated as in Section I.1; except that a partial prepayment shall be calculated according to the following formula:

PP = (PE - A) (F + A.

These terms have the following meaning:

PP = the partial prepayment
PE = the Prepayment Amount calculated according to Section I.1
F = the percent by which the owner of the Assessor's Parcel(s) is partially prepaying the Maximum Annual Special Tax A.
A = the Administrative Fees and Expenses according to Section I.1

The owner of any Assessor's Parcel who desires such prepayment shall notify the CFD Administrator of (i) such owner's intent to partially prepay the Special Tax A and (ii) the percentage by which the Special Tax A shall be prepaid. The CFD Administrator shall provide the owner with a statement of the amount required for the partial prepayment of the Special Tax A for an Assessor's Parcel within thirty (30) days of the request and may charge a reasonable fee for providing this service.

With respect to any Assessor's Parcel that is partially prepaid, the City shall (i) distribute the funds remitted to it according to Section I.1., and (ii) indicate in the records of CFD No. 06-1 that there has been a partial prepayment of the Special Tax A and that a portion of the Special Tax A equal to the outstanding percentage (1.00 - F) of the remaining Maximum Special Tax A shall continue to be levied on such Assessor's Parcel pursuant to Section E.

Notwithstanding the foregoing, no Special Tax A prepayment shall be allowed unless the Maximum Special Tax A that may be levied on Taxable Property, excluding Taxable Property Owner Association Property and Taxable Public Property, within CFD No. 06-1 both prior to and after the proposed prepayment is at least 1.1 times the maximum annual debt service on all Outstanding Bonds.

J. TERM OF SPECIAL TAX

The Special Tax A shall be levied for the period necessary to fully satisfy items (1), (3), (4), and (6) of the Special Tax Requirement for Facilities, but in no event shall it be levied after 2046-47. The Special Tax B shall be levied as long as necessary to meet the Special Tax Requirement for Services.

APPENDIX F

INFORMATION CONCERNING THE CITY OF ORANGE AND COUNTY OF ORANGE

The following information concerning the City of Orange and the County of Orange is presented as general background data. The Bonds are not an obligation of the City of Orange, the County of Orange, the State of California or any of its political subdivisions, and neither the City, the County of Orange, the State nor any of its political subdivisions is liable therefor.

General Description

The City is a general law city organized and existing under the laws of the State of California. The City, incorporated on February 28, 1928, is located along the California coast, at the southern tip of Orange County, about 60 miles south of Los Angeles and 60 miles north of San Diego. The City currently occupies a land area of approximately 18.45 square miles.

The City operates under a council-manager form of government, with a five-member council. Beginning in 2024, two City Council members were elected by district to four-year terms. In 2026, two additional City Council members will be elected by district to four-year terms and the mayor will be elected at large for a two-year term. The City Council is responsible for, among other things, passing ordinances, adopting the budget, appointing committees, and hiring the City Manager and City Attorney. The City Manager is responsible for carrying out the policies and ordinances of the City Council, overseeing day-to-day City operations, and appointing the heads of various departments. The City Council is elected on a non-partisan basis.

Population

The historic population of the City, the County and the State is shown below.

POPULATION ESTIMATES
City of Orange, Orange County and the State of California
2016-2025[(1)]

Year	*City of Orange*	*County of Orange*	*State of California*
2016	140,207	3,165,028	39,036,749
2017	140,281	3,185,541	39,273,915
2018	140,777	3,192,479	39,429,439
2019	140,980	3,192,408	39,503,656
2020	140,469	3,188,326	39,535,623
2021	139,249	3,174,592	39,369,530
2022	137,946	3,159,797	39,179,680
2023	138,430	3,156,200	39,228,444
2024	138,403	3,170,070	39,420,663
2025	139,724	3,175,427	39,529,101

(1) January 1 data.

Source: California State Department of Finance, Demographic Research Unit., *E-4 Population Estimates for Cities, Counties, and the State, 2011-2020, with 2010 Census Benchmark and E-4 Population Estimates for Cities, Counties, and the State, 2021-2025, with 2020 Census Benchmark*.

Building Activity

The following tables summarize building permits and valuations for the City and the County during calendar years 2020 through 2024.

BUILDING PERMITS AND VALUATIONS
City of Orange
2020-2024
(Dollars in Thousands)

	2020	*2021*	*2022*	*2023*	*2024*
Valuation (In $000's)					
Residential	$18,865	$57,331	$28,674	$59,916	$37,220
Nonresidential	8,588	48,549	25,889	38,932	110,042
Total Valuation[(1)]	$27,453	$105,880	$54,563	$98,848	$147,262
New Dwelling Units (#)					
Single-Family	17	31	36	37	68
Multifamily	6	154	6	18	3
Total:	23	185	42	55	71

(1) Total may not add up due to rounding.
Source: Construction Industry Research Board.

BUILDING PERMITS AND VALUATIONS
County of Orange
2020-2024
(Dollars in Thousands)

	2020	*2021*	*2022*	*2023*	*2024*
Valuation ($000):					
Residential	$ 1,870,958	$ 2,393,961	$ 2,214,772	$ 2,573,625	$ 2,216,030
Non-residential	1,984,321	1,825,076	1,928,312	1,994,878	1,841,283
Total*	$ 3,85,279	$ 4,29,037	$ 4,143,084	$ 4,568,503	$ 4,057,313
Residential Units:					
Single family	2,863	3,292	2,929	2,688	2,295
Multiple family	3,032	4,382	3,405	9,725	3,969
Total	5,895	7,674	6,334	12,413	6,264

(1) Total may not add up due to rounding.
Source: Construction Industry Research Board.

Employment

The following table summarizes the labor force, employment and unemployment figures over the past five years for the City, the County, the State of California and the United States.

CIVILIAN LABOR FORCE, EMPLOYMENT AND UNEMPLOYMENT
City of Orange, Orange County, and the State of California
2020-2024[(1)]

	Labor Force	Employment	Unemployment	Unemployment Rate
2020				
City of Orange	70,600	64,800	5,700	8.1%
County of Orange	1,575,300	1,436,000	139,300	8.8
State of California	18,956,600	17,039,800	1,916,800	10.1
2021				
City of Orange	70,300	66,400	3,900	5.5%
County of Orange	1,569,400	1,476,000	93,400	6.0
State of California	18,954,600	17,564,900	1,389,700	7.3
2022				
City of Orange	71,900	69,700	2,200	3.1%
County of Orange	1,593,400	1,542,300	51,100	3.2
State of California	19,218,300	18,393,900	824,400	4.3
2023				
City of Orange	73,400	70,800	2,600	3.5%
County of Orange	1,611,700	1,555,70	56,000	3.5
State of California	19,471,000	18,551,800	919,200	4.7
2024				
City of Orange	73,800	71,000	2,800	3.8%
County of Orange	1,623,300	1,559,600	63,600	3.9
State of California	19,644,100	18,600,900	1,043,100	5.3

(1) Data is based on annual averages, unless otherwise specified, and is not seasonally adjusted.

Source: California Employment Development Department, *Labor Force and Unemployment Rate for Cities and Census Designated Places. March 2024 Benchmark*

Industry

The following table summarizes employment figures by industry for the Anaheim-Santa Ana-Irvine Metropolitan Division, which is located entirely within the County.

ANAHEIM-SANTA ANA-IRVINE MD
INDUSTRY EMPLOYMENT & LABOR FORCE - BY ANNUAL AVERAGE

	2020	*2021*	*2022*	*2023*	*2024*
Civilian Labor Force	1,575,300	1,569,400	1,593,400	1,611,700	1,623,300
Civilian Employment	1,436,000	1,476,000	1,542,300	1,555,700	1,559,600
Civilian Unemployment	139,300	93,400	51,100	56,000	63,600
Civilian Unemployment Rate	8.8%	6.0%	3.2%	3.5%	3.9%
Total Farm	1,900	2,000	1,700	1,700	1,700
Total Nonfarm	1,532,700	1,587,800	1,666,000	1,677,500	1,690,200
Total Private	1,376,700	1,432,200	1,507,800	1,517,700	1,527,500
Goods Producing	251,700	252,300	261,100	261,400	261,000
Mining and Logging	400	400	300	300	400
Construction	101,300	102,200	105,300	104,500	105,600
Manufacturing	150,100	149,800	155,400	156,600	154,900
Service Providing	1,281,000	1,335,500	1,404,900	1,416,100	1,429,200
Trade, Transportation and Utilities	244,100	252,000	258,300	262,500	260,800
Wholesale Trade	76,800	77,500	79,000	81,100	80,500
Retail Trade	137,600	143,400	145,500	145,800	144,700
Transportation, Warehousing and Utilities	29,600	31,100	33,800	35,700	35,600
Information	24,100	24,000	24,300	22,700	22,200
Financial Activities	115,900	117,100	112,300	103,700	103,900
Professional and Business Services	309,200	321,700	331,500	320,100	316,900
Private Education and Health Services	225,800	237,300	249,200	262,200	272,600
Leisure and Hospitality	161,800	180,400	217,900	229,800	234,200
Other Services	44,100	47,500	53,100	55,200	56,100
Government	156,100	155,700	158,200	159,800	162,700
Total, All Industries	1,534,600	1,589,800	1,667,700	1,679,200	1,691,900

Note: Does not include proprietors, self-employed, unpaid volunteers or family workers, domestic workers in households and persons involved in labor-management trade disputes. Employment reported by place of work. Items may not add to total due to independent rounding. The "Total, All Industries" data is not directly comparable to the employment data found in this Appendix C.

Source: State of California, Employment Development Department, *Industry Employment & Labor Force by Annual Average, March 2025 Benchmark.*.

Largest Employers

The following table presents the largest employers in the County as of June 30, 2025.

LARGEST EMPLOYERS
County of Orange
2025

Name of Business	*Number of Employees*	*Type of Business*
Walt Disney Co.	36,000	Amusement Park
University of California, Irvine	34,085	University
Providence Southern California	25,155	Medical Center
County of Orange	18,811	Local Government
Kaiser Permanente	10,293	Medical Center
Hoag Memorial Hospital Presbyterian	8,081	Medical Center
Allied Universal.	7,214	Services
Albertsons	7,152	Supermarkets
MemorialCare	6,326	Medical Center
CHOC Hospital	5,555	Medical Center

Source: County of Orange Comprehensive Annual Financial Report, Year Ended June 30, 2025.

The following table presents the largest employers in the City as of June 30, 2025.

LARGEST EMPLOYERS
City of Orange
2025

Name of Business	*Number of Employees*	*Type of Business*
UCI Health Medical Center	6,240	Medical Center
Rady's Children's Health	3,938	Medical Center
Providence St. Joseph Hospital Orange	3,500	Medical Center
Chapman University	1,300	Education
CalOptima Health	1,000	Health
Wilson Automotive	915	Car Dealership
City of Orange	875	Local Government
Santiago Canyon College (SCC)	812	Education
MS International Inc.	514	Technical Services
Orange County Transportation Authority	500	Government Agency

Source: City of Orange Comprehensive Annual Financial Report, Year Ended June 30, 2025.

Income

The following tables show the personal income and per capita personal income for the County, State of California and United States from 2020 through 2024.

PERSONAL INCOME
County of Orange, State of California, and United States
2020-2024
(Dollars in Thousands)

Year	*County of Orange*	*California*	*United States*
2020	239,226	2,770,489	19,613,059
2021	258,628	3,019,216	21,484,168
2022	267,135	3,021,645	22,144,814
2023	282,269	3,182,779	23,577,208
2024	298,129	3,400,237	24,897,613

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

PER CAPITA PERSONAL INCOME[(1)]
County of Orange, State of California, and United States
2020-2024

Year	*County of Orange*	*California*	*United States*
2020	75,080	70,100	59,151
2021	81,861	77,134	64,692
2022	84,577	77,196	66,298
2023	89,480	81,196	70,002
2024	94,034	86,232	73,204

(1) Per capita personal income is the total personal income divided by the total mid-year population estimates of the U.S. Bureau of the Census. All dollar estimates are in current dollars (not adjusted for inflation).
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Sales Taxes

The following table shows taxable transactions in Orange by type of business during calendar years 2021 through 2025.

City of Orange
Taxable Transactions
(Dollars in thousands)

	2021	*2022*	*2023*	*2024*	*2025*
Motor Vehicle and Parts Dealers	$ 693,841	$ 707,649	$ 685,494	$ 673,629	$ 674,211
Home Furnishings and Appliance Stores	114,799	115,526	90,102	98,902	112,750
Building Material and Garden Equipment and Supplies Dealers	335,882	362,231	359,643	359,661	345,253
Food and Beverage Stores	138,035	149,440	153,846	163,197	157,385
Gasoline Stations	242,243	297,190	261,198	238,792	232,492
Clothing and Clothing Accessories Stores	267,916	294,087	285,398	276,797	275,661
General Merchandise Stores	150,860	150,547	148,346	148,532	138,258
Food Services and Drinking Places	473,640	540,945	571,200	587,579	588,160
Other Retail Group	239,823	230,410	221,675	207,021	195,164
Total Retail and Food Services	$ 2,657,040	$ 2,848,026	$ 2,776,902	$ 2,754,110	$ 2,719,335
All Other Outlets	$ 1,817,024	$ 2,397,929	$ 2,197,387	$ 2,004,694	$ 1,973,639
Total All Outlets	$ 4,474,065	$ 5,245,955	$ 4,974,290	$ 4,758,804	$ 4,692,974

Source: California Department of Tax and Fee Administration, *Taxable Sales – Cities by Type of Business (Taxable Table 4)*.

The history of taxable transactions in the County from 2021 through 2025 is shown in the following table.

TAXABLE SALES
County of Orange
2021-2025

Year	*Total Permits*	*Total Outlets Taxable Transactions*
2021	500,880	78,253,935,670
2022	484,486	88,027,070,683
2023	466,492	87,298,416,754
2024	469,515	86,337,412,602
2025	471,470	426,919,623,697

Source: California Department of Tax and Fee Administration, *Taxable Sales – Counties by Type of Business (Taxable Table 3)*.

APPENDIX G

SPECIMEN MUNICIPAL BOND INSURANCE POLICY

Stradling Yocca Carlson & Rauth
Draft of 5/19/26

ESCROW AGREEMENT (2015 BONDS)

THIS ESCROW AGREEMENT (2015 BONDS), dated as of July 1, 2026 (this "**Agreement**"), by and between City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "**District**") and U.S. Bank Trust Company, National Association, as escrow agent (the "**Escrow Agent**") and as 2015 Fiscal Agent (as such term is defined herein), is entered into in accordance with a resolution of the District adopted on _____, 2026 and a Fiscal Agent Agreement, dated as of March 1, 2015 (the "**2015 Fiscal Agent Agreement**"), by and between the District and U.S. Bank Trust Company, National Association, as fiscal agent (the "**2015 Fiscal Agent**"). This Agreement is entered into to refund all of the District's outstanding 2015 Special Tax Refunding Bonds (the "**2015 Bonds**").

RECITALS

A. Pursuant to the 2015 Fiscal Agent Agreement, the District has previously issued the 2015 Bonds in the initial aggregate principal amount of $23,920,000, of which $_____ is currently outstanding.

B. The 2015 Bonds are payable from Special Tax Revenues (as such term is defined in the 2015 Fiscal Agent Agreement) levied on properties within the District.

C. The District has determined to issue its 2026 Special Tax Refunding Bonds (the "**2026 Bonds**"), a portion of the proceeds of which, together with other moneys as described in Section 1, will be applied to pay on October 1, 2026 (the "**Redemption Date**") the principal of the 2015 Bonds maturing on and after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium.

D. The District will irrevocably deposit moneys with the Escrow Agent, which moneys will be used to purchase the securities that are described on Schedule A (the "**Federal Securities**") (as permitted by, in the manner prescribed by and all in accordance with the 2015 Fiscal Agent Agreement). Such Federal Securities satisfy the criteria set forth in Section 9.03 of the 2015 Fiscal Agent Agreement, and the principal of and interest on such Federal Securities when paid will provide money which will be fully sufficient to pay and discharge the 2015 Bonds.

AGREEMENT

SECTION 1. Deposit of Moneys. The District will cause U.S. Bank Trust Company, National Association, as trustee for the 2026 Bonds, to transfer a portion of the proceeds of the 2026 Bonds in the amount of $_____ on the date of issuance of the 2026 Bonds to the Escrow Agent for deposit in the Escrow Fund established hereunder. In addition, on the date of issuance of the 2026 Bonds, the District will cause the 2015 Fiscal Agent to transfer to the Escrow Agent for deposit in the Escrow Fund: (i) $_____ held in the Reserve Account established under the 2015 Fiscal Agent Agreement; and (ii) $_____ held in the other accounts established under the 2015 Fiscal Agent Agreement. In addition, on or prior to the date of issuance of the 2026 Bonds, the District will transfer $_____ in funds on hand with the District to the Escrow Agent for deposit in the Escrow Fund.

The Escrow Agent will hold such amounts in an irrevocable escrow separate and apart from other moneys of the District and the Escrow Agent in a fund hereby created and established to be known as the "**Escrow Fund**" and to be applied solely as provided in this Agreement. The District represents that the sum of the amounts set forth above are at least equal to an amount that is sufficient to purchase the Federal Securities listed on Schedule A and hold $_____ uninvested as cash.

SECTION 2. Investment of Moneys. The Escrow Agent acknowledges receipt of the moneys described in Section 1 and agrees immediately to invest such moneys in the Federal Securities listed on Schedule A and to deposit such Federal Securities in the Escrow Fund. Each of the 2015 Fiscal Agent and the Escrow Agent shall be entitled to rely upon the conclusion of the report delivered by Robert Thomas CPA, LLC (the "**Verification Agent**") in connection herewith that the Federal Securities listed on Schedule A mature and bear interest payable in such amounts and at such times as, together with cash on deposit in the Escrow Fund, will be sufficient to pay, on the Redemption Date, the principal of the 2015 Bonds maturing on and after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium.

SECTION 3. Investment of Any Remaining Moneys. At the written direction of the District, together with an unqualified opinion of Stradling Yocca Carlson & Rauth LLP, to the effect that reinvestment is permitted under the legal documents in effect with respect to the 2015 Bonds and will not have an adverse effect on the federal tax status of the 2015 Bonds, the Escrow Agent shall reinvest any other amount of principal and interest, or any portion thereof, received from the Federal Securities prior to the date on which such payment is required for the purposes set forth herein, in noncallable Federal Securities maturing not later than the date on which such payment or portion thereof is required for the purposes set forth in Section 5, as directed in such written direction of the District as verified in a report prepared by an Independent Financial Consultant (as such term is defined in the 2015 Fiscal Agent Agreement) to the effect that the reinvestment described in said report will not adversely affect the sufficiency of the amounts of securities, investments and money in the Escrow Fund to pay, on the Redemption Date, the principal of the 2015 Bonds maturing on and after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium, and accompanied by a certificate of an independent certified public accountant or firm of certified public accountants of favorable national reputation experienced in the refunding of obligations of political subdivisions confirming the accuracy of the calculations establishing the sufficiency of such deposit. Any interest income resulting from investment or reinvestment of moneys pursuant to this Section which is not required for the purposes set forth in Section 5, as verified in the letter of the Verification Agent originally obtained by the District with respect to the refunding of the 2015 Bonds or in any other report prepared by an independent certified public accountant or firm of certified public accountants of favorable national reputation experienced in the refunding of obligations of political subdivisions, shall be paid to the District promptly upon the receipt of such interest income by the Escrow Agent and written direction by the District. The determination of the District as to whether an accountant qualifies under this Agreement shall be conclusive. The Escrow Agent may conclusively rely upon the written instructions of the District as to both the suitability and legality of any investments directed hereunder, and upon any such opinion, letter and report, and shall have no responsibility or liability with respect thereto.

SECTION 4. Substitution of Securities. Upon the written request of the District, and subject to the conditions and limitations that are set forth herein, the Escrow Agent shall sell, redeem or otherwise dispose of all or a portion of the Federal Securities (as so directed by the District), provided that there are substituted therefor from the proceeds of the Federal Securities other Federal

Securities, but only after the District has obtained and delivered to the Escrow Agent: (i) an unqualified opinion of Stradling Yocca Carlson & Rauth LLP, to the effect that the substitution of securities is permitted under the legal documents in effect with respect to the 2015 Bonds and will not have an adverse effect on the tax status of the 2015 Bonds; (ii) a report by an Independent Financial Consultant (as such term is defined in the 2015 Fiscal Agent Agreement) to the effect that the reinvestment described in said report will not adversely affect the sufficiency of the amounts of securities, investments and money in the Escrow Fund to pay, on the Redemption Date, the principal of the 2015 Bonds maturing on and after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium; and (iii) a certificate of an independent certified public accountant or a firm of independent certified public accountants confirming the accuracy of the calculations establishing the sufficiency of such deposit. The Escrow Agent shall not be liable or responsible for any loss resulting from any reinvestment made pursuant to this Agreement and in full compliance with the provisions hereof, and may conclusively rely upon the written instructions of the District as to both the suitability and legality of any substituted investments directed hereunder, and upon any such opinion and report, and shall have no responsibility or liability with respect thereto.

SECTION 5. Payment of 2015 Bonds.

(a) Payment. From the maturing principal of the Federal Securities and the investment income and other earnings thereon and other moneys on deposit in the Escrow Fund, the Escrow Agent shall transfer funds to the 2015 Fiscal Agent in an amount sufficient to enable the 2015 Fiscal Agent to pay, on the Redemption Date, the principal of the 2015 Bonds maturing on and after the Redemption Date, plus interest with respect thereto accrued through the Redemption Date, without premium, all as indicated on Schedule A.

(b) Irrevocable Instructions to Provide Notice. The notice required to be mailed pursuant to Section 2.03 of the 2015 Fiscal Agent Agreement is substantially in the form attached hereto as Exhibit A. The District hereby irrevocably instructs the 2015 Fiscal Agent: (i) to mail a notice of redemption of the 2015 Bonds maturing after the Redemption Date substantially in the form attached hereto as Exhibit A at least 30 days prior to the Redemption Date to the parties described in and otherwise in accordance with Section 2.03 of the 2015 Fiscal Agent Agreement (including The Depository Trust Company and the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System ("**EMMA**"), maintained on the Internet at http://emma.msrb.org/); and (ii) to mail a notice of defeasance of the 2015 Bonds in the form attached hereto as Exhibit B on the date of issuance of the 2026 Bonds to the parties described in and otherwise in accordance with Section 10.02 of the 2015 Fiscal Agent Agreement and the Continuing Disclosure Certificate, dated as of March 18, 2015, by and between the District and Willdan Financial Services, as dissemination agent, relating to the 2015 Bonds (including EMMA), as required to provide for the payment and redemption of the 2015 Bonds in accordance with this Section. The 2015 Fiscal Agent shall not have any liability to any party in connection with any failure to timely post such notices on EMMA and the sole remedy available shall be an action in mandamus by the holders of the 2015 Bonds for specific performance or similar remedy to compel performance.

(c) Unclaimed Moneys. Any moneys in the Escrow Fund which remain unclaimed after the Redemption Date shall be repaid (without liability for interest) by the Escrow Agent to the District.

(d) Priority of Payments. The owners of the 2015 Bonds shall have a first and exclusive lien on all moneys and securities in the Escrow Fund until such moneys and such securities are used and applied as provided in this Agreement.

(e) Termination of Obligation. As provided in the 2015 Fiscal Agent Agreement, upon the deposit of moneys with the Escrow Agent in the Escrow Fund as set forth in Section 1 and the purchase of the Federal Securities as provided in Section 2, the 2015 Bonds will be legally defeased in accordance with the 2015 Fiscal Agent Agreement except as set forth therein.

SECTION 6. Application of Certain Terms of the 2015 Fiscal Agent Agreement. All of the terms of the 2015 Fiscal Agent Agreement relating to the making of payments of principal of and interest on the 2015 Bonds and relating to the exchange or transfer of the 2015 Bonds are incorporated in this Agreement as if set forth in full herein. The procedures set forth in Sections 7.01 of the 2015 Fiscal Agent Agreement relating to the resignation and removal of the 2015 Fiscal Agent are hereby made applicable to the Escrow Agreement and incorporated in this Agreement as if set forth in full herein naming the Escrow Agent in place of the 2015 Fiscal Agent and shall be the procedures to be followed with respect to any resignation or removal of the Escrow Agent hereunder.

SECTION 7. Performance of Duties. The Escrow Agent agrees to perform only the duties that are set forth herein and shall have no responsibility to take any action or omit to take any action that is not set forth herein.

SECTION 8. Escrow Agent's Authority to Make Investments. Except as provided in Section 2 and 3 hereof, the Escrow Agent shall have no power or duty to invest any funds that are held hereunder or to sell, transfer or otherwise dispose of the moneys or Federal Securities that are held hereunder.

SECTION 9. Indemnity. The District hereby assumes liability for, and hereby agrees (whether or not any of the transactions contemplated hereby are consummated) to indemnify, protect, save and keep harmless the Escrow Agent and its respective successors, assigns, directors, officers, agents, employees and servants, from and against any and all liabilities, obligations, losses, damages, penalties, claims, actions, suits, costs, expenses and disbursements (including reasonable legal fees and disbursements) of whatsoever kind and nature which may be imposed on, incurred by or asserted against the Escrow Agent at any time (whether or not also indemnified against the same by the District or any other person under any other agreement or instrument, but without double indemnity) in any way relating to or arising out of the execution, delivery and performance of this Agreement, the enforcement of any provision of this Agreement (including without limitation enforcement of the District's obligations under this Section 9), the establishment hereunder of the Escrow Fund, the acceptance of the funds and securities deposited therein, the retention of the proceeds thereof and any payment, transfer or other application of moneys or securities by the Escrow Agent in accordance with the provisions of this Agreement; provided, however, that the District shall not be required to indemnify the Escrow Agent against the Escrow Agent's own negligence or willful misconduct or the negligence or willful misconduct of the Escrow Agent's respective employees. In no event shall the District or the Escrow Agent be liable to any person by reason of the transactions that are contemplated hereby other than to each other as set forth in this Section. The indemnities that are contained in this Section shall survive the termination of this Agreement and the resignation or removal of the Escrow Agent.

SECTION 10. Responsibilities of Escrow Agent. The Escrow Agent and its agents and servants shall not be held to any personal liability whatsoever, in tort, contract or otherwise, in connection with the execution and delivery of this Agreement, the establishment of the Escrow Fund, the acceptance of the moneys or securities deposited therein, the retention of the Federal Securities or the proceeds thereof, the sufficiency of the cash on deposit in the Escrow Fund and the Federal Securities to pay the 2015 Bonds or any payment, transfer or other application of moneys or obligations by the Escrow Agent in accordance with the provisions of this Agreement or by reason of any non-negligent act, non-negligent omission or non-negligent error of the Escrow Agent that is made in good faith in the conduct of its duties. The recitals of fact that are contained herein shall be taken as the statements of the District, and the Escrow Agent assumes no responsibility for the correctness thereof. The Escrow Agent makes no representation as to the sufficiency of the proceeds deposited into the Escrow Fund or from the investment thereof to accomplish the refunding of the 2015 Bonds or to the validity of this Agreement as to the District and, except as otherwise provided herein, the Escrow Agent shall incur no liability in respect thereof. The Escrow Agent shall not be liable in connection with the performance of its duties under this Agreement except for its own negligence or willful misconduct, and the duties and obligations of the Escrow Agent shall be determined solely by the express provisions of this Agreement. The Escrow Agent may consult with counsel, who may or may not be counsel to the District, and in reliance upon the written opinion or advice of such counsel shall have full and complete authorization and protection in respect of any action taken, suffered or omitted by it in good faith in accordance therewith. Whenever the Escrow Agent shall deem it necessary or desirable that a matter be proved or established prior to taking, suffering, or omitting any action under this Agreement, such matter may be deemed to be conclusively established by a certificate signed by an officer of the District. The Escrow Agent shall incur no liability for losses arising from any investment made pursuant to this Agreement. The Escrow Agent may conclusively rely and shall be fully protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties.

No provision of this Agreement shall require the Escrow Agent to expend or risk its own funds or otherwise incur any financial liability in the performance or exercise of any of its duties hereunder, or in the exercise of its rights or powers.

The Escrow Agent may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents, attorneys, custodians or nominees appointed with due care, and shall not be responsible for any willful misconduct or negligence on the part of any agent, attorney, custodian or nominee so appointed.

The Escrow Agent shall have the right to accept and act upon instructions, including funds transfer instructions ("**Instructions**") given pursuant to this Agreement and delivered using Electronic Means ("**Electronic Means**" shall mean the following communications methods: e-mail, secure electronic transmission containing applicable authorization codes, passwords and/or authentication keys issued by the Escrow Agent, or another method or system specified by the Escrow Agent as available for use in connection with its services hereunder); provided, however, that the District shall provide to the Escrow Agent an incumbency certificate listing officers with the authority to provide such Instructions ("**Authorized Officers**") and containing specimen signatures of such Authorized Officers, which incumbency certificate shall be amended by the District whenever a person is to be added or deleted from the listing. If the District elects to give the Escrow Agent Instructions using Electronic Means and the Escrow Agent in its discretion elects to act upon

such Instructions, the Escrow Agent's understanding of such Instructions shall be deemed controlling. The District understands and agrees that the Escrow Agent cannot determine the identity of the actual sender of such Instructions and that the Escrow Agent shall conclusively presume that directions that purport to have been sent by an Authorized Officer listed on the incumbency certificate provided to the Escrow Agent have been sent by such Authorized Officer. The District shall be responsible for ensuring that only Authorized Officers transmit such Instructions to the Escrow Agent and that the District and all Authorized Officers are solely responsible to safeguard the use and confidentiality of applicable user and authorization codes, passwords and/or authentication keys upon receipt by the District. The Escrow Agent shall not be liable for any losses, costs or expenses arising directly or indirectly from the Escrow Agent's reliance upon and compliance with such Instructions notwithstanding the fact that such directions conflict or are inconsistent with a subsequent written instruction. The District agrees: (i) to assume all risks arising out of the use of Electronic Means to submit Instructions to the Escrow Agent, including without limitation the risk of the Escrow Agent acting on unauthorized Instructions, and the risk of interception and misuse by third parties; (ii) that it is fully informed of the protections and risks associated with the various methods of transmitting Instructions to the Escrow Agent and that there may be more secure methods of transmitting Instructions than the method(s) selected by the District; (iii) that the security procedures (if any) to be followed in connection with its transmission of Instructions provide to it a commercially reasonable degree of protection in light of its particular needs and circumstances; and (iv) to notify the Escrow Agent immediately upon learning of any compromise or unauthorized use of the security procedures.

The Escrow Agent shall furnish the District with periodic cash transaction statements which include detail for all investment transactions effected by the Escrow Agent or brokers selected by the District, provided that the Escrow Agent is not obligated to provide an accounting for any fund or account that: (a) has a balance of $0.00; and (b) has not had any activity since the last reporting date. Upon the District's election, such statements will be delivered via the Escrow Agent's online service and upon electing such service, paper statements will be provided only upon request. The District waives the right to receive brokerage confirmations of security transactions effected by the Escrow Agent as they occur, to the extent permitted by law. The District further understands that trade confirmations for securities transactions effected by the Escrow Agent will be available upon request and at no additional cost and other trade confirmations may be obtained from the applicable broker.

If the Escrow Agent learns that the Department of the Treasury or the Bureau of Public Debt will not, for any reason, accept a subscription of securities that is to be submitted pursuant to this Agreement, the Escrow Agent shall promptly request alternative written investment instructions from the District with respect to escrowed funds which were to be invested in securities. The Escrow Agent shall follow such instructions and, upon the maturity of any such alternative investment, the Escrow Agent shall hold funds uninvested and without liability for interest until receipt of further written instructions from the District. In the absence of investment instructions from the District, the Escrow Agent shall not be responsible for the investment of such funds or interest thereon. The Escrow Agent may conclusively rely upon the District's selection of an alternative investment as a determination of the alternative investment's legality and suitability and shall not be liable for any losses related to the alternative investments or for compliance with any yield restriction applicable thereto.

In no event shall the Escrow Agent be liable for special, indirect, punitive or consequential loss or damage of any kind whatsoever (including but not limited to lost profits) even if the Escrow Agent has been advised of the likelihood of such damages and regardless of the form of such action.

The Escrow Agent shall not be liable for delays or failures in performance resulting from acts beyond its control. Such acts shall include but not be limited to acts of God, strikes, lockouts, riots, acts of war, epidemics, pandemics, quarantine restrictions, acts of civil or military authority, governmental regulations superimposed after the fact, fire, communication line failures, computer viruses, power failures, earthquakes or other disasters.

SECTION 11. Amendments. This Agreement is made for the benefit of the District and the owners from time to time of the 2015 Bonds and it shall not be repealed, revoked, altered or amended without the written consent of all such owners, the Escrow Agent and the District; provided, however, that the District and the Escrow Agent may, without the consent of, or notice to, such owners, amend this Agreement or enter into such agreements supplemental to this Agreement as shall not materially adversely affect the rights of such owners and as shall not be inconsistent with the terms and provisions of this Agreement or the 2015 Fiscal Agent Agreement, for any one or more of the following purposes: (i) to cure any ambiguity or formal defect or omission in this Agreement; (ii) to grant to, or confer upon, the Escrow Agent for the benefit of the owners of the 2015 Bonds any additional rights, remedies, powers or authority that may lawfully be granted to, or conferred upon, such owners or the Escrow Agent; and (iii) to include under this Agreement additional funds. The Escrow Agent shall be entitled to rely conclusively upon an unqualified opinion of Stradling Yocca Carlson & Rauth LLP, with respect to compliance with this Section, including the extent, if any, to which any change, modification, addition or elimination affects the rights of the owners of the various 2015 Bonds or that any instrument that is executed hereunder complies with the conditions and provisions of this Section.

SECTION 12. Notice to Rating Agencies. In the event that this Agreement or any provision thereof is severed, amended or revoked, the Escrow Agent, upon written instructions from the District, shall provide written notice in the form provided by the District of such severance, amendment or revocation to the rating agencies then rating the 2015 Bonds.

SECTION 13. Term. This Agreement shall commence upon its execution and delivery and shall terminate on the later to occur of either: (i) the date upon which the 2015 Bonds have been paid in accordance with this Agreement; or (ii) the date upon which no unclaimed moneys remain on deposit with the Escrow Agent pursuant to Section 5(c) of this Agreement. Funds remaining in the Escrow Fund after payment in full of the 2015 Bonds shall be transferred to the District.

SECTION 14. Compensation. The District agrees to pay the Escrow Agent its reasonable fees and expenses (including legal fees and expenses) as previously agreed to by the Escrow Agent and the District, and any other reasonable fees and expenses of the Escrow Agent; provided, however, that under no circumstances shall the Escrow Agent be entitled to any lien or assert any lien whatsoever on any moneys or obligations in the Escrow Fund for the payment of fees and expenses for services that are rendered or expenses incurred by the Escrow Agent under this Agreement.

SECTION 15. Severability. If any one or more of the covenants or agreements provided in this Agreement on the part of the District or the Escrow Agent to be performed should be determined by a court of competent jurisdiction to be contrary to law, such covenants or agreements shall be null and void, shall be deemed separate from the remaining covenants and agreements contained herein and shall in no way affect the validity of the remaining provisions of this Agreement.

SECTION 16. Counterparts; Electronic Delivery of Signatures. This Agreement may be executed in several counterparts, all or any of which shall be regarded for all purposes as an original

but all of which shall constitute and be but one and the same instrument. Signatures appearing on any counterpart of this Agreement may be delivered by Electronic Means or by electronic delivery in PDF format, which transmission or delivery shall be deemed delivery of an originally executed document.

SECTION 17. Governing Law. THIS AGREEMENT SHALL BE CONSTRUED UNDER THE LAWS OF THE STATE OF CALIFORNIA.

SECTION 18. Holidays. If the date for making any payment or the last date for performance of any act or the exercising of any right, as provided in this Agreement, shall be a legal holiday or a day on which banking institutions in the city in which is located the office of the Escrow Agent are authorized by law to remain closed, such payment may be made or act performed or right exercised on the next succeeding day which is not a legal holiday or a day on which such banking institutions are authorized by law to remain closed, with the same force and effect as if done on the nominal date provided in this Agreement, and no interest shall accrue for the period from and after such nominal date.

SECTION 19. Assignment. This Agreement shall not be assigned by the Escrow Agent or any successor thereto without the prior written consent of the District; provided, however, that no such consent shall be required with respect to an assignment effected pursuant to Section 20.

SECTION 20. Reorganization of Escrow Agent. Notwithstanding anything to the contrary contained in this Agreement, any company into which the Escrow Agent may be merged or converted or with which it may be consolidated or any company resulting from any merger, conversion or consolidation to which the Escrow Agent is a party, or any company to which the Escrow Agent may sell or transfer all or substantially all of its corporate trust business, shall be the successor to the Escrow Agent without execution or filing of any paper or further act, if such company is eligible to serve as Escrow Agent.

SECTION 21. Insufficient Funds. If at any time the Escrow Agent has actual knowledge that the moneys and investments in the Escrow Fund will not be sufficient to make all payments required by this Agreement, the Escrow Agent shall notify the District in writing of the amount thereof and the reason therefor to the extent known to it. The Escrow Agent shall have no responsibility regarding any such deficiency.

SECTION 22. Notices. Any notice to or demand upon the Escrow Agent may be served or presented, and such demand may be made, at the principal corporate trust office of the Escrow Agent at 633 West Fifth Street, 24th Floor, Los Angeles, California 90071 Attention: Global Corporate Trust, Reference: City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) 2015 Special Tax Refunding Bonds. Any notice to or demand upon the District shall be deemed to have been sufficiently given or served for all purposes by being sent by facsimile or other electronic transmission, overnight mail or courier or mailed by registered or certified mail, and deposited, postage prepaid, in a post office letter box, addressed to the District at 300 E. Chapman Ave, Orange, California 92866 (or such other address as may have been filed in writing by the District with the Escrow Agent).

SECTION 23. OFAC Compliance. The District covenants and represents that neither it nor any of its affiliates, subsidiaries, directors or officers are the target or subject of any sanctions enforced by the United States Government (including the Office of Foreign Assets Control of the

United States Department of the Treasury, the United Nations Security Council, the European Union, HM Treasury, or other relevant sanctions authority (collectively "**Sanctions**"). The District further covenants and represents that neither it nor any of its affiliates, subsidiaries, directors or officers will use any payments made pursuant to this Agreement: (i) to fund or facilitate any activities of or business with any person who, at the time of such funding or facilitation, is the subject or target of Sanctions; (ii) to fund or facilitate any activities of or business with any country or territory that is the target or subject of Sanctions; or (iii) in any other manner that will result in a violation of Sanctions by any person.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK.]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers as of the date first above written.

CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1 (DEL RIO PUBLIC IMPROVEMENTS)

By: _____
Jarad Hildenbrand,
City Manager of the
City of Orange, acting as the
legislative body of City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements)

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as Escrow Agent and 2015 Fiscal Agent

By: _____
Authorized Officer

SCHEDULE A

FEDERAL SECURITIES

Moneys deposited in the Escrow Fund shall be invested as follows:

Security	*Maturity*	*Principal Amount*	*Yield*

The escrow requirements for the 2015 Bonds are as follows:

Period Ending	*Principal Paid*	*Principal Redeemed*	*Interest*	*Total*

EXHIBIT A

NOTICE OF FULL OPTIONAL REDEMPTION

$23,920,000
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2015 SPECIAL TAX REFUNDING BONDS

BASE CUSIP 684076

NOTICE IS HEREBY GIVEN to the owners of the above-captioned obligations (the "2015 Bonds"), which were issued pursuant to a Fiscal Agent Agreement, dated as of March 1, 2015 (the "2015 Fiscal Agent Agreement"), by and between City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "District") and U.S. Bank Trust Company, National Association, as fiscal agent (the "2015 Fiscal Agent"), that the outstanding 2015 Bonds in the aggregate principal amount of $18,040,000 have been called for redemption on October 1, 2026 (the "Redemption Date"). The 2015 Bonds were originally issued on March 18, 2015 and are described in the following table.

Principal Payment Date (October 1)	***CUSIP®† (684076)***	***Principal Amount***	***Interest Rate***	***Redemption Price***
2027	FF4	$ 810,000	3.00%	100%
2028	FG2	865,000	3.12	100
2029	FH0	925,000	3.25	100
2030	FJ6	985,000	3.25	100
2031	FK3	1,050,000	3.25	100
2032	FL1	1,120,000	3.50	100
2033	FM9	1,195,000	3.50	100
2034	FN7	1,270,000	3.50	100
2040	FQ0	9,820,000	5.00	100
TOTAL		$18,040,000		

The 2015 Bonds will be payable on the Redemption Date at a redemption price of 100% of the principal amount thereof plus accrued interest thereon to such date (the "Redemption Price"). The Redemption Price of the 2015 Bonds will become due and payable on the Redemption Date. Interest on the 2015 Bonds will cease to accrue and be payable from and after the Redemption Date, such 2015 Bonds will be surrendered to the 2015 Fiscal Agent and will no longer be entitled to any lien, benefit or security under the 2015 Fiscal Agent Agreement and the owners thereof will have no rights in respect thereof except to receive payment of the Redemption Price on the Redemption Date.

To receive payment on the Redemption Date, owners of the 2015 Bonds are required to present and surrender said 2015 Bonds on or before the Redemption Date at the address of the 2015 Fiscal Agent set forth below:

† CUSIP® is a registered trademark of the American Bankers Association. CUSIP Global Services (CGS) is managed on behalf of the American Bankers Association by FactSet Research Systems Inc. Copyright© CUSIP Global Services. All rights reserved. CUSIP® data herein is provided by CUSIP Global Services. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers are provided for convenience of reference only. Neither the District nor its agents or counsel assume responsibility for the accuracy of such numbers.

REQUIREMENT INFORMATION

First Class/Registered/Certified/Express/By Hand
U.S. Bank
Global Corporate Trust Services
111 Fillmore Avenue E
St. Paul, Minnesota 55107

If the owner of any 2015 Bond that is subject to optional redemption fails to deliver such 2015 Bond to the 2015 Fiscal Agent on the Redemption Date, such 2015 Bond shall nevertheless be deemed redeemed on the Redemption Date and the owner of such 2015 Bond shall have no rights in respect thereof except to receive payment of the Redemption Price from funds that are held by 2015 Fiscal Agent for such payment.

For a list of redemption requirements please visit our website at www.usbank.com/corporatetrust and click on the "Bondholder Information" link for redemption instructions. You may also contact our Bondholder Communications team at 1-800-934-6802 Monday through Friday from 8 AM to 6 PM CST.

IMPORTANT NOTICE

Federal law requires the 2015 Fiscal Agent to withhold taxes at the applicable rate from the payment if an IRS Form W-9 or applicable IRS Form W-8 is not provided. Please visit www.irs.gov for additional information on the tax forms and instructions.

Note: *The District and the 2015 Fiscal Agent shall not be responsible for the selection or use of the CUSIP numbers selected, nor is any representation made as to their correctness in the notice or as printed on any 2015 Bond. They are included solely for the convenience of the holders.*

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as 2015 Fiscal Agent

_____, 2026

EXHIBIT B

NOTICE OF DEFEASANCE

$23,920,000
CITY OF ORANGE COMMUNITY FACILITIES DISTRICT NO. 06-1
(DEL RIO PUBLIC IMPROVEMENTS)
2015 SPECIAL TAX REFUNDING BONDS

BASE CUSIP 684076

NOTICE IS HEREBY GIVEN to the owners of the above-captioned obligations (the "2015 Bonds") pursuant to a Fiscal Agent Agreement, dated as of March 1, 2015 (the "2015 Fiscal Agent Agreement"), by and between City of Orange Community Facilities District No. 06-1 (Del Rio Public Improvements) (the "District") and U.S. Bank Trust Company, National Association, as fiscal agent (the "2015 Fiscal Agent"), that the District has deposited with the 2015 Fiscal Agent, acting as escrow agent, federal securities in an amount that is sufficient (as evidenced by the report of an independent accountant or verification agent delivered to the 2015 Fiscal Agent) to pay on October 1, 2026 the principal of all outstanding 2015 Bonds, plus accrued interest with respect thereto to such date. The 2015 Bonds were originally issued on March 18, 2015 and are described in the following table.

Principal Payment Date (October 1)	***CUSIP®† (684076)***	***Principal Amount***	***Interest Rate***
2026	FE7	$ 755,000	3.00%
2027	FF4	810,000	3.00
2028	FG2	865,000	3.12
2029	FH0	925,000	3.25
2030	FJ6	985,000	3.25
2031	FK3	1,050,000	3.25
2032	FL1	1,120,000	3.50
2033	FM9	1,195,000	3.50
2034	FN7	1,270,000	3.50
2040	FQ0	9,820,000	5.00
TOTAL		$18,795,000	

In accordance with the 2015 Fiscal Agent Agreement: (i) the 2015 Bonds have been legally defeased except as set forth therein; and (ii) all obligations of the District under the Continuing Disclosure Certificate, dated as of March 18, 2015, by and between the District and Willdan Financial Services, as dissemination agent, relating to the 2015 Bonds, have been terminated as of the date hereof.

The District and the 2015 Fiscal Agent shall not be responsible for, and no representation is made as to the correctness of the CUSIP number either as printed on any 2015 Bond or as contained

† CUSIP® is a registered trademark of the American Bankers Association. CUSIP Global Services (CGS) is managed on behalf of the American Bankers Association by FactSet Research Systems Inc. Copyright© CUSIP Global Services. All rights reserved. CUSIP® data herein is provided by CUSIP Global Services. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers are provided for convenience of reference only. Neither the District nor its agents or counsel assume responsibility for the accuracy of such numbers.

herein and any error in the CUSIP number shall not affect the validity of the proceedings for redemption of the 2015 Bonds.

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as 2015 Fiscal Agent

_____, 2026

Agenda Item

Orange City Council

Item #: 8.1. 6/9/2026 **File #:** 26-0148

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Monica Espinoza, Human Resources Director**

1. SUBJECT
Public hearing and reporting on City of Orange vacancies pursuant to Government Code 3502.3

2. SUMMARY
This item is presented to comply with Government Code Section 3502.3, which requires public agencies to conduct an annual public hearing regarding vacancies and recruitment and retention efforts. This report summarizes vacant City positions and discusses the current City vacancies, recruitment, and retention efforts.

3. RECOMMENDED ACTION
1. Conduct and close the Public Hearing.

2. Receive and file report of City vacancies, recruitment, and retention efforts.

4. FISCAL IMPACT
There is no direct financial impact associated with conducting a public hearing pursuant to Government Code 3502.3. However, addressing recruitment and retention issues could involve future budgeting and bargaining considerations.

5. STRATEGIC PLAN GOALS
Goal 1: Maintain Strong Emergency and Safety Services
Goal 4: Employee Retention and Recruitment
- Objective 4.1: Develop and implement a comprehensive plan to market the City of Orange as an employer of choice
- Objective 4.5: Implement Succession Planning Strategies

6. DISCUSSION AND BACKGROUND
Governor Newsom signed Assembly Bill 2561 (AB2561) into law on September 22, 2024 to amend the Meyers-Milias-Brown Act (MMBA). AB 2561 went into effect January 1, 2025 and codified California Government Code Section 3502.3 which mandates public agencies hold a public hearing at least once per fiscal year to report on vacancy status and recruitment and retention efforts.

Pursuant to AB 2561, the appropriate posting and notifications of this hearing were made to our labor association/union representatives, noting their opportunity to address the City Council on the matter.

Job Vacancies

Vacancies occur most often because of promotions, transfers, retirements, resignations, or terminations. As of June 1, 2026, 46 out of the City's 579 budgeted full-time positions within the City's eight (8) represented bargaining groups were vacant, which is an overall 7.94% vacancy rate, as summarized in the chart below.

Bargaining Group	Number of Vacant Budgeted FT Positions	Number of Budgeted FT Positions	Percentage of Bargaining Group
City of Orange Police Association (COPA)	20	199	10.05%
City of Orange Police Management Association (PMA)	1	34	2.94%
International Brotherhood of Electrical Workers (IBEW) Local 47 - Maintenance & Crafts	5	49	10.2%
International Brotherhood of Electrical Workers (IBEW) Local 47 - Water	5	25	20%
Orange City Firefighters, Inc. Local 2384 of the International Association of Fire Fighters, AFL-CIO	1	116	0.86%
Orange City Fire Management Association (FMA)	0	6	0%
Orange Management Association (OMA)	5	49	10.2%
Orange Municipal Employees' Association (OMEA)	9	101	8.91%
Total	**46**	**579**	**7.94%**

The vacancy information presented in this report reflects the City's represented bargaining units, consistent with the requirements of Government Code Section 3502.3.

As of June 1, 2026, International Brotherhood of Electrical Workers (IBEW) Local 47 representing Water Division employees had five (5) vacant positions out of 25 budgeted positions, resulting in a 20% vacancy rate. Within these identified vacancies are one (1) Water Maintenance Leadworker, three (3) Water Skilled Maintenance Workers, and one (1) Water Plant Operator I. Despite these vacancies, the Water Division continues to maintain regulatory compliance and service levels through operational adjustments, overtime, and recruitment efforts.

Recruitment Outreach and Process

When vacancies occur, the department initiates a requisition for recruitment with the Human Resources Department. That requisition is reviewed by the City Manager, who determines whether to approve, delay, or deny the recruitment based on the City's operational needs and financial considerations. When a requisition to recruit and fill a vacancy is approved, the Human Resources Department collaborates with the respective department to implement recruitment outreach strategies to attract qualified candidates. The appropriate recruitment type is determined (closed/promotional or open/competitive) and a job posting is crafted highlighting City of Orange employment benefits as well as desirable elements of the specific job role and department.

Human Resources posts job announcements on the City's website, GovernmentJobs.com, LinkedIn, industry-specific websites/professional associations, at applicable regional/college job fairs and

career centers, and on its billboard located at the 55 Freeway and Katella. The City offers a hiring and referral bonus for some of its difficult-to-fill positions.

Candidates who apply and meet or exceed minimum qualifications proceed in the recruitment. Written exams, skills assessments, and/or interviews are conducted to determine candidate eligibility. Candidates scoring 70% or higher in the recruitment process are placed on an eligibility list for consideration by the respective department's hiring manager(s). Eligibility lists are used for up to one (1) year to fill subsequent approved requisitions without needing to facilitate a new recruitment process.

The time required to fill a vacancy varies by classification and labor market conditions, with specialized technical and public safety positions generally requiring longer recruitment periods.

Retention Efforts

To retain its existing employees, the City offers job-related trainings and professional development opportunities, post-graduate degree incentives, employee engagement initiatives, wellness and education reimbursement, and alternative work schedules (i.e., 9/80, 4/10, 3/12.5, or 48/96, depending on department and job role).

For certain classifications, compensation levels are below the median of comparable agencies, which can create challenges in employee recruitment and retention.

7. ATTACHMENTS

- Vacancy Report by Bargaining Group & Classification

Agenda Item

Orange City Council

Item #: 8.1. 6/9/2026 **File #:** 26-0148

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Monica Espinoza, Human Resources Director**

1. SUBJECT
Public hearing and reporting on City of Orange vacancies pursuant to Government Code 3502.3

2. SUMMARY
This item is presented to comply with Government Code Section 3502.3, which requires public agencies to conduct an annual public hearing regarding vacancies and recruitment and retention efforts. This report summarizes vacant City positions and discusses the current City vacancies, recruitment, and retention efforts.

3. RECOMMENDED ACTION
1. Conduct and close the Public Hearing.

2. Receive and file report of City vacancies, recruitment, and retention efforts.

4. FISCAL IMPACT
There is no direct financial impact associated with conducting a public hearing pursuant to Government Code 3502.3. However, addressing recruitment and retention issues could involve future budgeting and bargaining considerations.

5. STRATEGIC PLAN GOALS
Goal 1: Maintain Strong Emergency and Safety Services
Goal 4: Employee Retention and Recruitment
- Objective 4.1: Develop and implement a comprehensive plan to market the City of Orange as an employer of choice
- Objective 4.5: Implement Succession Planning Strategies

6. DISCUSSION AND BACKGROUND
Governor Newsom signed Assembly Bill 2561 (AB2561) into law on September 22, 2024 to amend the Meyers-Milias-Brown Act (MMBA). AB 2561 went into effect January 1, 2025 and codified California Government Code Section 3502.3 which mandates public agencies hold a public hearing at least once per fiscal year to report on vacancy status and recruitment and retention efforts.

Pursuant to AB 2561, the appropriate posting and notifications of this hearing were made to our labor association/union representatives, noting their opportunity to address the City Council on the matter.

Job Vacancies

Vacancies occur most often because of promotions, transfers, retirements, resignations, or terminations. As of June 1, 2026, 46 out of the City's 579 budgeted full-time positions within the City's eight (8) represented bargaining groups were vacant, which is an overall 7.94% vacancy rate, as summarized in the chart below.

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International Brotherhood of Electrical Workers (IBEW) Local 47 - Water	5	25	20%
Orange City Firefighters, Inc. Local 2384 of the International Association of Fire Fighters, AFL-CIO	1	116	0.86%
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The vacancy information presented in this report reflects the City's represented bargaining units, consistent with the requirements of Government Code Section 3502.3.

As of June 1, 2026, International Brotherhood of Electrical Workers (IBEW) Local 47 representing Water Division employees had five (5) vacant positions out of 25 budgeted positions, resulting in a 20% vacancy rate. Within these identified vacancies are one (1) Water Maintenance Leadworker, three (3) Water Skilled Maintenance Workers, and one (1) Water Plant Operator I. Despite these vacancies, the Water Division continues to maintain regulatory compliance and service levels through operational adjustments, overtime, and recruitment efforts.

Recruitment Outreach and Process

When vacancies occur, the department initiates a requisition for recruitment with the Human Resources Department. That requisition is reviewed by the City Manager, who determines whether to approve, delay, or deny the recruitment based on the City's operational needs and financial considerations. When a requisition to recruit and fill a vacancy is approved, the Human Resources Department collaborates with the respective department to implement recruitment outreach strategies to attract qualified candidates. The appropriate recruitment type is determined (closed/promotional or open/competitive) and a job posting is crafted highlighting City of Orange employment benefits as well as desirable elements of the specific job role and department.

Human Resources posts job announcements on the City's website, GovernmentJobs.com, LinkedIn, industry-specific websites/professional associations, at applicable regional/college job fairs and

career centers, and on its billboard located at the 55 Freeway and Katella. The City offers a hiring and referral bonus for some of its difficult-to-fill positions.

Candidates who apply and meet or exceed minimum qualifications proceed in the recruitment. Written exams, skills assessments, and/or interviews are conducted to determine candidate eligibility. Candidates scoring 70% or higher in the recruitment process are placed on an eligibility list for consideration by the respective department's hiring manager(s). Eligibility lists are used for up to one (1) year to fill subsequent approved requisitions without needing to facilitate a new recruitment process.

The time required to fill a vacancy varies by classification and labor market conditions, with specialized technical and public safety positions generally requiring longer recruitment periods.

Retention Efforts

To retain its existing employees, the City offers job-related trainings and professional development opportunities, post-graduate degree incentives, employee engagement initiatives, wellness and education reimbursement, and alternative work schedules (i.e., 9/80, 4/10, 3/12.5, or 48/96, depending on department and job role).

For certain classifications, compensation levels are below the median of comparable agencies, which can create challenges in employee recruitment and retention.

7. ATTACHMENTS

- Vacancy Report by Bargaining Group & Classification

Vacancy Report by Bargaining Group & Classification

City of Orange Police Association	# of Vacant Budgeted FT Positions
Homeless Outreach Specialist	1
Parking Control Officer II	3
Police Administrative Assistant	1
Police Dispatcher	2
Police Jailer	1
Police Officer	7
Police Records Clerk	4
Senior Police Clerk	1
Total	**20**

City of Orange Police Management Association	# of Vacant Budgeted FT Positions
Police Sergeant	1
Total	**1**

IBEW – Maintenance & Crafts	# of Vacant Budgeted FT Positions
Equipment Operator	1
Maintenance Worker	1
Public Works Maintenance Worker II	1
Skilled Maintenance Worker – Parks	1
Skilled Maintenance Leadworker	1
Total	**5**

IBEW – Water	# of Vacant Budgeted FT Positions
Skilled Maintenance Worker – Water	3
Water Maintenance Leadworker	1
Water Plant Operator I	1
Total	**5**

Orange City Firefighters, Inc. Local 2384	# of Vacant Budgeted FT Positions
Firefighter	1
Total	**1**

Orange City Fire Management Association	# of Vacant Budgeted FT Positions
N/A	N/A
Total	**0**

Orange Management Association	# of Vacant Budgeted FT Positions
Finance Supervisor	1
Recreation Services Supervisor	1
Senior Planner	1
Senior Water Quality Inspector	1
Water Maintenance Supervisor	1
Total	**5**

Orange Municipal Employees' Association	# of Vacant Budgeted FT Positions
Accountant	1
Assistant Engineer	1
Assistant Planner	1
Associate Planner	1
Librarian III	2
Plan Check Engineer	1
Recreation Services Coordinator	1
Senior Finance Clerk	1
Total	**9**

Agenda Item

Orange City Council

Item #: 8.2. 6/9/2026 **File #:** 26-0153

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Public Hearing to consider adoption of the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan and Introduction and First Reading of Ordinance No. 10-26 updating regulations to prohibit potable water from being used to irrigate non-functional turf areas

2. SUMMARY

The City's Urban Water Management Plan was initially adopted in 1985 and must be updated every five years to satisfy the Urban Water Management Plan Act of 1983 and the California Water Code requirements (Sections 10610 - 10656). The comprehensive Urban Water Management Plan assesses the City's current and future water consumption demands, availability and reliability of its water supplies, various water demand management measures to facilitate customer water use efficiency, water supply contingency plan, and future water supply programs. Additionally, the 2025 Urban Water Management Plan also includes the 2025 Water Shortage Contingency Plan designed to prepare for and respond to water shortages.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.

2. Adopt Resolution No. 11692. A Resolution of the City Council of the City of Orange adopting the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan.

3. Introduce and conduct First Reading of Ordinance No. 10-26. An Ordinance of the City Council of the City of Orange prohibiting potable water from being used to irrigate areas of non-functional turf.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

Resolution No. 11692

Water Code Sections 10610 through 10656 and the Urban Water Management Plan (UWMP) Act require every urban water supplier providing drinking water to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file an UWMP with the California Department of Water Resources (DWR) every five years.

UWMP is a comprehensive document that presents an evaluation of a water supplier's long-term reliability. The 2025 UWMP provides an assessment of the present and future water supply sources and demands within the City's service area. It presents an update of the City's water resource needs, water-use efficiency programs, water reliability assessment, and strategies to mitigate water shortage conditions. It also presents an updated 2025 Water Shortage Contingency Plan (WSCP) designed to prepare for, and respond to, water shortages. The 2025 UWMP contains all elements to meet compliance with the new requirements of the UWMP Act as amended since 2020.

The WSCP is a strategic planning document designed to prepare for and respond to water supply shortages. The WSCP has prescriptive elements, including:

- An analysis of water supply reliability
- The water shortage response actions for each of the six standard water shortage levels
- Potential solutions to close water supply gaps
- Protocols and procedures to communicate identified actions for any current or predicted water shortage conditions
- Procedures for an Annual Assessment
- Monitoring and reporting requirements to determine customer compliance; and
- Reevaluation and improvement procedures for evaluating the WSCP.

This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions. Although the WSCP is an appendix to the UWMP, DWR requires the WSCP to be treated as a stand-alone document.

Ordinance No. 10-26

California Assembly Bill 1572 (AB 1572), signed into law on October 13, 2023, prohibits the use of potable water to irrigate non-functional turf located on local government, commercial, industrial, institutional properties, and HOA common areas throughout the State of California. To meet the State's requirements, it is necessary for the City to update its regulations to enforce the State-mandated prohibitions by adopting Ordinance No. 10-26 amending Section 7.02.030 and adding Section 7.02.160 to the Orange Municipal Code.

7. ATTACHMENTS

- Attachment 1 Resolution No. 11692
- Attachment 2 Ordinance No. 10-26
- Attachment 3 City of Orange 2025 UWMP

- Attachment 4 City of Orange 2025 WSCP

Agenda Item

Orange City Council

Item #: 8.2. 6/9/2026 **File #:** 26-0153

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Public Hearing to consider adoption of the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan and Introduction and First Reading of Ordinance No. 10-26 updating regulations to prohibit potable water from being used to irrigate non-functional turf areas

2. SUMMARY

The City's Urban Water Management Plan was initially adopted in 1985 and must be updated every five years to satisfy the Urban Water Management Plan Act of 1983 and the California Water Code requirements (Sections 10610 - 10656). The comprehensive Urban Water Management Plan assesses the City's current and future water consumption demands, availability and reliability of its water supplies, various water demand management measures to facilitate customer water use efficiency, water supply contingency plan, and future water supply programs. Additionally, the 2025 Urban Water Management Plan also includes the 2025 Water Shortage Contingency Plan designed to prepare for and respond to water shortages.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.

2. Adopt Resolution No. 11692. A Resolution of the City Council of the City of Orange adopting the City of Orange 2025 Urban Water Management Plan and 2025 Water Shortage Contingency Plan.

3. Introduce and conduct First Reading of Ordinance No. 10-26. An Ordinance of the City Council of the City of Orange prohibiting potable water from being used to irrigate areas of non-functional turf.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology

6. DISCUSSION AND BACKGROUND

Resolution No. 11692

Water Code Sections 10610 through 10656 and the Urban Water Management Plan (UWMP) Act require every urban water supplier providing drinking water to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file an UWMP with the California Department of Water Resources (DWR) every five years.

UWMP is a comprehensive document that presents an evaluation of a water supplier's long-term reliability. The 2025 UWMP provides an assessment of the present and future water supply sources and demands within the City's service area. It presents an update of the City's water resource needs, water-use efficiency programs, water reliability assessment, and strategies to mitigate water shortage conditions. It also presents an updated 2025 Water Shortage Contingency Plan (WSCP) designed to prepare for, and respond to, water shortages. The 2025 UWMP contains all elements to meet compliance with the new requirements of the UWMP Act as amended since 2020.

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Ordinance No. 10-26

California Assembly Bill 1572 (AB 1572), signed into law on October 13, 2023, prohibits the use of potable water to irrigate non-functional turf located on local government, commercial, industrial, institutional properties, and HOA common areas throughout the State of California. To meet the State's requirements, it is necessary for the City to update its regulations to enforce the State-mandated prohibitions by adopting Ordinance No. 10-26 amending Section 7.02.030 and adding Section 7.02.160 to the Orange Municipal Code.

7. ATTACHMENTS

- Attachment 1 Resolution No. 11692
- Attachment 2 Ordinance No. 10-26
- Attachment 3 City of Orange 2025 UWMP

- Attachment 4 City of Orange 2025 WSCP

RESOLUTION NO. 11692

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE ADOPTING THE CITY OF ORANGE 2025 URBAN WATER MANAGEMENT PLAN AND 2025 WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, the City of Orange (the "City") is a municipal corporation which exercises governmental functions and powers and is organized and existing under the laws of the State of California; and

WHEREAS, the City is an "urban retail water supplier" under the meaning of that term set forth in Section 10608.12 of the Water Code of the State of California; and

WHEREAS, the Urban Water Management Planning Act (commencing with Sections 10610 - 10656 of the Water Code requirements of the State of California; herein referred to as the "Law") was enacted in 1984 to require every urban water supplier to prepare and adopt the Urban Water Management Plan and Water Shortage Contingency Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the City has heretofore prepared and adopted an Urban Water Management Plan and Water Shortage Contingency Plan pursuant to the Law; and

WHEREAS, the Law requires each urban water supplier to review and update its Urban Water Management Plan and Water Shortage Contingency Plan at least every five (5) years; and

WHEREAS, the City has on June 9, 2026, adopted the update to its Urban Water Management Plan and Water Shortage Contingency Plan in the form of the "City of Orange 2025 Urban Water Management Plan" and "City of Orange 2025 Water Shortage Contingency Plan" (the "Plans") in accordance with the Law, which, among other things, required each urban water supplier to make the proposed Plans available for public inspection and to hold a noticed public hearing thereon; and

WHEREAS, there has been made available in the office of the City Clerk for at least two weeks prior to such public hearing for public inspection and copying, at a cost not to exceed the cost of duplication, the proposed updated Plans; and

WHEREAS, pursuant to Section 10642 of the Law, after notice duly published in accordance with the Law, the Agency held a public hearing on this date with respect to the proposed updated Plans.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange, on the basis of the facts set forth in the agenda report presented to it and any testimony received at the meeting at which this matter was considered, as follows:

1. The foregoing recitals are true and correct.

2. The Plans in the form presented at this meeting, together with such amendments or changes therein as the City Council has determined necessary and appropriate, is adopted.

3. The City Clerk is authorized and directed to file the Plans with the California Department of Water Resources within thirty (30) days after the date of this Resolution.

ADOPTED this 9th day of June 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the ____ day of _____ 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

ORDINANCE NO. 10-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING CHAPTER 7.02 OF THE ORANGE MUNICIPAL CODE PROHIBITING POTABLE WATER FROM BEING USED TO IRRIGATE AREAS OF NON-FUNCTIONAL TURF.

WHEREAS, the City of Orange (the "City") is a municipal corporation which exercises governmental functions and powers and is organized and existing under the laws of the State of California; and

WHEREAS, the City has long recognized the importance of water conversation due to the State of California's frequent drought conditions, continued demand for water, unpredictable weather and precipitation rates; and

WHEREAS, California Assembly Bill 1572 (AB 1572), signed into law on October 13, 2023, prohibits the use of potable water to irrigate Non-Functional Turf located on Local Government, Commercial, Industrial, and Institutional Properties, and HOA Common Areas throughout the State of California and requires the City to update its regulations to enforce the State-mandated prohibitions; and

WHEREAS the changes proposed update the Code to conform with proposed State mandated prohibitions.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES HEREBY ORDAIN AS FOLLOWS:

SECTION I:

The subject Ordinance is exempt from the provisions of the California Environmental Quality Act (CEQA) per State CEQA Guidelines (Guidelines) Sections 15060(c)(2) and 15060(c)(3) because review and evaluation of potential impact of the Ordinance demonstrate that it will not result in a direct or reasonably foreseeable indirect physical change in the environment, and it is not a "project" as defined in Guideline 15378 and the Ordinance regulates conduct and enforcement procedures and does not authorize or result in any physical development or change to the environment; any resulting enforcement activity is indirect, speculative, and not a reasonably foreseeable physical change.

SECTION II:

Section 7.02.030 of the Orange Municipal Code, "Environment – Water Shortage Contingency Response – Definitions," is hereby amended to read as follows:

7.02.030 Definitions.

The following words and phrases, as used in this chapter, are defined as follows:

"**AB 1572**" Assembly Bill 1572, Friedman. Potable Water: Non-Functional Turf. The legislation that prohibits the watering of Non-Functional turf for the certain customer classes and requires water suppliers to implement regulations, ordinances, or policies supporting the prohibition.

"**Commercial Properties**" Application of business, such as a hotel, restaurant, or office building, that utilizes water. These facilities are generally categorized within, but not limited to, construction, retail/wholesale trade, transportation, information, professional activities and other similar entities.

"**Domestic Water**" Water supplied by a water supplier to domestic customers, and used for purposes including indoor activities, such as drinking, cooking, and bathing as well as outdoor uses such as landscaping irrigation and lawn watering.

"**Functional Turf**" Existing turf grass areas that have a clear, dedicated function, are used regularly, provide a recreational benefit to the community/property , are an essential part of a commercial service or operation, provide reasonable space and safe access, have a history of programmed events past , present, and future, or they are future turf installations planned for a property which meet the requirements of Functional Turf.

"**Government Property**" A Water User that is a government agency owning or operating a property, which is a permanent or semi-Permanent organization within a state and local government responsive for overseeing or administering specific functions.

"**Industrial Property**" A Water User that is primarily a manufacturer or Processor of materials, and /or an entity that is a Water User primarily engaged in research and development.

"**Institutional Property**" A Water User dedicated to public service. This type of user includes but is not limited to; higher education institutions, schools, courts, churches, hospitals, and nonprofit research institutions.

"**Non-Functional Turf**" Turf areas that do not meet the required conditions and criteria, as identified in the Functional Turf definition within this Ordinance. Non- Functional Turf areas are turf areas with no functional purpose other than being aesthetic, ornamental, or passive landscaping. Excludes cemeteries from this definition.

SECTION III:

Section 7.02.160 "Environment – Water Shortage Contingency Response –Prohibiting Potable Water from Being Used to Irrigate Areas of Non-Functional Turf" is hereby added to the Orange Municipal Code to read as follows:

Section 7.02.160 Prohibiting Potable Water from Being Used to Irrigate Areas of Non-Functional Turf

A. The following prohibitions on the Use of Potable Water to Irrigate Non-Functional Turf are in effect, regardless of whether any declared shortage conditions are in effect.

1. No person shall use potable water to irrigate non-functional turf on Government Property/publicly owned property beginning January 1, 2027.

2. No person shall use potable water to irrigate non-functional turf on commercial, industrial, and institutionally owned property beginning January 1, 2028.

3. No person shall use potable water to irrigate non-functional turf on homeowners' associations common area, common interest developments, and community service organizations, or similar entities, beginning January 1, 2029.

4. No person shall use potable water to irrigate non-functional turf on Government Property/publicly owned property located within disadvantaged communities (DAC) beginning January 1, 2031, or upon the date state funding for turf conversion to climate appropriate landscapes within DACs becomes available.

B. Requires commercial, industrial, municipal, Government Property/publicly owned, and institutional property owners with more than 5,000 square feet of irrigated areas to self-certify to the State Water Board compliance with this bill beginning June 30, 2029, and every three years thereafter through 2038.

C. Requires homeowners' association common area, common interest development, or community service organization, or similar entity property owners with more than 5,000 square feet of irrigated areas to self-certify to the State Water Board compliance with this bill beginning June 30, 2031, and every three years thereafter through 2039.

D. Self-certification requirements shall begin six (6) months prior to the applicable compliance deadline. All Affected Water Customers identified as self-certifying must clearly designate Functional and Non-Functional Turf areas on their property by June 30 of the year prior to the relevant deadlines. Affected Water Customers shall submit a self-certification form and requested documents, including, but not limited to, a map identifying all Functional and Non-Functional Turf areas. If an Affected Water Customer has no Functional Turf to report, a parcel map is not required, however, self-certification is still necessary.

E. Permits the State Water Resources Control Board (State Water Board) to extend compliance dates outlined above, by up to three years through regulation.

F. Requires public water systems to update their regulations, ordinances, or policies governing water use no later than January 1, 2027, to incorporate the prohibition on the use of potable water on nonfunctional turf established by this bill.

G. Authorizes a water system, city, county, or city and county to enforce the provisions of this bill.

H. The use of potable water is not prohibited to the extent necessary to ensure the health of trees and perennial non-turfing plants or as necessary to address an immediate health and safety need.

I. Functional Turf landscaping not subject to this Ordinance, and therefore may be irrigated with Potable Water included but are not limited to:

1. Government Functional Turf: Turf areas on Government Properties/publicly owned land that offer a gathering benefit to the community, provide a dedicated function as a Recreational Use Area that improves the quality of life for the Public, or have a justifiable operational requirement. Specific examples include public parks Recreational Use Areas, and sports fields.

2. Commercial, Industrial and Institutional Functional Turf: Turf areas on Commercial properties which have an exclusive use, and are inherently required to sustain an essential function, service, or operation. Some examples include pet relief areas for veterinary and pet shelters, daycare centers, youth centers, agricultural applications, sports stadiums, and regularly programmed events in areas with temporary occupancy.

3. HOA Common Area Functional Turf: Turf areas in a Homeowners Association's Common Area, or a similar entity, if it has a history of programmed community events such as charity drives, weddings, concerts; or Recreational use Areas with specific functions such as a children's playground, sports field, or dedicated pet areas.

4. Single-family homes, cemeteries, golf courses and turf areas irrigated with Recycled Water are excluded from the requirements of AB 1572 and are not required to comply with this Ordinance; this applies to Potable Domestic Water Service only.

SECTION IV:

If any section, subdivision, paragraph, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subdivision, paragraph, sentence, clause and phrase thereof, irrespective of the fact that anyone (or more) section, subdivision, paragraph, sentence, clause or phrase had been declared invalid or unconstitutional.

SECTION V:

The City Clerk is hereby directed to certify the adoption of this Ordinance and cause the same to be published as required by law. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this ____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the _____ day of _____, 2026, and thereafter at the regular meeting of said City Council duly held on the _____ day of _____, 2026 was duly passed and adopted by the following vote, to wit:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

City of Orange
Geographic Information System

2025 Urban Water Management Plan

FINAL DRAFT / May 2026



carollo® in collaboration with CDM Smith and Maddaus Water Management Inc.

2025 Urban Water Management Plan

May 2026 / FINAL DRAFT

Prepared By:
Carollo Engineers, Inc.
707 Wilshire Boulevard, Suite 3920
Los Angeles, California 90017
Phone: 213.489.1587
https://www.carollo.com

Prepared For:
City of Orange
189 S. Water Street
Orange, California 92866
Phone: 714.288.2475
https://www.cityoforange.org

In collaboration with:

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Abbreviations

AB	Assembly Bill
ACS	American Community Survey
ADU	accessory dwelling unit
AF	acre-feet
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure
AMP	East Allen-McColloch Pipeline
AVEK	Antelope Valley-East Kern Water Agency
AWWA	American Water Works Association
BEA	Basin Equity Assessment
BiOps	Biological Opinions
BPP	Basin Production Percentage
BSA	Boy Scouts of America
CAMP4W	Climate Adaptation Master Plan for Water
CDR	Center for Demographic Research at California State University, Fullerton
CEE	Consortium for Energy Efficiency
cfs	cubic feet per second
CII	Commercial, Industrial, and Institutional
City	The City of Orange
CPTP	Coastal Pumping Transfer Program
CRA	Colorado River Aqueduct
CRSS	Colorado River Simulation System
CUP	conjunctive use program
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CY	Calendar Year
DCP	Drought Contingency Plan
DCP	Delta Conveyance Project
DIMs	dedicated irrigation meters
DMM	Demand Management Measures
DOF	State Department of Finance
DVL	Diamond Valley Lake
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EOCF #2	East Orange County Feeder Number 2
EOCWD	East Orange County Water District

EPA	Environmental Protection Agency
ESA	Endangered Species Act
FIRO	Forecast Informed Reservoir Operations
FY	Fiscal Years
GAC	granular activated carbon
GAP	Green Acres Project
GDP	gross domestic product
GHG	greenhouse gas
GIS	geographic information system
gpcd	gallons per capita per day
gpf	gallons per flush
GPSCD	Gallons per Service Connection per Day
GRP	Groundwater Resilience Plan
GSWC	Golden State Water Company
HDI	hot-dry index
HECW	High Efficiency Clothes Washer
HET	High Efficiency Toilet
ICS	Intentionally Created Surplus
IRP	Integrated Water Resources Plan
IRWD	Irvine Ranch Water District
IWCM	Interim Water Control Manual change
IX	ion-exchange
JADUs	Junior ADUs
kWh	kilowatt-hour
LRP	Local Resources Program
LVL	Leo J. Vander Lans Advanced Water Treatment Facility
M&I	municipal and industrial
MAF	million acre-feet
MCLs	Maximum Contaminant Levels
MET	Metropolitan Water District of Southern California
MG	million gallons
mgd	million gallons of water per day
MUMs	mixed-use CII meters
MWDOC	Municipal Water District of Orange County
ND	non-detect
NDMA	N-nitrosodimethylamine
ng/L	nanograms per liter
NPDES	National Pollutant Discharge Elimination System
OC	Orange County

OC Basin	Orange County Groundwater Basin
OC San	Orange County Sanitation District
OCF	Orange County Feeder
OCSD	Orange County Sanitation District
OCWD	Orange County Water District
PFAS	per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PPCP	pharmaceuticals and personal care products
ppt	parts per trillion
PRISM	Parameter-elevation Regressions on Independent Slopes Model
QSA	Quantification Settlement Agreement
QWEL	Qualified Water Efficient Landscaper
R&I	retail and municipal
RA	Replenishment Assessment
R-GPCD	Residential Gallons Per Capita Per Day
RHNA	Regional Housing Needs Assessment
RUWMP	Regional Urban Water Management Plan
SARCCUP	Santa Ana River Conservation and Conjunctive Use Program
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SDCWA	San Diego County Water Authority
SF	square foot
SGMA	Sustainable Groundwater Management Act
SNWA	Southern Nevada Water Authority
STEM	science, technology, engineering, and mathematics
Supplier	urban water supplier
SWD	Serrano Water District
SWP	State water Project
TAP	Technical Assistance Program
TAZ	traffic analysis zones
TDS	Total Dissolved Solids
TM	Technical Memorandum
USACE	US Army Corps of Engineers
USBR	The United States Bureau of Reclamation
USBR	United States Department of Interior Bureau of Reclamation
UV	ultraviolet
UWMP	Urban Water Management Plan

UWMP Act or Acts	UWMP Act of 1983
UWUO	Urban Water Use Objective
Valley	San Bernardino Valley Municipal Water District
Water Code	California Water Code
WCM	Water Control Manual
WEEA	Water Energy Education Alliance
WRD	Water Replenishment District of Southern California's
WSAP	Water Supply Allocation Plan
WSAP	Water Savings Action Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water Savings Incentive Program
WUE	Water Use Efficiency
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

ES.1 Introduction and UWMP Overview

The City of Orange (City) prepared this 2025 Urban Water Management Plan (UWMP) to submit to the California Department of Water Resources (DWR) to satisfy the UWMP Act of 1983 (UWMP Act or Act) and subsequent California Water Code (Water Code) requirements. UWMPs are comprehensive documents that present an evaluation of a water supplier's reliability over a long-term (20- to 25-year) horizon. This 2025 UWMP provides an assessment of the present and future water supply sources and demands within the City's service area. It presents an update to the 2020 UWMP on the City's water resource needs, water use efficiency programs, water reliability assessment, and strategies to mitigate water shortage conditions. It also presents the City's updated 2025 Water Shortage Contingency Plan (WSCP), designed to prepare for and respond to water shortages. This 2025 UWMP contains all elements required by the UWMP Act.

ES.2 UWMP Preparation

The City coordinated the preparation of this 2025 UWMP with other key entities, the Municipal Water District of Orange County (MWDOC), the regional wholesaler of imported water for Orange County, and the Orange County Water District (OCWD), Orange County Groundwater Basin (OC Basin) manager and provider of recycled water in north Orange County. The City also coordinated with the East Orange County Water District (EOCWD) for the purchase of imported water. In addition, the City coordinated with other entities that provided valuable, regionally consistent data for the analyses prepared in this UWMP, including population projections from the Center for Demographic Research (CDR) at California State University, Fullerton, and the Orange County Water Demand Projection Model Technical Memorandum (TM).

ES.3 System Description

The City was incorporated in 1888 and is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The 24.3 square mile water service area of the City does not follow the same boundary as the City limits. The service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors. The City's Water Division operates 10 groundwater wells, 8 imported water connections, 15 pressure reducing stations, 5 flow control valves, 15 pump stations, 15 water reservoirs with 41 million gallons (MG) of storage capacity and manages 462-mile water mains system with about 33,099 service connections.

ES.4 Water Use Characterization

ES.4.1 Water Use in the Last Five Years

Total water use within the City's service area has fluctuated over the past five years (fiscal year [FY] 2021-25), with an annual average of approximately 25,050 acre-feet (AF). FY 2020-21 through FY 2021-22 saw the highest water use over the last five years due to region-wide drought conditions. FY 2022-23 proved to be one of the wettest years on record in the State and the City saw a general decrease in water demand following this wet year, as precipitation offsets landscape irrigation demands. These year-to-year fluctuations in precipitation will continue to influence the City's annual demands. In general, the City saw a decrease in demand of 9.6 percent over the 5-year reporting period.

ES.4.2 Projected Water Use

The water use projection for this UWMP is based on the 2025 Orange County Water Demand Projection Model Technical Memorandum (TM). This demand projection represents the City's total water demand and considers factors such as weather, water price, regional economic conditions, and housing density through a regression, or econometric, model.

Over the next 25 years, the City's total water demands are projected to decrease by about 10 percent from 25,213 AF in 2025 to approximately 24,460 AF by 2050. The Orange County Groundwater Basin is expected to continue meeting a notable share of total water demand between 2025 and 2050 (with a Basin Pumping Percentage [BPP] of 85 percent forecasted through 2050).

ES.5 Conservation Target Compliance

The City participated in the Orange County 20x2020 Regional Alliance along with all other Orange County water agencies. The alliance was created by MWDOC in collaboration with all its retail member agencies as well as the Cities of Anaheim, Fullerton, and Santa Ana, to assist Orange County retail agencies in complying with the requirements of the Water Conservation Act of 2009, also known as SB X7-7 (Senate Bill 7 as part of the Seventh Extraordinary Session). Signed into law on February 3, 2010, it required the State of California to reduce urban water use by 20 percent by 2020.

Retail water suppliers are required to comply with SBx7-7 individually or as a region in collaboration with other retail water suppliers, to be eligible for water-related state grants and loans. Orange County, as a region, achieved its 2020 target water use of 159 gallons per capita per day (GPCD) prior to 2020, indicative of the collective efforts in reducing water use in the region. All Orange County water retailers, achieved individual compliance prior to 2020. By 2020, the City achieved a per capita per day water use of 129 GPCD (compared to its 181 GPCD target) and continues to implement water use efficiency measures.

ES.6 Water Supply Characterization

The City's main source of water supply is groundwater from the OC Basin. Imported water makes up the rest of the City's water supply portfolio. In FY 2024-25, the City relied on approximately 78 percent groundwater, 19 percent imported water, and 3 percent surface water. It is projected that by 2030, the City's water portfolio will shift to approximately 85 percent groundwater and 15 percent imported with the BPP of 85 percent forecasted through 2050.

ES.7 Water Service Reliability and Drought Risk Assessment

Every urban water supplier is required to assess the reliability of their water service to its customers under a normal year, a single dry year, and multiple dry years. The water service reliability assessment compares projected supply to projected demand for three long-term hydrological conditions. The City's water sources are local groundwater from the OC Basin and imported water purchased from MWDOC/MET.

The OC Basin manager, OCWD, has developed programs and projects to improve groundwater recharge and augment groundwater through recycled water, conjunctive use, and water transfers. OCWD assesses groundwater conditions and sets its BPP, which determines how much water will be pumped from the basin year, and the Basin Equity Assessment (BEA), which is a surcharge for exceeding the BPP. The BPP is set at 85 percent and is forecasted to remain so through 2050.

MET, the Southern California regional wholesaler of imported water, has also invested in numerous programs and projects to augment its direct deliveries of imported water, such as water transfers, groundwater banking, and use of its reservoir storage. MET's 2025 UWMP demonstrates that MET will be able to meet its projected water demands for its entire service area for the next 25 years under normal, dry, and five consecutive dry year conditions.

Overall, the City's service area is projected to meet full-service demands from 2026 through 2050 under normal years, single dry year, and five consecutive dry year conditions.

ES.8 Water Shortage Contingency Planning

The Water Shortage Contingency Plan (WSCP) is a standalone document adopted by the City serving as the guidance document used to prepare for and respond to water shortages and service disruptions of the City's water supplies through proactive mitigation measures. A water shortage, when water supply available is insufficient to meet the normally expected customer water use at a given point in time, may occur due to a number of reasons, such as water supply quality changes, climate change, drought, and catastrophic events (e.g., earthquake). The City's WSCP provides a water supply availability assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation will help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP contains the processes and procedures that will be deployed when shortage conditions arise so that the City's governing body and its staff can easily identify and efficiently implement pre-determined steps to mitigate a water shortage to the level appropriate to the degree of water shortfall anticipated.

ES.9 Demand Management Measures

The City has demonstrated its commitment to water use efficiency through multi-faceted and holistic water use efficiency programs. The City's water use efficiency implementation can be described broadly under five categories: *Operations Practices* (e.g., conservation pricing, water waste prevention, water loss control, and metering with commodity rates), *Education and Outreach* (e.g., public outreach programs, K-12 school programs, Water Awareness Poster Contest, Qualified Water Efficiency Landscaper Training Program), *Residential Indoor Program* (e.g. various rebates), *Commercial, Industrial, and Institutional Program* (e.g., rebates, Water Savings Incentive Program, On-site Retrofit Program), and Landscape Programs (e.g., turf replacement, spray-to-drip irrigation rebate, residential landscape design assistance).

ES.10 Plan Adoption, Submittal, and Implementation

The Water Code requires both the UWMP and the WSCP to be adopted by the Supplier's governing body. Before the adoption of the UWMP, the City notified the public and the cities and counties within its service area that MWDOC was in the process of preparing an UWMP and WSCP per the Water Code. The City circulated the final draft of the UWMP and WSCP to facilitate public review and held a public hearing to receive input from the public on the UWMP and WSCP. Upon completion of the public hearing, the City moved to adopt both the UWMP and WSCP. Post adoption, the City submitted the UWMP to DWR and other key agencies and made the document available for public review within 30 days after filing with DWR.

The UWMP serves as a legal and technical water management foundation for the City and can be referenced as needed, until its next required update cycle in 2030. With approval from DWR, the City shall implement this plan into its public resources, providing City staff, the public, and elected officials with an understanding of past, current, and future water conditions and management. Furthermore, the WSCP serves as a strategic planning document designed to prepare for and respond to water shortages and service disruptions of the City's water supplies.

CHAPTER 1 INTRODUCTION AND UWMP OVERVIEW

The City of Orange (City) prepared this 2025 Urban Water Management Plan (UWMP) to submit to the California Department of Water Resources (DWR) to satisfy the UWMP Act of 1983 (UWMP Act or Act) and subsequent California Water Code (Water Code) requirements.

The City is a retail water supplier that provides water to its residents and other customers using the imported potable water supply obtained from its regional wholesaler, the Municipal Water District of Orange County (MWDOC) and local groundwater from the Orange County Groundwater Basin (OC Basin), which is managed by the Orange County Water District (OCWD), and local surface water from Serrano Water District (SWD). The City, as one of MWDOC's 27 member agencies, prepared this 2025 UWMP in collaboration with MWDOC, Metropolitan Water District of Southern California (MET), OCWD, and other key agencies.

UWMPs are comprehensive documents that present an evaluation of a water supplier's reliability over a long-term (20- to 25-year) horizon. In response to the changing climatic conditions since the 2020 UWMP, MWDOC has been assisting its member agencies and surrounding communities to manage both their water supplies and demands. The water loss audit program, water conservation measures, public outreach and education on conservation and efforts for increased self-reliance to reduce dependency on imported water from the Sacramento-San Joaquin Delta (the "Delta") are some of the water management actions that the City has taken to maintain the reliability of water supply for its service area. In addition, the City has been maintaining and improving their water system through the installation of new wells and rehabilitation of existing wells, among other projects.

This UWMP provides an assessment of the present and future water supply sources and demands within the City's service area. It presents an update to the 2020 UWMP on the City's water resource needs, water use efficiency programs, water reliability assessment, and strategies to mitigate water shortage conditions. It also includes the City's updated 2025 Water Shortage Contingency Plan (WSCP) designed to prepare for and respond to water shortages. This 2025 UWMP contains all elements required by the Act.

1.1 Overview of UWMP Requirements

The UWMP Act enacted by California legislature requires every urban water supplier (Supplier) providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file an UWMP with the DWR every five years in the years ending in six and one.

For this 2025 UWMP cycle, DWR continues to place emphasis on achieving improvements for long term reliability and resilience to drought and climate change in California. Despite there being no new statutory requirements, Suppliers must now report progress on meeting their 2028 Water Loss Standards and continue to state their compliance with Senate Bill (SB) X7-7 2020 Targets. Additional guidance on stored water accounting and recommendations on identifying the need for future or proposed water supply projects are provided by DWR as well.

1.2 UWMP Organization

This UWMP is organized into 10 chapters aligned with the DWR Guidebook recommendations. The sections within each chapter are customized to include the City's water supply reliability and future projections as well as plans to overcome any water shortages over a planning horizon of the next 25 years. The chapters for this UWMP are listed below:

Chapter 1 Introduction and UWMP Overview gives an overview of the UWMP fundamentals and requirements for the 2025 UWMP.

Chapter 2 UWMP Preparation identifies this UWMP as an individual planning effort of the City, lists the type of year and units of measure used and introduces the coordination and outreach activities conducted by the City to develop this UWMP.

Chapter 3 System Description gives a background on the City's water system and its climate characteristics, population projections, demographics, socioeconomics, and predominant current and projected land uses of its service area.

Chapter 4 Water Use Characterization provides historical, current, and projected water use by customer category for the next 25 years for the City and the projection methodology used by the City to develop the 25-year projections.

Chapter 5 Conservation Target Compliance restates that the City's 2020 per capita water use in gallons per capita per day (gpcd) met the compliance target defined by SB X7-7.

Chapter 6 Water Supply Characterization describes the current water supply portfolio of the City as well as the planned and potential water supply projects and water exchange and transfer opportunities.

Chapter 7 Water Service Reliability and Drought Risk Assessment describes the assessment of the reliability of the City's water supply service to its customers for a normal year, single dry year and five consecutive dry years scenarios. This section also includes a Drought Risk Assessment (DRA) of all the supply sources for a consecutive five-year drought period beginning 2026.

Chapter 8 Water Shortage Contingency Planning is a brief summary of the standalone WSCP document which provides a structured guide for the City to deal with water shortages, incorporating prescriptive information and standardized action levels, lists the appropriate actions and water use efficiency measures to be taken to ensure water supply reliability in times of water shortage conditions, along with implementation actions in the event of a catastrophic supply interruption.

Chapter 9 Demand Management Measures provides a description of the City's current and planned measures and programs to help the retail customers in its service area be water efficient and comply with the City's urban water use reduction targets.

Chapter 10 Plan Adoption, Submittal, and Implementation provides a record of the process the City followed to adopt and implement its UWMP.

CHAPTER 2 UWMP PREPARATION

The City of Orange's (City) 2025 Urban Water Management Plan (UWMP) is prepared to meet the California Water Code (Water Code) compliance as a retail water supplier to its customers. The development of this UWMP involved close coordination with its wholesale supplier, the Municipal Water District of Orange County (MWDOC), along with other key entities within the region.

2.1 Individual Planning and Compliance

As described in Chapter 1, every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually must prepare, adopt, and file an UWMP with the California Department of Water Resources (DWR) every five years to meet the compliance requirements of the UWMP Act. As shown in Table 2.1. The City meets this requirement as it has 33,099 municipal connections and supplied 25,213 AF in fiscal year (FY) 2025.

Table 2.1 Retail Only: Public Water Systems

Submittal Table 2-1 Retail: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
Add additional rows as needed			
CA3010027	City of Orange	33,099	25,213
	Total	33,099	25,213
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Table 2-3.			

The City opted to prepare its own UWMP (Table 2.2) and comply with the Water Code individually, while closely coordinating with MWDOC and various key entities as discussed in Chapter 2.2 to streamline regional integration. The UWMP Checklist was completed to confirm the compliance of this UWMP with the Water Code (Appendix A). All DWR standardized tables are provided in Appendix B. The City has selected to report demands and supplies using fiscal year as the basis (Table 2.3).

Table 2.2 Submittal Table 2-2: Plan Identification

Submittal Table 2-2: Plan Identification		
Select One or Both	**Type of Plan**	**Name of Regional Alliance or RUWMP** (Drop Down List)
☑	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name from the drop-down.	Orange County 20x2020 Regional Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**	
	If Supplier selected RUWMP, select name from the drop-down.	

Table 2.3 Submittal Table 2-3: Supplier Identification

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☐	UWMP Tables are in calendar years
☑	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
07/01	
Units of measure used in UWMP (Select from the drop-down list).	
Unit	AF
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

2.2 Coordination and Outreach

2.2.1 Integration with Other Planning Efforts

The City as the retail supplier to its customers, coordinated the preparation of this UWMP with its water supplier wholesaler MWDOC, the Orange County Water District (OCWD) as the manager of the Orange County Groundwater Basin (OC Basin), and its regional wastewater management agency, Orange County Sanitation District (OC San). The City also developed this Plan in conjunction with other regionally consistent efforts such as population projections from the Center for Demographic Research at California State University, Fullerton (CDR), and the Orange County Water Deland Projection Model Technical Memorandum.

Key planning and reporting documents that were used to develop this UWMP are listed below:

- **Metropolitan Water District of Southern California's (MET) 2025 UWMP** uses assumptions that fall within the plausible futures contemplated in MET's Integrated Water Resources Plan to evaluate MET's future imported water supply reliability.
- **MET's 2020 Integrated Water Resources Plan (IRP) Regional Needs Assessment** is a long-term, scenario-based planning document that guides Metropolitan's programs and investments to ensure reliable water supplies in Southern California and provides a basis for water supply reliability in Orange County.
- **MET's Climate Adaptation Master Plan for Water (CAMP4W)** is an ongoing planning and decision-making tool that accounts for the complexities and uncertainties of climate change. Part of the second phase of MET's long-term IRP planning process, CAMP4W incorporates the results and findings of MET's 2020 IRP Regional Needs Assessment into a collaborative process to identify and evaluate integrated regional solutions.

- **MET's 2025 Water Shortage Contingency Plan (WSCP)** provides a water supply availability assessment and guide for MET's intended actions during water shortage conditions.
- **MWDOC's 2025 WSCP** provides a water supply availability assessment and structured steps designed to respond to actual conditions that will help maintain reliable supplies and reduce the impacts of supply interruptions.
- **MWDOC's 2023 Orange County Water Reliability Study** is a planning document to help guide planning for future water supply reliability for water providers in Orange County and provide input on regional water supply issues for MET.
- **2025 Orange County Water Demand Projection Model Technical Memorandum** is a collaborative effort amongst MWDOC, OCWD, and all retail water suppliers in Orange County that developed water demand projections to produce regionally consistent forecasts across all Orange County water agencies.
- **OCWD's Groundwater Resilience Plan (GRP - February 2025)** is an adaptive strategies management plan outlining strategic projects to secure reliable future water supplies in the OC Basin.
- **OCWD's 2023-24 Engineer's Report** provides information on the groundwater conditions, water supply, and basin utilization of the OC Basin.
- **2022 Basin 8-1 Alternative** is an alternative to the Groundwater Sustainability Plan (GSP) for the OC Basin, provides significant information related to sustainable management of the basin in the past and hydrogeology of the basin, including groundwater quality and basin characteristics, and addresses DWR's recommendations to ensure long-term basin sustainability.
- **City of Orange Local Hazard Mitigation Plan (2025)** provides the basis for the seismic and other natural and natural disaster risk analysis of the water system facilities.
- **Capital Improvement Plan** of the City's service area provides information on water infrastructure planning projects and plans to address any required water system improvements.

2.2.1.1 Statewide Water Planning

In addition to regional coordination with the various agencies described above, the City as a MWDOC member agency is currently a part of MET's statewide planning effort to reduce reliance on the water imported from the Delta.

It is the policy of the State of California to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, technology innovation, partner collaborations, and water use efficiency measures. This policy is codified through the Delta Stewardship Council's Delta Plan Policy WR P1 (WR P1) and is measured through Supplier reporting in each Urban Water Management Planning cycle. WR P1 is relevant to water suppliers that plan to participate in multi-year water transfers, conveyance facilities, or new diversions in the Delta. Additionally, with the recent amendments to the Bay Delta Plan, tributary flow objectives to the Delta are being updated to account for quality and habitat improvements for local environmental resources. This results in reduced reliance on Delta water supplies. Since 2022, the Bay-Delta Plan Amendment update has been in development. This effort considers additional tributaries from the southern San Joaquin Valley, triggering a re-evaluation of Delta flow requirements and conservation objectives, which ultimately may impact available supply to the State Water Project (SWP).

Through significant local investment, collaboration at both a local and regional scale and integration with MWDOC's water use efficiency strategies and conservation programs, the City has demonstrated a reduction in Delta reliance. For member agencies of MWDOC that receive imported water from MET, these agencies have passively demonstrated a reduction in Delta reliance and a subsequent improvement in regional self-reliance by participating in MWDOC led regional strategies. A detailed description and documentation of City's consistency with Delta Plan Policy WR P1 is included in Chapter 7.4 and Appendix C.

2.2.2 Wholesale and Retail Coordination

The City developed its UWMP in conjunction with MWDOC's 2025 UWMP. As a retail water supplier, City provided its historical water use and water use projections data to MWDOC (Table 2.4).

Table 2.4 Submittal Table 2-4 Retail: Water Supplier Information Exchange

Submittal Table 2-4 Retail: Water Supplier Information Exchange Water Code Section 10631(h)
The retail Supplier has informed the following wholesale supplier(s) of projected water use.
Wholesale Water Supplier Name
Add additional rows as needed
Municipal Water District of Orange County
Orange County Water District

The City has also been taking part in multiple regional programs administered by MWDOC to assist retail agencies in meeting various State compliance, such as the OC Regional Alliance for Senate Bill (SB) X7-7 compliance, regional water loss program or SB 555 compliance, and regional water use efficiency programs. Chapters 5 and 9 provide detailed information on these programs.

2.2.3 Public Participation

For further coordination with other key agencies, and to encourage public participation in the review and update of this Plan, the City held a public hearing on June 9, 2026, and notified key entities and the public per the Water Code requirements. Chapters 10.2 and 10.3 describe these efforts in detail.

CHAPTER 3 SYSTEM DESCRIPTION

The City of Orange (City) was incorporated in 1888 and is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The 24.3-square mile water service area of the City does not follow the same boundary as the City limits. The service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors. The City's Water Division operates 10 groundwater wells, 8 imported water connections, 15 pressure reducing stations, 5 flow control valves, 15 pump stations, 15 water reservoirs with 41 million gallons (MG) of storage capacity, and manages a 462-mile water mains system with approximately 33,099 service connections.

Lying in the South Coast Air Basin (SCAB), its climate is characterized by Southern California's "Mediterranean" climate with mild winters, warm summers, and moderate rainfall. In terms of land use, the City is almost built out with predominantly single and multi-family residential units and commercial establishments. Recent developments include additions of several residential units, commercial buildings, and industrial warehouses. Moving forward, the City will continue planning for its Regional Housing Needs Assessment (RHNA) allocation. The current population (2025) of 142,325 is projected to decrease by 3.7 percent over the next 25 years to 137,071. This equates to an annual decline of 0.15 percent.

3.1 Agency Overview

This section provides information on the formation and history of the City, its organizational structure, roles, and relationship to the Municipal Water District of Orange County (MWDOC).

3.1.1 Formation and Purpose

Incorporated in 1888, under the general laws of the State of California, the City of Orange is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The City consists of a wide range of neighborhoods, with each neighborhood having a distinctive character and personality ranging from the Eichler homes built in the 1960s, to El Modena's Latino essence and Old Towne's Historic District, displaying an abundance of late 19th and early 20th century architectural styles.

The preparation of this UWMP was led by the Water Division of the City Public Works Department. The Water Division provides reliable service to the City's service area through the water distribution system that dates to the nineteenth century.

3.1.2 City Council

The City is governed by a seven-member City Council. The City Council provides policy direction for the City and enacts all municipal legislation. The City Council serves in a quasi-judicial role on certain administrative appeals and directs the administration of its policy decisions through the City Manager for delegation to appropriate City staff. The current members of the City Council are:

- Dan Slater, Mayor.
- Denis Bilodeau, District 4, Mayor Pro Tem.

- Arianna Barrios, District 1.
- Jon Dumitru, District 2.
- Kathy Tavoularis, District 3.
- Ana Gutierrez, District 5.
- John Gyllenhammer, District 6.

3.1.3 Relationship to MWDOC

The City is one of MWDOC's 27 member agencies purchasing imported water from MWDOC, Orange County's wholesale water supplier, and a member agency of the Metropolitan Water District of Southern California (MET). The City's location within MWDOC's service area is shown on Figure 3.1.

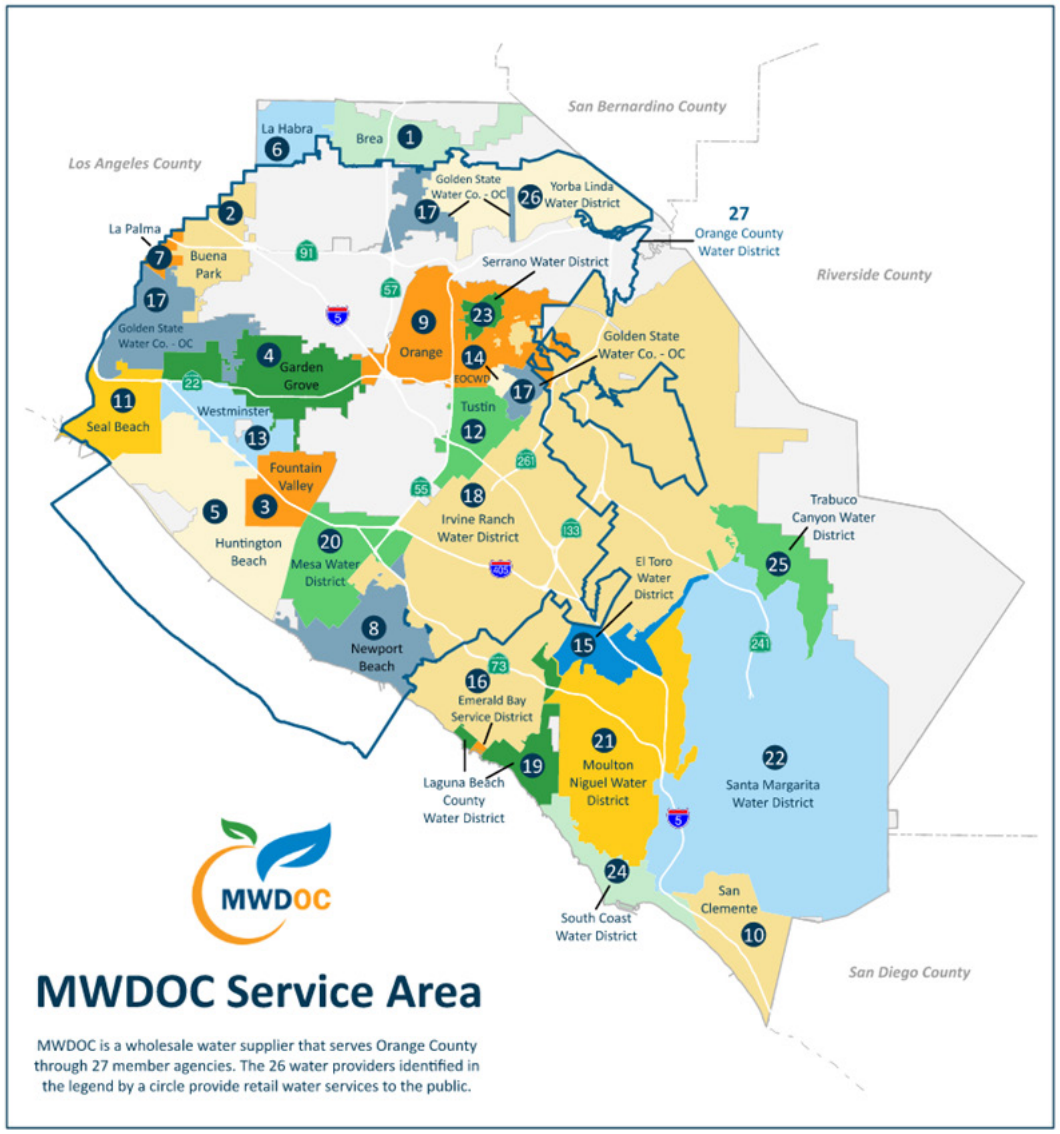


Figure 3.1 Regional Location of City of Orange and Other MWDOC Member Agencies

3.2 Water Service Area and Facilities

3.2.1 Water Service Area

The City's 61.9-square mile sphere of influence extends east to the Cleveland National Forest. Within the sphere of influence is the City's 37.2-square mile planning area and the Water Division's 24.3-square mile water service area lying within the planning area, as shown on Figure 3.2. The 24.3-square mile Water Division's service area does not follow the same boundary as the City limits. The Water Division service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors, as described below:

Areas serviced by the Water Division outside the City limits include:

- Some County Islands.
- Small area in the City of Anaheim (Along Imperial Highway north of Via Escola).
- Irvine Regional Park.

Areas served by other water purveyors inside the City limits include:

- Irvine Ranch Water District (IRWD).
- Serrano Water District (SWD).
- East Orange County Water District (EOCWD).
- Golden State Water Company (GSWC).
- City of Santa Ana.

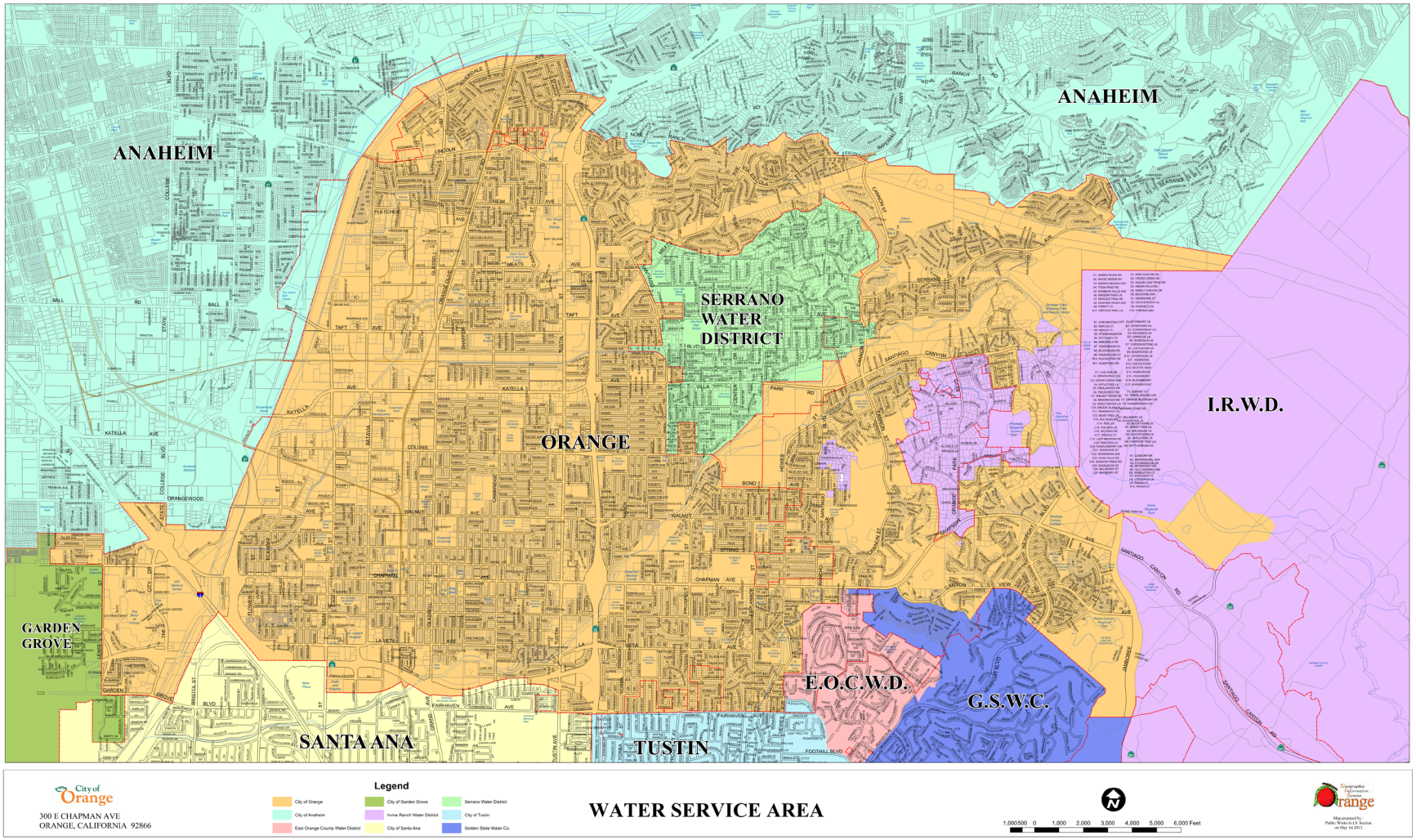


Figure 3.2 City of Orange Water Service Area

3.2.2 Water Facilities

The City has a water system with origins dating back to the nineteenth century. As the City has grown and developed, the Water Division has correspondingly increased its number of customer service connections, installed more wells, built a series of reservoirs, and greatly expanded the transmission and distribution pipeline systems to meet customer water service demands. The water system now includes 19 Water Division-owned groundwater wells, 8 imported water connections, 15 pressure-reducing stations, 5 flow control valves, 15 pump stations, 15 active water reservoirs with 41 MG of storage capacity, approximately 462 miles of pipelines, and about 33,099 service connections. The City currently operates 11 wells, including Well 28, which was recently completed in December 2025. Out of the 19 groundwater wells, wells 20, 21, and 22 are currently inactive due to per- and polyfluoroalkyl substances (PFAS) impacts, but these three wells are expected to reactivate by Spring 2026. Well 8 has been decommissioned and will be replaced by Well 29 that is expected to be completed by December 2027. Well 15 is permanently inactive, and the Water Division is planning to destroy the well.

The eight turnout connections have a total allocated capacity of 60.7 cubic feet per second (cfs). Five turnout connections import water from MET, operated by MWDOC, via three MET transmission mains, including the East Allen-McColloch Pipeline (AMP), Orange County Feeder (OCF), and East Orange County Feeder Number 2 (EOCF #2). The remaining three turnout connections import water from SWD and EOCWD. The Water Division also maintains 17 inter-agency emergency connections with neighboring water purveyors. The City's existing water system facilities are shown in Figure 3.3.

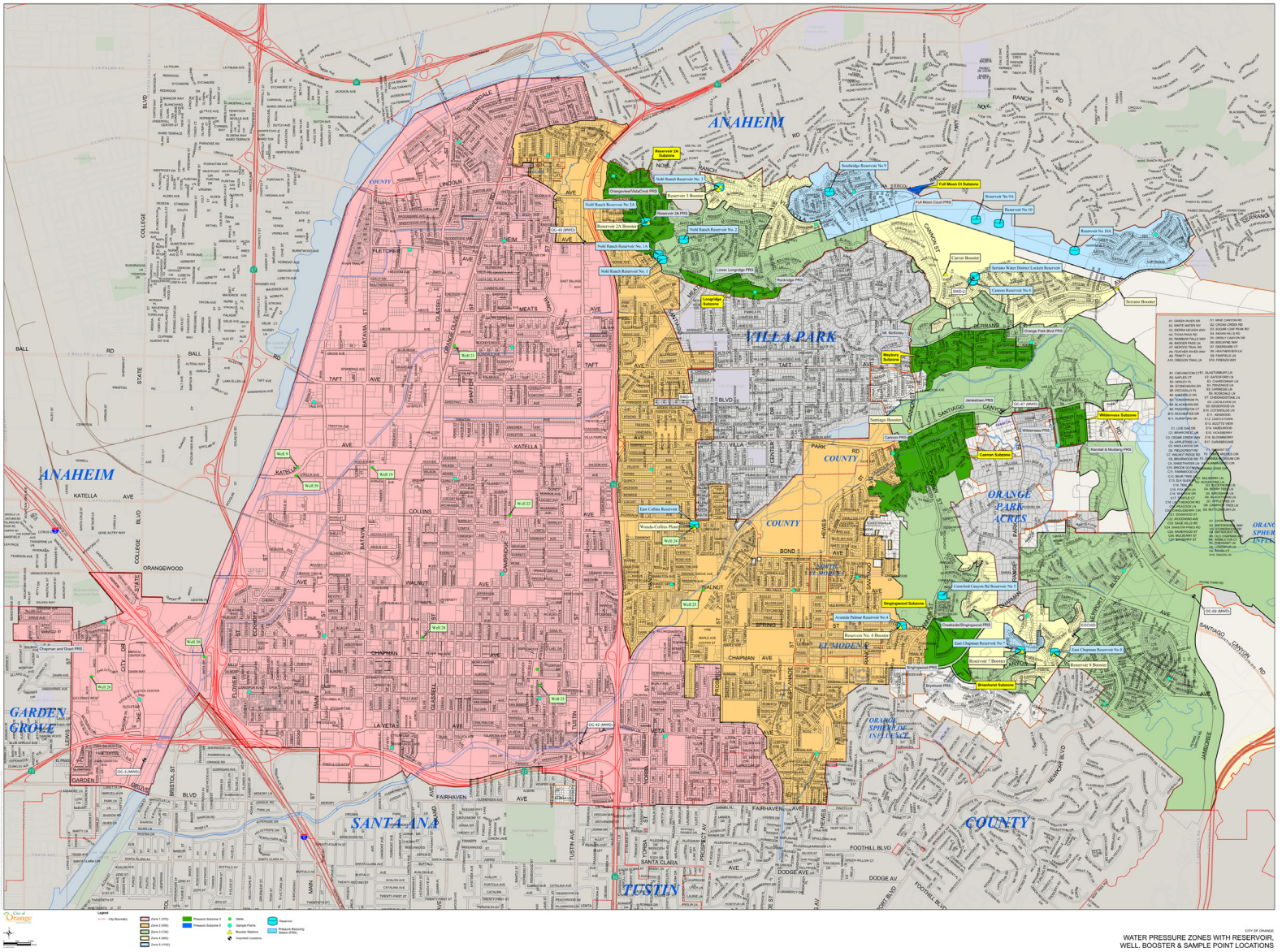


Figure 3.3 City of Orange Water System Facilities

3.3 Climate

The City's service area is located within the South Coast Air Basin (SCAB) that encompasses all of Orange County, and the urban areas of Los Angeles, San Bernardino, and Riverside counties. The climate in the SCAB area is characterized by Southern California's "Mediterranean" climate: a semi-arid environment with mild winters, warm summers, and moderate rainfall.

Local rainfall has a limited impact on reducing water demand in the City, except for landscape irrigation demand. For example, in August 2023, Orange County as a region experienced the lowest seasonal water demand due to significant summer precipitation events from Tropical Storm Hilary. The increase in precipitation allowed landscape irrigation systems to be turned off; however, other municipal and industrial uses (e.g., consumption, processing, and washing) remained the same.

Water that infiltrates into the soil may enter groundwater supplies depending on the local geography. However, due to the large extent of impervious cover in Southern California, rainfall runoff quickly flows to a system of concrete storm drains and channels that lead directly to the ocean. OCWD has successfully captured stormwater along the Santa Ana River and in recharge basins for years and used it as an additional source of supply for groundwater recharge. Based on the 2022 Basin 8-1 Alternative Plan Update, OCWD captured an average annual stormwater volume of approximately 54,000 AF over the period of five years, from Water Year 2016-17 to 2020-21.

MET's water supplies that come from the State Water Project (SWP) and the Colorado River Aqueduct (CRA) are influenced by climate conditions in Northern California and the Colorado River Basin, respectively. Both regions have variable hydrologic conditions that can significantly affect MET's supplies from year to year. This past decade has seen dramatic swings in annual precipitation, especially in the form of snowpack, which directly affects SWP supply allocations. Similarly, the Colorado River Basin also experienced year-to-year swings in hydrology, and due to the prolonged drought conditions since 2000, storage within the Colorado River system has declined to less than half of its reservoir capacity and has been fluctuating at that level (MET, 2025).

3.4 Population, Demographics, and Socioeconomics

3.4.1 Service Area Population

The City serves a 2025 population of 142,325 according to the Center for Demographic Research at California State University, Fullerton (CDR). Overall, the population is projected to decrease by 3.7 percent by 2050. Table 3.1 shows the population projections in five-year increments out to the year 2050 within the City's service area.

Table 3.1 Submittal 3-1 Retail: Population - Current and Projected

Submittal Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	142,325	141,093	140,112	140,188	138,777	137,071
NOTES: Source: Center for Demographic Research at California State University, Fullerton, 2025						

3.4.2 Demographics and Socioeconomics

As shown below in Table 3.2, the total number of dwelling units in the City service area is expected to increase by 5.5 percent in the next 25 years, from 48,785 in 2025 to 51,444 in 2050.

Table 3.2 City of Orange Service Area Dwelling Units by Type

Dwelling Units	2025	2030	2035	2040	2045	2050
Single Family	26,161	26,250	26,309	26,395	26,442	26,485
All Other(1)	22,624	24,008	24,177	24,530	24,694	24,959
Total	**48,785**	**50,258**	**50,486**	**50,925**	**51,136**	**51,444**

Notes:
(1) Includes duplex, triplex, apartment, condo, townhouse, mobile home, etc. Yachts, houseboats, recreational vehicles, vans, etc., are included if it is the primary place of residence. Does not include group quartered units, cars, railroad box cars, etc.
Source: Center for Demographic Research at California State University, Fullerton, 2025.

In addition to the types and proportions of dwelling units, various socio-economic factors such as age distribution, education levels, general health status, income, and poverty levels affect the City's water management and planning. Based on the U.S. Census Bureau's 2023 American Community Survey, the City has about 14 percent of population of 65 years and over, 63 percent between the ages of 18 and 64 years, and 22 percent under the age of 18 years. Of the City's population over 25 years of age, 87 percent is at minimum a high school graduate, with 39.8 percent of this age group having at least a bachelor's degree.

3.4.3 Demographic Projection Methodology

CDR is a collaborative research center established in 1996 to provide accurate and timely demographic data on population, housing, and employment in Orange County. CDR serves as Orange County's authoritative source for demographic information. The City obtains its service area population and dwelling unit data from MWDOC via CDR. MWDOC contracts with CDR to update the 2010 population estimates through the current year and to provide an annual estimate of population served by each of its retail water suppliers within its service area. CDR uses geographic information system (GIS) mapping and data from the 2000, 2010, and 2020 U.S. Decennial Censuses, State Department of Finance (DOF) population estimates, and the CDR annual population estimates and Housing Inventory System (HIS). These annual estimates incorporate annual revisions to the DOF annual population estimates, often for every year back to the most recent Decennial Census. As a result, all previous estimates are set aside and replaced with the most current set of annual estimates. Annexations and boundary changes for water suppliers are incorporated into these annual estimates. It should be noted that the CDR population forecast accounts for both the RHNA allocations and the projected increase in accessory dwelling units (ADUs).

Demographic projections used for this UWMP reflect the most recently available set of projections developed by CDR based on its 2022 Orange County Projections. Demographic projections for Orange County are updated every 4 years, with the next set of projections expected in the late fall of 2026. The 2022 Orange County Projections accounted for Draft RHNA rezone sites with jurisdictions, including the number of dwelling units that are most likely to occur/get built by the end of 2050 under assumptions and trends existing at the time of the forecasting effort, including a parcel-level inventory of additional housing capacity from sites that were to be rezoned to accommodate the 6th RHNA cycle. In the summer

of 2025, projections by the water supplier for population and dwelling units by type were estimated using the 2022 Orange County Projections dataset. Growth for each of the five-year increments was allocated using GIS and a review of the traffic analysis zones (TAZ) data with a 2023 aerial photo. The growth was added to the 2025 estimates for each respective water supplier.

3.5 Land Uses

3.5.1 Current Land Uses

The City's service area can best be described as a predominantly single and multi-family residential community located in central Orange County. Based on the zoning designation collected and aggregated by the Southern California Association of Governments (SCAG) in 2018, the current land use within the City's service area can be categorized as follows:

- Single-family residential - 56.0 percent.
- Multi-family residential - 12.0 percent.
- Agriculture - 0.8 percent.
- Commercial - 6.1 percent.
- Industrial - 8.9 percent.
- Institutional/Governmental - 5.6 percent.
- Open space and parks - 8.9 percent.
- Other - 1.8 percent (e.g., Undevelopable or Protected Land, Water, and Vacant).
- No land use designations – 0.04 percent.

The City has identified the following projects that were completed over the past five years that add significantly to the total water demand of the City:

- **Orange Corp Yard Workforce Housing** - This project involves the development of a new 62-unit workforce housing multifamily apartment community. The site subdivides approximately 2.75 acres of the City of Orange Corporate Yard.
- **St. Joseph Medical Office Building** - This project includes a 4-story building with up to 137,500 square feet (SF) of medical office space and up to 5 levels of subterranean parking on an approximately 1.14-acre site.
- **Ronald McDonald House Expansion** - This project expands the existing Ronald McDonald House with a 3-story, 20,483-SF addition with 23 additional bedrooms and supporting facilities. The building will be 33,063 SF with 44 bedrooms.
- **Plaza Memory Care** - A 2-story residential building in place of an existing restaurant, consisting of 32 units containing 36 beds in all, with a site area of 0.917 acres and lot coverage of 40 percent.
- **The Orion** - This project involves construction of 166 senior affordable rental units on a 3.85-acre site with an 80 percent density bonus.
- **The Trails at Santiago Creek** - This project includes a residential neighborhood spanning 40.2 acres (of the 109-acre site), consisting of 129 single-family detached lots.

- **Katella Terrace Senior Housing** - Construction of 74 affordable apartment units on a site of 1.54 acres located at 1249 E. Katella Avenue.
- **Valencia Garden** - Constructed 62 workforce units in a new multi-family complex. The total project area is 2.75 acres. This project was completed in 2024.
- **IDI Orange** - Located at 759 N Eckhoff Street, the project proposed two warehouse buildings. Building 1 would include 178,966 SF warehouse and 10,600 SF of 2-story office space, and 25 dock doors. Building 2 would include a 91,696-SF warehouse and 11,500 SF of 2-story office space, and 11 dock doors. Total site area is 12.69 acres.
- **Batavia Self-Storage Facility** - Located at 630 N Batavia Street on a 3.1-acre site. The project proposes 3 self-storage buildings totaling 133,372 SF, including a parking lot, ornamental landscaping, and associated infrastructure.
- **2390 N. American Way** - A proposal to demolish all existing on-site development and construct two industrial buildings (97,000 SF) and related site improvements on a 4-acre site.
- **Orange Collins Logistics Center** - Located at 500 W Collins Avenue on a 6.0-acre site, the project included a 128,953-SF tilt-up warehouse facility with 17 loading docks. Additional site improvements include 89 off-street parking stalls, a new trash enclosure, and ornamental landscaping along the site perimeter.
- **Toyota of Orange Service Building** - This project includes the construction of 32 new automobile service bays, a new demising wall between the existing storage area and new service area, and installation of a new shade structure at the rear of the property for vehicle detailing in support of an existing automobile dealership at 1400 N Tustin Street. The total lot size is 4.15 acres.
- **MSI Office Building** - A proposal to construct a new 40,510-SF three-story office building, interior tenant improvements to an existing warehouse building, including converting 3,300 SF to office/assembly area located at 845 W. Grove Avenue, demolish an existing 1,526-SF office building at 2011 N Batavia Street, demolish an existing 6,530-SF warehouse building located at 715 W Grove Avenue, and related site improvements. The total lot size is 3.5 acres.

3.5.2 Projected Land Uses

The City has identified the following major development projects that will change the City's total water demand in the future. It is possible that not every proposed project will get built in the next decade.

- **Marriott Duel Hotel** - This project, which is in the planning stage, involves developing a 300-guest room, 5-story, 193,590-SF hotel on a 4.555-acre site with on-grade parking (278 stalls). This development will replace an existing motel and restaurant.
- **Chapman - Yorba VIII - SB 330** - A new multi-family project including 11 3-story buildings with a total of 138 apartment units, a separate garage structure, an apartment management office, and a recreation area. Twenty-eight of these units shall be low-income housing. The project also includes a 92,206-SF 3-story storage building with 298 parking spaces on a vacant 8.20-acre site located at the northwest corner of Chapman Avenue and north Loretta Drive.
- **Street Lights Apartments** - A proposal to demolish an existing 12,923-SF multi-tenant retail building to construct a new 6-story, 225-unit vertical mixed-use development with 9,000 SF of retail/restaurant space and 3 levels of basement parking. The project also includes the construction of a new two-story

open parking structure to replace surface parking displaced by the project. The project address is 840 The City Drive South, and the total area is 5.86 acres.

- **Creekside Village SB 330** - Located at 6118 E Santiago Canyon Road, this residential development project proposes 231 residential units, including 62 single-family residences, 121 townhomes, 48 low-income rental apartments, and 705 parking spaces on a 16.7-acre site.
- **Mara Brandman Area Site SB 330** - Located at 6142 E Santiago Canyon Road, the project consists of 118 residential units, including 24 low-income rental apartments, and 266 parking spaces on a 7.4-acre site.
- **The Village District at Orange** - A residential development on 14.29 acres within the existing Village at Orange mall that will include 297 for-sale condominiums, 75 below-market-rate ADUs with kitchenette (for a total of 372 units), a 28,000-SF recreation center, and a 1,500-SF restroom and community meeting room. The project address is 2200 N Tustin Street.
- **515 N Rancho Santiago Boulevard** - Proposed 59 single-family homes on a 13.6-acre site.
- **Rancho Ridge Subdivision** – This project subdivides the existing lot into 11 parcels; each improved with a single-family residence. Additionally, the project includes 3 common-area lots on a 1.93-acre site. The project address is 647 N Rancho Santiago Boulevard.
- **Watermarke Orange Apartments** - The proposed project site is approximately 6.84 acres located at the southeast corner of Garden Grove Freeway 22 and The City Drive South. The project includes 401 dwelling units with a mix of studios, 1-bedroom, and 2-bedroom units, recreation spaces, and 717 parking stalls.
- **164 S Marks Way** - Proposes a 50-unit, 3-story affordable senior apartments and parking spaces under AB 2162 on a 0.9-acre site.
- **Melia Homes** - Located at 2375 N Tustin Street, the project proposes 71 3-story single, paired, and detached small lot family homes, an open space recreation area, and guest parking on a 4.23-acre site.
- **715 W Fletcher SB 330** - This subdivision includes 15 new 3-story detached single-family homes on a 0.72-acre site. One unit will be set aside for a very low-income household, which allows for a density bonus.
- **Wayfield-Chapman Townhomes Project** - This project is a combination of two smaller projects located at 1935 E Chapman Avenue and 175 Wayfield Street. The projects propose 46 3-story townhomes with 3 affordable to very-low-income households.
- **The Irvine Company Orange Heights (formerly Santiago Hills II Planned Community)** - Proposed 1,058 units, 200 acres of open space, parks, and landscaping, and 2.7 miles of walking, biking, and equestrian trails. The project total area is 400 acres and is located south of Chapman Avenue and east of Jamboree Road.
- **Prologis Warehouse Project** - Located at 534 W Struck Avenue, this project includes the construction of a new 52,900-SF warehouse building, 5,000 SF of office space, and 5,400 SF of maintenance building on a 9.98-acre site.
- **Orange Westside Linear Park** - The proposed park will be developed on an approximately 1.8-acre portion of a parcel along the west bank of the Santa Ana River. The proposed project would include the development of a new park adjacent to the bike trail.

- **County of Orange Workforce Reentry Center** - Located at 561 The City Drive South, this proposed project would provide transitional housing and vocational training for adult individuals involved in the criminal justice system or other county systems of care to facilitate their transition into the workforce. The project will include 37,200 SF office/vocational building, 16,166 SF retail/culinary building, and a 26,998-SF supportive housing and services building.
- **Katella Skyline Project** - Construction of 49 paired and detached single-family units on a 2.71-acre site located at 901 E Katella Avenue. Each home has a two-car garage and a side yard that can accommodate three standard CR&R trash carts. This project is under construction.
- **La Linda Plaza Senior Apartments** - The project is repurposing current office buildings to create 52 affordable apartment units, an administrative office, and a small gym on a 2.35-acre site located at 1914-1940 W Orangewood Avenue. This project is under construction.
- **Mabury Development** - Constructed 22 single-family residential homes with lot sizes ranging from 8,315 to 18,821 SF on 10.9 acres and an open space dedication of 4.5 acres along the Santiago Creek corridor (south of Mabury Avenue, between Orange Park Boulevard and Cannon Street, north of Santiago Creek).
- **2411 N Glassell Street** - The project's scope of work included demolition of the three existing buildings on the site to redevelop the site with a one-story (plus mezzanine), 298,988-SF industrial building with manufacturing and warehousing uses. Additional improvements would include landscaping, utility connections, stormwater facilities, and fencing, as well as pavement of parking areas, loading areas, and driveways. The project also includes an 18,800-SF office space and a 20,000-SF manufacturing space on a 12.3-acre site.

It should be noted that the 2025 Orange County Water Demand Projection Model discussed in Chapter 4 was based on CDR's 2022 Orange County projections. The developments listed above may have been added or modified since. As a result, the future demands associated with these developments may increase the City's water demand beyond what is presented in this UWMP.

In addition to the above developments, the City will continue planning for the RHNA allocation imposed by the State. Additionally, new developments may potentially include ADUs, while it is also anticipated that policy changes will make it easier for homeowners to add ADUs to existing residential properties.

The following requirements and changes in laws will impact the City's future land use moving forward:

- **Regional Housing Needs Assessment (RHNA)** - State law requires jurisdictions to provide their share of the RHNA allocation. SCAG determines the housing growth needs by income for local jurisdictions through RHNA. The City's RHNA allocation for 2021-2029 is 3,936 dwelling units. This includes 1,067 units for very low-income households, 604 units for low-income households, 677 units for moderate-income households, and 1,588 units for above-moderate-income households. The City's 2022 6th Cycle Housing Element Update sets forth an 8-year strategy to address the City's identified RHNA housing needs, including specific implementing programs and activities.

- **Accessory Dwelling Units (ADUs)** - ADUs are separate small dwellings embedded within residential properties. There has been an increase in the construction of ADUs in California in response to the rise in interest in providing an affordable housing supply. Since 2020, several landmark laws were passed by State Legislature, updating ADU law to simplify the construction, rental, and sale of ADUs in California. The most significant laws that have recently come into effect include:
  - AB-1033 Accessory dwelling units: local ordinances: separate sale or conveyance which authorizes local governments to adopt ordinances permitting the sale of ADUs separately from the primary residence as condominiums.
  - AB-976 Accessory dwelling units: owner-occupancy requirements that prohibit a local agency from requiring owner-occupancy for property owners to build and rent an ADU.
  - AB-1154 Junior accessory dwelling units which no longer requires owner-occupancy for Junior ADUs (JADUs) as long as they have their own bathroom.
  - AB-1332 Accessory dwelling units: preapproved plans that require local agencies to develop a program for pre-approved ADU plans, with projects using these plans having to be approved or denied within 30 days.
  - SB-543 Accessory dwelling units and junior accessory dwelling units require local agencies to determine if an ADU/JADU application is complete within 15 business days of submittal, revise ADU size to now be measured by "interior livable space," and redefine a JADU to be no more than 500 SF of interior livable space.
  - SB-1211 Land use: accessory dwelling units: ministerial approval which authorizes multi-family property owners to build up to eight detached ADUs on a single lot, provided that the number of ADUs does not exceed the number of existing primary units.
  - AB-2533 Accessory dwelling units: junior accessory dwelling units: unpermitted developments, which prohibit local agencies from denying permits for unpermitted ADUs/JADUs constructed before January 1, 2020, based on code violations unless the structure is a health or safety hazard.

In 2024, a total of 6,162 new residential units were permitted in Orange County, including those for ADUs (CDR, 2025). CDR projects that by 2050, approximately 13,000 more ADUs will be built in Orange County, with 224 ADUs expected within the City's service area. The increase in ADUs is likely to result in an increase in the number of people per lot of land. Depending on whether the addition of ADUs results in a net replacement of irrigated area (or other high water use features such as swimming pools), ADUs could increase or decrease water demands.

CHAPTER 4 WATER USE CHARACTERIZATION

One of the main objectives of an Urban Water Management Plan (UWMP) is to provide an insight into the projected future water demands and supplies. This chapter describes the City of Orange's (City) current and future water demands for their service area, factors that influence demands, and the methodology used to forecast future water demands over the next 25 years. For the 2025 UWMPs, water demand projections will span from planning year 2025 through planning year 2050.

Known for its suburban coastal communities and densely populated inland areas, Orange County has evolved greatly from its beginnings as an agricultural region. As some of the earliest cities in Orange County, from 1928 to 1931 the Cities of Anaheim, Fullerton, and Santa Ana all joined with 10 other southern California cities to form the Metropolitan Water District of Southern California (MET) with the ambitious dream to bring Colorado River water across the Mojave Desert. The Municipal Water District of Orange County (MWDOC) later joined MET as a member agency in 1951, and with the merger with Coastal Municipal Water District in 2001, now represents the remainder of Orange County to provide and manage the imported water supplies within its service area. Orange County is now mostly comprised of residential, mixed-use, and commercial developments, with less industry in the region. Agriculture in the region has also greatly reduced as Orange County has grown more suburban. Thus, modern-day water use within Orange County can be largely summarized by the following four demand sectors:

- Single-family Residential.
- Multifamily Residential.
- Commercial, Industrial, and Institutional (CII).
- Dedicated Irrigation (potable, recycled, and raw water).

Figure 4.1 shows Orange County's overall historical water usage compared to population since 1990, when local water conservation programs were first established. As shown, from the early 1990s through the mid-2000s, Orange County's water usage increased as the population increased. Population figures slowed significantly in 2018 and began to decrease during the COVID-19 Pandemic in 2020-2021. Since 2007, retail, municipal, and industrial water use in Orange County has declined due to multiple contributing factors. Decades of sustained investments in water-use efficiency and public education have led to significant adoption of water-efficient appliances and fixtures, and increased public awareness of the need to use water wisely. Furthermore, in response to recurring droughts, growing urban demand, and increasingly limited water supplies, multiple regulatory requirements to promote water conservation have evolved and been implemented over the past several years throughout California and Orange County.

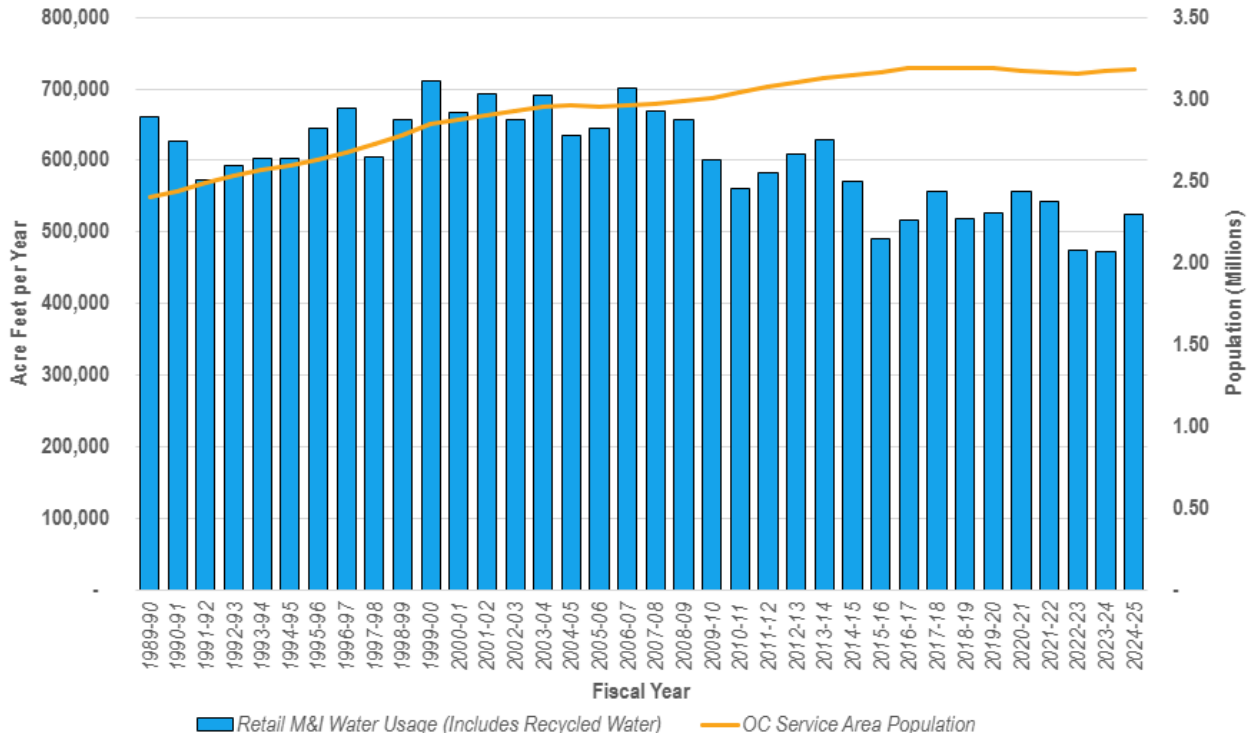


Figure 4.1 Historical Water Use and Population in Orange County

Orange County's trending decline in water usage can most notably be attributed to Orange County water agencies' past efforts to achieve regional and individual compliance with Senate Bill (SB) X7-7, the Water Conservation Act of 2009, through the Orange County 20x2020 Regional Alliance and compliance with Executive Order (EO) B-29-15. EO B-29-15 mandated 25 percent reduction in potable water use in response to the 2013-2014 drought. Furthermore, Orange County water agencies' ongoing progress towards achieving SB 606 and Assembly Bill (AB) 1668, the "*Making Conservation a California Way of Life*" legislation, water use objectives continue to exemplify Orange County water agencies' commitment to water conservation, water use efficiency, and overall reduction in potable water usage in recent decades.

In 2025, MWDOC and Orange County Water District (OCWD), in collaboration with MWDOC's member agencies and the Cities of Anaheim, Fullerton, and Santa Ana, led the effort to develop the 2025 Orange County Water Demand Projection Model. The Orange County Water Demand Projection Model (MWDOC, 2025) was used to project long-term water demand under three hydrologic conditions (normal year, single dry year, and five consecutive dry years) over a 25-year horizon in 5-year increments, consistent with the 2025 UWMP requirements.

Although Orange County demands are forecast to be relatively flat into the future, with water use efficiency efforts counterbalancing new growth, Figure 4.2 shows that annual variations in weather could cause high fluctuations. Some examples of this are described below:

- Single-family consumption is highly seasonal, and the model correlates well with seasonality and temperature by capturing fluctuations in single-family outdoor irrigation.
- Multi-family use is generally less responsive to weather than single-family demands, as much of multi-family outdoor irrigation has been shifted into the irrigation-specific water use sector

(dedicated irrigation meters), and generally newer multi-family dwellings in Orange County have comparatively less landscaped area than generally older single-family dwellings due to Model Water Efficient Landscape Ordinances (MWELO) mandated since 1993. Seasonal price elasticity varies the least between months for the multi-family sector.

- Commercial, Industrial, and Institutional use is positively correlated to each job proportion as well as gross domestic product throughout Orange County, which means a higher amount of CII jobs and production value trend in an increase in water demands.
- Irrigation is the most responsive to temperature and precipitation compared to the other sectors.

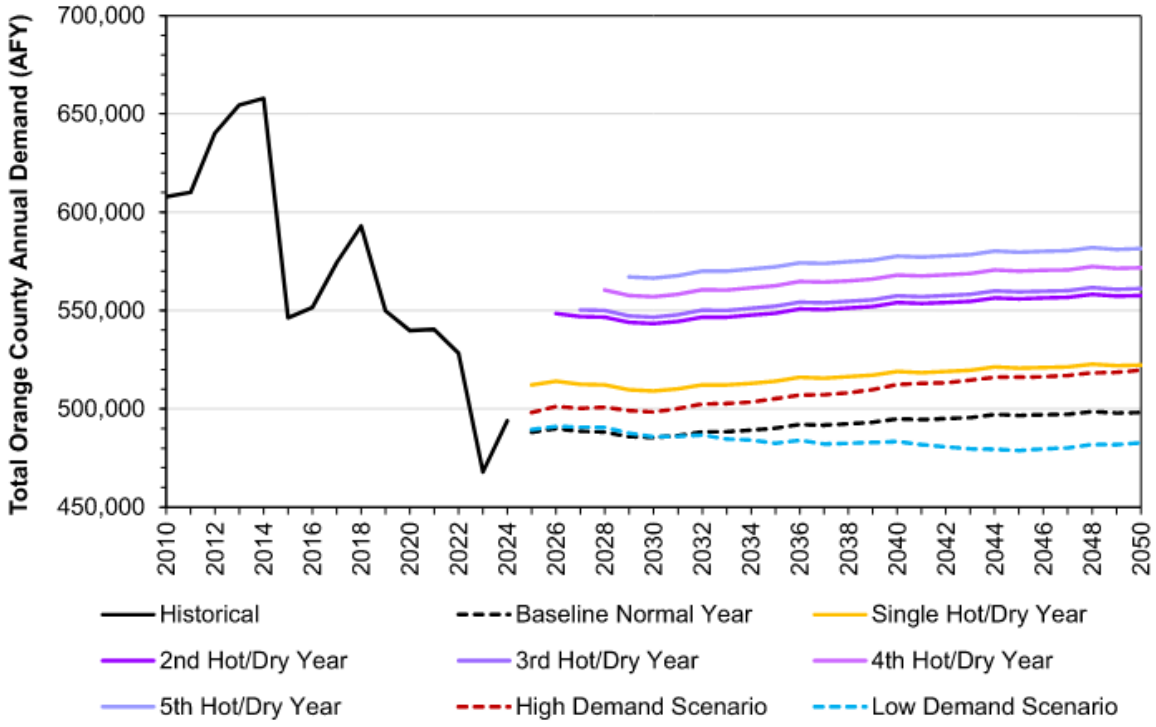


Figure 4.2 Projected Water Use Across All Orange County Water Agencies

In terms of future development, North Orange County is substantially built out, with a majority residential land uses with some mixed-use areas dedicated to commercial, institutional, and governmental uses. Future developments planned in North Orange County are mainly redevelopment and infill projects. As for the City's service area specifically, future developments include a number of infill projects, potential accessory dwelling units (ADUs), and additional residential units to meet the City's Regional Housing Needs Assessment (RHNA) allocation, which will all shape the City's future water use.

Water use within the City's service area has been relatively constant in the past five years, with an annual average total water use of approximately 25,050 acre-feet (AF). Following one of the worst droughts in California history between 2017 and 2022, the significant wet year in 2023 saw a decrease in overall water use from FY 2021-22 to FY 2022-23 in the City's entire service area.

Water use in FY 2024-25 included 25,213 AF potable water. The City's water use is primarily residential. The projected water use in 2050 is 24,460 for potable water.

4.1 Water Use in the Last Five Years

The five-year average water use within the City's service area is approximately 25,050 AF provided by potable sources. Demand trends have regionally remained flat due to water-use efficiency efforts and increased precipitation in recent wet years, such as FY 2023. As mentioned in Chapter 3, the City is almost completely built out. Total demands have remained relatively stable due to ongoing water conservation programs and improved water use efficiency efforts.

FY 2020-21 through FY 2021-22 saw the highest water uses over the last five years due to region-wide drought conditions. FY 2022-23 proved to be one of the wettest years on record in the State and the City saw a general decrease in water demand following this wet year, as precipitation offsets landscape irrigation demands. These year-to-year fluctuations in precipitation will continue to influence the City's annual demands. In general, the City saw a decrease in demands of 9.6 percent over the 5-year reporting period.

Table 4.1 presents the City's service area existing water use by source for direct uses. There are no indirect uses within the City's service area. The City's service area total water usage in FY 2024-25 was 25,213 AF. The total usage was met through a combination of potable sources, including groundwater, imported water, and surface water. In FY 2024-25, about 78.3 percent of the total demand was met through Orange County Groundwater Basin (OC Basin).

Table 4.1 Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water - Actual

Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water – Actual Water Code Section 10631(d)(1)			
Use Type	Additional Description (as needed)	2025 Actual Water Use	
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	Volume (AF)
Add additional rows as needed			
Agricultural		Potable	123
Commercial	Includes both Commercial and Industrial	Potable	7,432
Landscape		Potable	545
Multi-Family		Potable	4,046
Single Family		Potable	11,439
Distribution System Water Loss		Potable	1,361
		Subtotal Potable	25,213
		Subtotal Non-Potable	0
		Total	25,213
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES: Distribution System Water Loss is calculated as the difference between total potable production and use for FY 2025.			

Table 4.1 summarizes the City's potable water demand for FY 2024-25; a total of 25,213 AF of potable water was used. The City has a mix of single and multi- family residential water use which account for 61.4 percent of their total potable water demand. Combined commercial and industrial use accounts for 29.5 percent of total potable demand. Landscape irrigation accounts for 2.2 percent of total potable demand while agricultural uses account for 0.5 percent of total potable demand. Distribution system water loss was 6.5 percent in FY 2024-25.

4.2 Projected Water Use

The water use projection for this UWMP is separated into a near-term period covering the next five years (2026-2030) and a long-term period extending from 2030 through 2050.

The water use projection is based on the 2025 Orange County Water Demand Projection Model Technical Memorandum (TM), which is included in Appendix H of this UWMP. The methodology used in this demand forecast links water use statistically to a set of explanatory variables through a regression, or econometric, model. Section 4.3 offers a description of the methodology used to calculate the City's demand projections.

4.2.1 Water Use Projections for 2026-2030

Total demands (direct) are met through imported water (treated) and groundwater. The City utilizes the projected total demands to incorporate the best available planning information when projecting the imported water demands of its service area. The City's total water demand projection for the next five years is shown in Table 4.2. As shown, the City's total service area water demands are expected to decrease over the next five years (2026 to 2030). The City does not project any non-potable demands for its service area in the next five years.

Table 4.2 City of Orange's Service Area Total Potable Demand for 2026-2030

Total Water Demand					
Fiscal Year Ending	2026	2027	2028	2029	2030
Total Water Demand (AF)	24,897	24,795	24,752	24,593	24,529

4.2.2 Water Use Projections for 2030-2050

The City's service area's total water demands (by use type) for 2030-2050 are shown in Table 4.3. By 2050, total water demand is projected to be 24,460 AF, a 2.3 percent decrease from the 2025 demand of 25,213 AF. Table 4.4 indicates additional information for both future conservation efforts and low-income water demands included in the projections, while Table 4.5 presents the passive water savings included in Table 4.3 projections for 2030-2050.

Table 4.3 Submittal Table 4-2 Retail: Total Uses of Potable, and Non-Potable Water - Projected

Submittal Table 4-2 Retail: Total Uses of Potable, and Non-Potable Water - Projected Water Code Section 10631(d)(1)							
Use Type		**Projected Water Use** (Report To the Extent that Records are Available)					
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	**Potable or Non-Potable** (OPTIONAL) Drop down list	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 (opt) (AF)**
Add additional rows as needed.							
Single Family		Potable	10,057	10,023	10,034	9,977	9,928
Multi-Family		Potable	7,794	7,804	7,864	7,831	7,816
Commercial	Includes Institutional and Industrial uses	Potable	5,202	5,246	5,293	5,356	5,415
Landscape	Includes Agriculture use	Potable	180	180	181	180	180
Distribution System Water Loss	Includes Other uses	Potable	1,296	1,297	1,303	1,302	1,301
		Subtotal Potable	24,529	24,550	24,675	24,646	24,640
		Subtotal Non-Potable	0	0	0	0	0
		Total	24,529	24,550	24,675	24,646	24,640
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.							
NOTES: Source - 2025 Orange County Water Demand Projection Model Forecast for the City of Orange.							

Table 4.4 Submittal Table 4-3 Retail: Inclusion in Water Use Projections

Submittal Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? Drop down list (y/n)	Yes
If "Yes" to above, **state the section or page number**, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. ***Optional*** Suppliers may complete Optional Submittal Table 4-4 R to quantify the expected savings.	Chapter 4.3
Are Lower Income Residential Demands Included In Projections? Drop down list (y/n)	Yes
Optional If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	Chapter 4.3
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES: Future water savings include passive conservation (defined as water savings that occur without incentives). Active conservation (defined as water savings that occur with incentives) is not included in the projections. The demand projection methodology accounted for the entire population of the service area (i.e. all income levels).	

Table 4.5 Optional Submittal Table 4-4 Retail: Passive Water Savings Projections

OPTIONAL Submittal Table 4-4 Retail: Passive Water Savings Projections Water Code Section 10631(d)(4)(A)					
Description (Codes, Standards, Ordinances, or Plans)	Passive savings				
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (opt) (AF)
Add additional rows as needed					
	341	340	342	340	339
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.					
NOTES: Passive conservation here is defined as water savings that occur without incentives. Based on the 2025 Orange County Water Demand Projection Model, passive conservation is assumed to equal a 1.9% decrease in residential demand due to conservation by 2030 (linearly extrapolated), then remains constant in subsequent years.					

Total potable water demands are projected to increase to 24,460 AF by the year 2050, an increase of about 0.5 percent between 2030 and 2050 (Table 4.3). It is projected that combined single- and multi-family residential water use will account for 72 percent of total potable water demand. Combined commercial, institutional, and industrial water use is expected to account for 22 percent, and landscape irrigation water use will account for 0.7 percent of total potable water use in the City by 2050. Distribution system water loss and other uses will account for 5.3 percent of total potable water demands.

4.3 Water Demand Projection Methodology

In 2025, MWDOC and OCWD, in collaboration with MWDOC's member agencies and the Cities of Anaheim, Fullerton, and Santa Ana, led the effort to develop the 2025 Orange County Water Demand Projection Model, (MWDOC, 2025). This effort developed a demand model by regressing historical water consumption data provided by each Orange County water agency against several explanatory variables known to influence water demand (including weather, water price, regional economic conditions, and housing density). The water demand projections were for the Orange County region as a whole and provided retail agency specific demands, spanning the years of 2025-2050. The full TM can be found in Appendix H.

The demand projections created four econometric, or regression, demand models representing the following four water billing sectors for each Orange County retail agency:

- Single-family Residential.
- Multifamily Residential.
- CII.
- Dedicated Irrigation (potable, recycled, and raw water).

Prior to developing the forecasts, model calibration and fine tuning for each of the four demand sectors occurred at the individual retail agency level. The demand across all four models, plus other uses for each agency, is summed to a total forecast for each agency, the MWDOC service area, the OCWD service area, and total Orange County.

The demand projection methodology accounted for the entire population of each individual retail agency's service area (i.e., all income levels), thus accounting for the water demand projections for lower income households within the City's service area.

4.3.1 Econometric Approach, Data Acquisition, and Model Development

A regression, or econometric, approach to demand forecasting statistically links retail level water use to weather, economic, and socioeconomic factors (explanatory variables). The model relies on a comprehensive dataset of historical water-use data for almost 40 different billing sectors collected from Orange County retail agencies. MWDOC obtained explanatory variables from reputable sources, including weather databases and Census-based reports. The explanatory variables used in the regression were based on industry experience regarding what factors affect water use nationwide and in Southern California.

By statistically linking water use to explanatory variables, the econometric models provide a robust foundation for understanding variability and projecting future consumption patterns. Modeled water use is the product of the driver count (e.g., number of accounts), and the rate of water use per driver:

$$Water\ Use = Driver\ Count \times Rate\ of\ Use\ per\ Driver$$

Each of the four demand sectors modeled (single family, multifamily, CII, and irrigation) has a separate equation. Driver units change into the future based on housing, employment, and population projections. The rate of water use per driver is based on the historical response of the use rate to explanatory variables (measured by coefficients) and the future values of those same explanatory variables.

Linear regression produces the coefficients for each explanatory variable to closely reproduce the historical rate of use per driver unit. The coefficients explain how (both in terms of magnitude and sign) water use responds to changes to explanatory variables.

MWDOC identified driver units based on data provided by agencies and the Center for Demographic Research at Cal State Fullerton (CDR) that can be easily projected into the future. The rate of water use per driver is based on agency provided billing sector uses from 2010 through 2024. Table 4.6 shows the driver units and rate of use for each of the four models.

Table 4.6 Summary of Demand Sectors

Sector	Driver Units	Rate of Use Definition
Single-family Residential	Accounts	Gallons/account/day
Multifamily Residential	Accounts	Gallons/account/day
CII	Jobs	Gallons/job/day
Dedicated Irrigation (potable, recycled, and raw water)	Accounts	Gallons/account/day

The rates of water use for each sector model are based on the historical responses to explanatory variables, and the future values of those explanatory variables. Addressing multiple influences on demand improves the accuracy and precision of all estimated parameters, and the modeling team identified a large range of explanatory variables based on past experience with demand modeling and available data. Table 4.7 displays the explanatory variables.

Table 4.7 Summary of Historical Data Collected for Model Development

Dataset	Data Source(s)
Observed weather (monthly precipitation, monthly maximum temperature)	PRISM
Water Price	Retail agency provided (2010 – 2024)
Drought Restrictions	State Water Resources Control Board
GDP	Federal Reserve Bank of St. Louis Real Gross Domestic Product: All Industries in Orange County, California
Median Income	US Census ACS
Housing Density	US Census ACS, CDR, SCAG land use data
Persons Per Household	US Census ACS, CDR, SCAG land use data
Relative Sectoral Economic Activity	US Census LODES, CDR
Passive Efficiency Estimates	Analysis of trend indicators and MWDOC/FLUME insight
COVID Binary Indicator	Assumed active from March 2020 – May 2023

Notes:
ACS - American Community Survey; PRISM - Parameter-elevation Regressions on Independent Slopes Model

The MWDOC Water Use Efficiency Group provided annual water savings achieved by various active conservation measures. To avoid potential errors in the classification of historical conservation data, total historical conservation was modeled in each sectoral regression model using a linear trend to capture steady change over time. While historical conservation is captured in a linear trend, projected passive conservation is based on the best available data from 2021 Orange County Residential Water Efficiency Potential and Opportunities Study and assumes a 1.9 percent decrease in annual residential demand from 2025 to 2030, at which point passive conservation is projected to remain constant. Future active conservation is not accounted for in baseline demand forecast, as water savings from active programs (programs that require customers to change behavior) are highly specific to retail agencies and to the formulation and timing of their implementation.

The process of identifying the explanatory variables to include in the regression equation and developing coefficients that accurately measure the response of water use to changes in these variables is the most time-intensive part of the demand forecasting process.

Prior to developing the forecasts, model calibration and fine tuning for each of the four demand sectors occurred at the individual retail agency level. The modeling team worked with each retail agency to calibrate sectoral model equations and quantify other uses (those not included in the single-family, multifamily, irrigation, or CII demand sectors).

Figure 4.3 presents the iterative process undergone to develop the econometric demand forecasts.

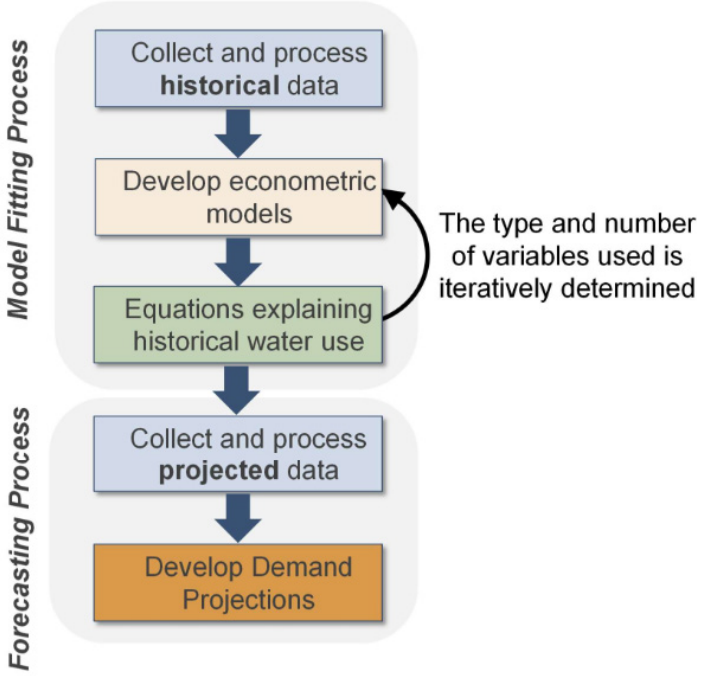


Figure 4.3 Econometric Demand Forecast Development Process

4.3.2 Forecasted Demands

Forecasted demand is a function of both the change in driver units into the future as well as the change in explanatory variables. Table 4.8 summarizes the future drivers and variables and assumptions for the baseline forecast. It should be noted that the CDR demographic forecast accounts for both the RHNA allocations and projected increase in Accessory Dwelling Units (ADUs). The 2022 Orange County Projections accounted for Draft RHNA rezone sites[1] with jurisdictions including the number of dwelling units that are most likely to occur/get built by the end of 2050 under assumptions and trends existing at the time of the forecasting effort.

[1] For the 2022 Orange County Projections, CDR collected initial draft input from local jurisdictions in September 2021 on their anticipated jurisdiction-level housing growth for each projection year. In December 2021-February 2022, CDR reviewed and extracted data from jurisdictions' draft housing elements to create a parcel-level inventory of additional housing capacity from sites that were to be rezoned to accommodate the 6th RHNA cycle. These were reviewed by jurisdictions in spring 2022. Jurisdictions completed the rezoning of the final sites after their housing elements were certified by the State Housing and Community Development Department starting in 2022. The final adopted rezone sites will feed into CDR's 2026 Orange County Projections.

Table 4.8 Future Model Parameters

Data Category	Variable	Source	Assumptions
Driver Units	Single-family and multifamily accounts	CDR	Historical households per account; averages are multiplied by households projected by CDR
	Irrigation accounts	Agency Billing Data	Accounts are assumed to be constant into the future
	Sectoral Employment	CDR	Proportion of jobs within CII sectors projected by CDR
Explanatory Variables	Monthly Maximum Temperature and Total Precipitation	PRISM	30-year historical normal weather
	Water Price	Retail Agencies	Prices increase by 3% per year above inflation for 2025-2030 and keeps pace with inflation thereafter (zero difference from inflation trend)
	Water Use Restrictions	State and Local Restrictions	None
	Seasonality		Sine/cosine functions to capture monthly pattern
	Median Income	US Census	Constant income at 2022 value (real dollars)
	Housing Density	CDR	Derived from CDR housing unit projections, assuming residential area remains at 2024 levels
	Persons Per Household	CDR	CDR projected demographics
	Gross Domestic Product	Federal Reserve	Long-term GDP trend
	Relative Sectoral Employment	CDR	Calculated based on CDR projections
	Passive Efficiency Estimates	Flume Insight	Assumes a 2% decrease in residential demand due to conservation by 2030 (linearly extrapolated), then no change
	COVID Binary Indicator		None (occurred between March 2020 and May 2023)

The normal year scenario was provided by the baseline forecast. In this model, the single dry year scenario used a hot-dry index (HDI) to identify the year with the most weather-sensitive demand, with 2014 selected for most agencies. The multiple dry year was developed to describe the potential impact of consecutive dry years. The forecasts for individual agencies, including the City's, was then summed to the regional level, providing regionally consistent forecasts for all of Orange County.

4.4 Water Loss

The City has conducted annual water loss audits since 2015 per the American Water Works Association (AWWA) methodology per SB 555 to understand the relationship between water loss, operating costs, and revenue losses. Non-revenue water for Calendar Year (CY) 2020-2024 consists of three components: real losses (e.g., leakage in mains and service lines, and storage tank overflows), apparent losses (unauthorized consumption, customer metering inaccuracies, and systematic data handling errors), and unbilled water (e.g., hydrant flushing, firefighting, and blow-off water from well start-ups). Table 4.9 summarizes the status of the last five years of water loss audit reporting for the water system. Reports can be found online at WUEdata - Water Audit Plans. Understanding and controlling water loss from a distribution system is an effective way for the City to achieve regulatory standards and manage their existing resources.

Table 4.9 Submittal Table 4-5 Retail: Water Loss Audit Reporting

Submittal Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)		
Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
Report submittal status for all five years for each Public Water System as available. Add rows as needed		
CA3010027	2020	Yes
	2021	Yes
	2022	Yes
	2023	Yes
	2024	Yes
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports.		
NOTES: Water Loss Audits reported in CY.		

Signed in 2018 and adopted in 2024, the "Making Conservation a California Way of Life" legislation (SB 606 and Assembly Bill 1668) establishes a new framework for long-term improvements in urban water use efficiency and drought planning as California adapts to climate change impacts. Under the regulation, Suppliers must annually calculate Urban Water Use Objectives based on standards applied at the service area scale, including the Water Loss Performance Standard developed by the State Water Resources Control Board to minimize water waste through system leaks. The Water Loss Performance Standard requires that Suppliers must meet the real water loss standard and apparent water loss standard by 2028.

Table 4.10 presents the City's progress towards compliance with the 2028 Water Loss Standard, as of the time of writing this UWMP. The most recent AWWA Water Loss Audit for CY 2024 was utilized for the calculations presented.

Table 4.10 Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard

Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard
Water Code Section 10631(d)(3)(C)

Public Water System ID # Reported in Submittal Table 2-1 R	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss Drop down list	Number of Units (Connections or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections	Volume of Total Apparent Loss (from AWWA Water Loss Audit) (AF)	Apparent Water Loss Per Unit per Day
Add additional rows as needed.											
CA3010027	Yes	27.1	Gallons per Service Connection per Day (GPSCD)	36,570	559.14	13.6	20.0	Gallons per Service Connection per Day (GPSCD)	36,570	658.56	16.1
Water Board's Calculated Water Loss Standards											

DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss MUST remain consistent with units reported in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations.

NOTES: Uses the Water Board's calculated water loss standards updated as of 01/30/2026 and AWWA Water Loss Audit for CY 2024. Connection count may differ from what is reported in Table 2-1 R for FY 2025.

CHAPTER 5 CONSERVATION TARGET COMPLIANCE

The Water Conservation Act of 2009, also known as Senate Bill (SB) X7-7, mandated a 20 percent reduction in urban per capita water use across California by 2020. To achieve this goal, the Act required each retail water supplier to establish an urban water-use target, contributing to the State's collective efforts. The Legislature stated that the combined reductions from all retail suppliers would fulfill the statewide legislative mandate.

The goal of this chapter is to allow the retail water supplier to report on their progress toward meeting their urban water-use targets in their UWMP, pursuant to Water Code Section 10608.40. Suppliers that did not meet their 2020 target in 2020 are required to compare their 2025 water use to the 2020 target.

Retail water suppliers are required to comply with SB X7-7 individually or as a region in collaboration with other retail water suppliers or demonstrate they have a plan or have secured funding to be in compliance, in order to be eligible for water related state grants and loans.

When determining water use in an UWMP, two terms are often used interchangeably:

- **Daily Per Capita Water Use.** The amount of water used per person per day. In the UWMP calculations, this is total water use within a service area, divided by population, and it is measured in gallons.
- **Gallons Per Capita Per Day (GPCD).** This is the "daily per capita water use" measured in gallons. Therefore, the term commonly used when referring to "daily per capita water use" is "gallons per capita per day" or GPCD.[1]

5.1 Reporting Requirements

MWDOC's Water Use Efficiency (WUE) programs helped Orange County meet the state's 20x2020 mandate by coordinating conservation efforts across its member agencies, funding and implementing regionally cost-effective efficiency programs, and enabling compliance through the Orange County 20x2020 Regional Alliance. By aligning its WUE portfolio directly with SB X7-7 requirements, supporting high-impact measures (especially outdoor water savings), documenting eligible indirect potable reuse credits, and centrally handling regional target calculations and reporting, MWDOC allowed participating retailers to comply collectively rather than individually resulting in regional per capita water use well below the required 2020 target.

[1] It is important to distinguish GPCD (as used in UWMPs) from the Residential Gallons Per Capita Per Day (R-GPCD) that is used in some reporting to the California State Water Resources Control Board (SWRCB). GPCD is the total water use from all sectors within a service area (residential, commercial, institutional, and any others) minus allowable exclusions (as defined in SB X7-7), then divided by the population. This is used in UWMPs. R-GPCD is only a part of the GPCD; it is the estimated residential water use in a service area divided by population.

As a result of MWDOC's WUE program, all Orange County water retailers, including all MWDOC's member agencies and the participating cities of Anaheim, Fullerton, and Santa Ana, achieved compliance prior to 2020. The following table with information taken from the 2020 UWMP verifies that City of Orange met their SB X7-7 requirement. A discussion of programs implemented to support the achievement of the agency's per capita water reduction goals is covered in Section 9 - Demand Management Measures of this UWMP.

Table 5.1 Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress

Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress **Water Code Section 10608.40**						
☐	**Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.**					
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target? Drop down list	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	**Only for suppliers that did not meet the Target in 2020** **See DWR NOTES below.**	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	181	129	Yes		NA
DWR NOTES: **Suppliers calculating a 2025 GPCD** will need to complete and submit SB X 7-7 Compliance Tables to verify the use of SB X7-7 Methodologies. **Suppliers that were part of a merger or consolidation since 2020** see Chapter 5 and Appendix P for guidance. NA=Not Applicable						
NOTES: Supplier met the 2020 target, actual 2025 GPCD not required.						

CHAPTER 6 WATER SUPPLY CHARACTERIZATION

Orange County has a water supply portfolio made up from a variety of local and imported sources. Groundwater is produced from the Orange County Groundwater Basin (OC Basin), which is managed by the Orange County Water District (OCWD). To enhance the reliability of groundwater, OCWD has implemented projects and programs over the years that include: (1) the Groundwater Replenishment System (GWRS), which is the world's largest water purification system for indirect potable reuse; (2) increased stormwater capture for groundwater recharge; and (3) participation in the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP), a collaborative, watershed-scale approach for groundwater basin management, replenishment, and water transfers.

Imported water is provided by the Metropolitan Water District of Southern California (MET), the wholesale water provider to 26 member agencies in Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. MET's imported water sources are delivered through its own Colorado River Aqueduct (CRA) and the California Aqueduct, under contract with the State Water Project (SWP). To enhance its reliability of its imported water, MET has implemented many programs such as canal lining and transfers of agricultural water, land fallowing programs with irrigation districts, water banking programs, and use of its storage reservoirs.

Local and imported water sources in Orange County are managed in such a way that they complement each other. For example, during wet and normal years additional MET water is purchased for groundwater replenishment in the OC Basin. During dry and drought years, when imported water is more limited, more groundwater can be produced to meet Orange County water demands. This coordinated management of water supplies has resulted in reliable water service even during multi-year droughts. Based on the water supply assessment described in this chapter and in Chapter 7, the Orange County region will continue to receive a reliable water supply through the next 25 years.

Specifically, this chapter includes: (1) descriptions of each water supply source and their management; (2) quantification of water supply sources through 2050 under normal, dry, and multi-dry weather conditions; (3) opportunities for exchanges and transfers; and (4) discussion regarding any planned or potential future water supply projects. This chapter also includes the energy intensity of the water service.

6.1 Water Supply Overview

The City meets all of its demands with a combination of imported water, local groundwater, and local surface water to meet its water needs. The City works together with two primary agencies, Municipal Water District of Orange County (MWDOC) and OCWD, to deliver a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. MWDOC is the Orange County wholesaler of imported water purchased from MET, which is delivered from the SWP and MET's CRA to Southern California. The City purchases imported water through MWDOC and East Orange County Water District (EOCWD) to supplement their local supplies.

Local sources presently account for 78 percent of the City's water supplies, whereby groundwater is the major source of local supply. The primary source of groundwater originates from the OC Basin, which is located in the middle portion of MWDOC's service area and is managed by OCWD. The GWRS is a joint

project between OCWD and the Orange County Sanitation District (OC San). Using advanced treatment, recycled wastewater is transformed into a high-quality water supply for groundwater replenishment. The City's main source of water supply is groundwater from the OC Basin. Imported water makes up the rest of the City's water supply portfolio. In FY 2024-25, the City relied on approximately 78 percent groundwater and 19 percent imported water, and 3 percent surface water (Table 6.1).

Table 6.1 Submittal Table 6-8 Retail: Water Supplies – 2025 Actual

Submittal Table 6-8 Retail: Water Supplies — 2025 Actual Water Code Section 10631(b)		
Water Supply	Additional Description	2025
		Actual Volume
		(AF)
Groundwater (not desalinated)	Orange County Groundwater Basin	19,737
Purchased or Imported Water	MWDOC	4,569
Purchased or Imported Water	EOCWD	169
Surface Water (not desalinated)	Surface Water	738
	Total	25,213
NOTES: Source – City of Orange, 2025		

In 2025, MWDOC developed a water demand forecast model for its participating water agencies that statistically correlates municipal and industrial (M&I) water use with demographic, socioeconomic, conservation and weather variables—as reported in the 2025 Orange County Water Demand Projection Model TM (MWDOC, 2025). Because the model isolates weather, future water demand projects can be estimated under single and multiple-year droughts and under future climate change scenarios.

It is projected that by 2050, the City's water portfolio will change to approximately 85 percent groundwater and 15 percent imported water (Table 6.2 and Figure 6.1). It should be noted that these representations of supply match the projected demand. However, the City can purchase more MET imported water through MWDOC, should the need arise. Note that GWRS supplies are included as part of groundwater pumping numbers.

The following subsections provide a detailed discussion of the City's water sources as well as the future water supply portfolio for the next 25 years.

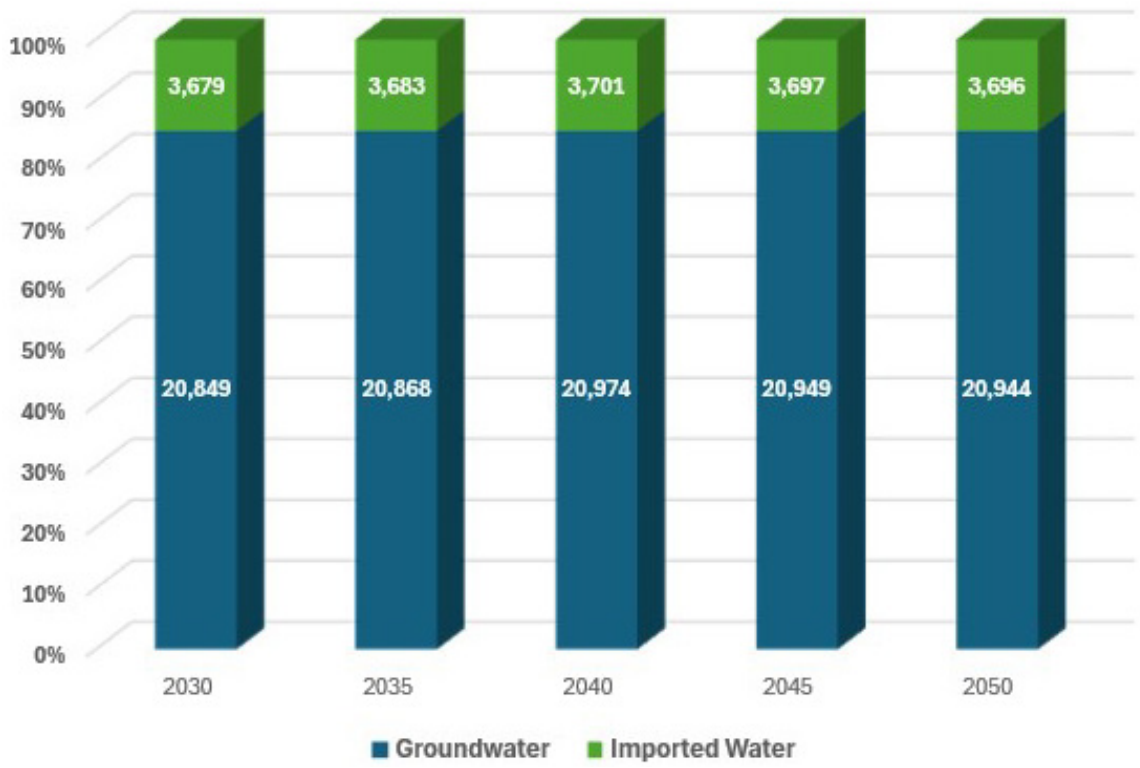


Figure 6.1 City's Projected Water Supply

Table 6.2 Submittal Table 6-9 Retail: Water Supplies – Projected

Submittal Table 6-9 Retail: Water Supplies — Projected Water Code Section 10631 (b)						
Water Supply	Additional Detail on Water Supply	Projected Water Supply				
		2030	2035	2040	2045	2050 (opt)
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
		(AF)	(AF)	(AF)	(AF)	(AF)
Purchased or Imported Water	MWDOC	3,679	3,683	3,701	3,697	3,696
Groundwater (not desalinated)	OCWD	20,849	20,868	20,974	20,949	20,944
Total		24,528	24,551	24,675	24,646	24,640

NOTES: Source - MWDOC, 2025.

Groundwater volumes assume OCWD's basin production percentage (BPP) to be 85% starting in 2025. Volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections, which are established annually.

6.2 Imported Water

The City supplements its water supply with imported water purchased from MET through MWDOC. In FY 2024-25, the City relied on approximately 4,569 acre-feet per year (AFY)—approximately 18 percent of the City's water supply portfolio for FY 2024-25—of imported water from MET/MWDOC to meet its demands.

MET's two principal sources of water are the Colorado River and the SWP. MET receives water from the Colorado River through the CRA and from the SWP through the California Aqueduct. For Orange County, the water obtained from these sources is treated at the Robert B. Diemer Filtration Plant located in the City of Yorba Linda. Typically, the Diemer Filtration Plant receives a blend of Colorado River water from Lake Mathews through the MET Lower Feeder and SWP water through the Yorba Linda Feeder.

The City owns specified capacity rights for the delivery of water from the Allen-McColloch Pipeline (AMP). MET currently owns and operates the AMP. The City owns 22.7 cubic feet per second (cfs) of capacity within the AMP, which is used as a supplemental source of domestic water. The City owns 14 cfs of capacity within the East Orange County Feeder #2 (EOCF #2). The EOCF #2 is a pipeline jointly owned by several local agencies and MET. The City also has a connection capacity of 10 cfs within the Orange County Feeder.

A portion of the City lies within the boundaries of EOCWD. This part of the City is entitled to the capacity rights of the EOCWD, which is supplied with imported water via the AMP and the EOCF #2 from MET sources. In FY 2024-25, the City relied on approximately 169 AFY—approximately 1 percent of the City's water supply portfolio for FY 2024-25—of imported water from EOCWD.

The City imported a total of approximately 4,737 AFY in FY 2024-25—approximately 19 percent of the City's water supply portfolio for FY 2024-25—from MET/MWDOC and EOCWD.

6.2.1 Metropolitan Water District of Southern California

MET is the largest water wholesaler in California, serving approximately 19 million customers in a 5,200-square mile service area. MET wholesales imported water supplies to 26 member agencies located in the six southern California counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura.

MET is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of MET's 26 member agencies. The allocation of directors and voting rights is determined by each agency's assessed valuation. Each member of the Board is entitled to cast one vote for each ten million dollars of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act. Directors may be appointed by the chief executive officer of the member agency or by a majority vote of the agency's governing board. Directors are not compensated by MET for their service (The Metropolitan Water District Act, 1969).

MET is responsible for importing water into the region through its operation of the CRA, which brings Colorado River supply to its service area, and its SWP contract, which brings water from northern California via the California Aqueduct. MET supplements its direct deliveries of imported supplies with its storage reservoirs, water transfers, agricultural irrigation water conservation, and water banking programs. Major imported water aqueducts bringing water to Southern California are shown in Figure 6.2. It should

be noted that the Los Angeles Aqueduct is owned and operated by the Los Angeles Department of Water and Power and is not part of MET's imported water supplies. Member agencies receive water from MET through various delivery points and pay for service through a rate structure comprising volumetric rates, capacity charges, and readiness-to-serve charges. Member agencies provide MET with estimates of imported water demand in April each year, indicating the amount of water they anticipate they will need to meet their demands over the next five years.

In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are MET member agencies that purchase imported water directly from MET. MWDOC purchases both treated potable and untreated water from MET to supplement its retail agencies' local water supplies and for groundwater replenishment. Figure 6.3 illustrates the MET feeders and major transmission pipelines that deliver water within Orange County.



Figure 6.2 Major Aqueducts that Supply Imported Water to Southern California (MET, 2025)



Figure 6.3 MET Feeders and Transmission Mains that Serve Orange County

6.2.2 Colorado River Aqueduct

6.2.2.1 Background

The Colorado River was MET's original source of water after MET's establishment in 1928. The original founding members created MET with the goal to build the Colorado River Aqueduct (CRA) to bring water to Southern California. The CRA, which is owned and operated by MET, transports water from the Colorado River to its terminus Lake Mathews, in Riverside County. The actual amount of water per year that may be conveyed through the CRA to MET's member agencies is subject to the availability of Colorado River water. Approximately 40 million people rely on the Colorado River and its tributaries for potable water with 5.5 million acres of land using Colorado River water for irrigation. The CRA includes supplies from the implementation of the Quantification Settlement Agreement (QSA) and its related agreements to transfer water from agricultural agencies to urban uses. The 2003 QSA enabled California to implement major Colorado River water conservation and transfer programs to stabilize water supplies and reduce the state's demand on the river to its 4.4 million acre-feet (MAF) entitlement. Colorado River transactions are potentially available to supply additional water up to the CRA capacity of 1.25 MAF on an as-needed basis. Water from the Colorado River or its tributaries is available to users in California, Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming, and Mexico. California is apportioned the use of 4.4 MAF of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to, but not used by, Arizona or Nevada. MET has fourth-priority rights, with a basic entitlement of 550,000 AFY of Colorado River water, plus surplus water up to an additional 662,000 AFY when the following conditions exist (MET, 2025):

- Water is unused by the California holders of priorities 1 through 3.
- Water is saved by the Palo Verde land management, crop rotation, and water supply program.
- When the US Secretary of the Interior makes available either one or both of the following:
  - Surplus water.
  - Colorado River water that is apportioned to but unused by Arizona and/or Nevada.

6.2.2.2 Current Conditions and Supply

The Colorado River supply faces current and future imbalances between water supply and demand in the Colorado River Basin due to reductions in snowpack, long-term drought conditions, and climate change. The last 25-year period has been called a megadrought, with Lake Mead's elevation dropping from a high of 1,215 feet in 2000 to its lowest level of 1,040 feet in July 2022. While extreme wet conditions resulted in lake levels exceeding 1,077 feet in February 2024, levels have been persistently hovering around 1,057 feet since May of 2025. The United States Bureau of Reclamation (USBR) projects that there is a 53 percent likelihood that Lake Mead elevation could fall below 1,035 feet, which would trigger water shortages for MET under the current operating guidelines. As of August 2025, Lake Mead storage was approximately 31 percent of capacity per USBR's 24-Month Study, which also projected continued Lower Basin shortage conditions in 2026 (MET, 2025).

The current operating guidelines for the Colorado River expire at the end of 2026, and a new, long-term operating plan must be in place by November 2026 to manage the river's water supply. The ongoing Colorado River allocation negotiations are focused on creating a post-2026 operating plan, with states

and the federal government aiming for consensus on how to manage the river's declining water supply due to the severe, prolonged drought in the Colorado River Basin. The drought on the Colorado River began around 2000 and has continued, in various degrees of severity, for over two decades, making it a historic megadrought that has significantly reduced water flow into the river and lowered water levels in reservoirs like Lake Powell and Lake Mead. Although some periods, like the wet winter of 2023, brought temporary relief with increased snowfall, they were not enough to fully replenish the system or overcome the prolonged lack of water and effects of climate change, such as aridification and increased evaporation according to the United States Geological Survey (USGS, 2024). Under the 2007 Interim Guidelines, together with the Lower Basin Drought Contingency Plan (2019), the Intentionally Created Surplus (ICS) program has allowed MET to store conserved water in Lake Mead for subsequent recovery; these frameworks sunset with the Guidelines at the end of 2026 and are expected to be addressed in the post-2026 rules (MET, 2025).

The USBR, which is part of the US Department of the Interior, is the federal agency leading the negotiations and responsible for managing the river system. The ongoing Colorado River negotiations aim to find a fair and sustainable way to allocate the available water, which is significantly less than in the past. Talks are centering on a "natural flow" proposal that divides water based on current river conditions, rather than historical allocations. However, states remain at odds over how much water to allocate to the Upper and Lower Basins, with the federal government planning to impose its own plan if an agreement is not reached by the November 2026 deadline. Some key challenges that remain to be resolved are the different interests of the Upper Basin states (Colorado, Utah, Wyoming, New Mexico) and the Lower Basin states (California, Arizona, Nevada) to reach consensus on how much water the Upper Basin should send downstream. In addition, Tribal nations are also seeking recognition of their rights and a role in the future management of the river. Given MET's junior priority status within California's Colorado River priority system, reductions to MET's supplies are a possibility under future operating criteria; MET's planning reflects this risk (MET, 2025).

Consistent with MET's 2025 UWMP, supply capability planning uses USBR's August 2023 Colorado River Simulation System (CRSS) assumptions, including a climate adjusted flow reduction factor of approximately 9.3 percent per 1 degree Celsius of warming over the planning horizon (2025–2050). MET continues to utilize supply, storage, transfer, and conservation programs, including ICS participation under the current Guidelines, to manage risk and buffer shortages. In addition, conserved QSA related transfer water delivered at Lake Havasu (including Imperial Irrigation District and canal-lining exchanges) is categorized in MET's 2025 UWMP as Colorado River imported supply (previously treated as local supply), aligning accounting with current practice (MET, 2025).

6.2.2.3 MET Colorado River Current Programs

Over the years, MET has helped fund and implement various programs to improve Colorado River supply reliability and help resolve the imbalance between supply and demand. Implementation of such programs has contributed to achievements such as a record-low diversion of the Colorado River in 2019, a level not seen since the 1950s. Colorado River water management programs include:

- **Lower Colorado Water Supply Projects** – Authorized in 1980s, this project provides up to 10,000 AFY of water to certain entities that do not have or have insufficient rights to use Colorado River water. A contract executed in 2007 allowed MET to receive project water left unused by the

project contractors along the River; nearly 10,000 acre-feet (AF) were received in recent years when unused supplies were available.

- **Imperial Irrigation District / MET Conservation Program** - Under agreements executed in 1988 and 1989, this program allows MET to fund water efficiency improvements within Imperial Irrigation District's service area in return for the right to divert the water conserved by those investments. An average of 105,000 AFY of water has been conserved since the program's implementation.
- **Management of MET-Owned Land in Palo Verde** - Since 2001, MET has acquired approximately 21,000 acres of irrigable farmland that are leased to growers, with incentives to grow low water-using crops and experiment with low water-consumption practices. MET continues to evaluate opportunities to formally account for verified long-term water savings associated with these lands as part of its Colorado River supply reliability strategy.
- **Palo Verde Land Management, Crop Rotation, and Water Supply Program** - Authorized in 2004, this 35-year program allows MET to pay participating farmers to reduce their water use, and for MET to receive the saved water. Over the life of the program, an average of 84,500 AFY has been saved and made available to MET.
- **Southern Nevada Water Authority (SNWA) and MET Storage and Interstate Release Agreement** - Entered in 2004, this agreement allows SNWA to store its unused, conserved water with MET, in exchange for MET to receive additional Colorado River water supply. MET has relied on the additional water during dry years, especially during the 2011-2016 California drought, and SNWA is not expected to call upon MET to return water until after 2026.
- **Lake Mead Storage Program** - Executed in 2006 and subsequently integrated with Lower Basin Drought Contingency Plan (DCP) operations, MET may intentionally leave conserved water in Lake Mead for exclusive future use. MET has significantly expanded its use of intentionally created surplus (ICS) storage in recent years, including record storage creation (450,000 AF) in 2023 under DCP-related conservation programs.
- **Quagga Mussel Control Program** - Developed in 2007, this program introduced surveillance activities and control measures to combat quagga mussels, an invasive species that impact the Colorado River's water quality.
- **Bard Seasonal Fallowing Program** - Authorized in 2019, and subsequently expanded, this program allows MET to pay participating farmers in Bard to reduce their water use between the late spring and summer months of selected year. Under expanded program authorizations through 2026 (Quechan Seasonal Fallowing Program), this program can provide up to approximately 12,000 AFY in certain years.
- **Lower Basin Drought Contingency Plan** - Signed in 2019, this agreement incentivizes storage in Lake Mead through 2026 and overall, it increases MET's flexibility to fill the CRA as needed (MET, 2025).
- **Lower Basin Conservation and System Efficiency Programs** - In recent years, MET has participated in new, multi-agency conservation and system efficiency programs implemented between 2023 and 2026. These programs incentivize agricultural conservation, system efficiency improvements, urban conservation, and groundwater storage in the Lower Colorado River Basin, with the goal of reducing

system demands and increasing storage in Lake Mead during critically dry conditions. This includes programs such as the Quechan Diversion Forbearance program.

- **Exchange Programs** - MET is involved in separate exchange programs with the USBR, which takes place at the Colorado River Intake and with San Diego County Water Authority (SDCWA), which exchanges conserved Colorado River water.

The Colorado River faces long-term challenges of water demands exceeding available supply with additional uncertainties due to climate change. Climate change impacts expected in the Colorado River Basin include the following:

- More frequent, more intense, and longer lasting droughts, which will result in water deficits.
- Continued dryness in the Colorado River Basin, which will increase the likelihood of triggering a first-ever shortage in the Lower Basin.
- Increased temperatures, which will affect the percentage of precipitation that falls as rain or snow, as well as the amount and timing of mountain snowpack (MET, 2025).

Given these uncertainties, MET plans to continue implementing and expanding Colorado River conservation, storage, exchange, and transfer programs, while also supporting increased water recycling and system efficiency improvements within the Colorado River Basin. MET continues to evaluate additional transfer and conservation opportunities to further enhance regional supply reliability through the 2025 UWMP planning horizon.

6.2.3 State Water Project

6.2.3.1 Background

The SWP consists of a series of pump stations, reservoirs, aqueducts, tunnels, and power plants operated by California Department of Water Resources (DWR) and is an integral part of the effort to ensure that business and industry, urban and suburban residents, and farmers throughout much of California have sufficient water. Water from the SWP originates at Lake Oroville, which is located on the Feather River in Northern California. Much of the SWP water supply passes through the Sacramento-San Joaquin Delta ("Delta"). The SWP is the largest state-built, multipurpose, user-financed water project in the United States. Nearly two-thirds of residents in California receive at least part of their water from the SWP, with approximately 70 percent of SWP's contracted water supply going to urban users and 30 percent to agricultural users. The primary purpose of the SWP is to divert and store water during wet periods in Northern and Central California and distribute it to areas of need in Northern California, the San Francisco Bay area, the San Joaquin Valley, the Central Coast, and Southern California (MET, 2025).

The Delta is key to the SWP's ability to deliver water to its agricultural and urban contractors. All but five of the 29 SWP contractors receive water deliveries below the Delta (pumped via the Harvey O. Banks or Barker Slough pumping plants). However, the Delta faces many challenges concerning its long-term sustainability such as climate change posing a threat of increased variability in floods and droughts. Sea level rise complicates efforts in managing salinity levels and preserving water quality in the Delta to ensure a suitable water supply for urban and agricultural use. Furthermore, other challenges include continued subsidence of Delta islands, many of which are already below sea level, and the related threat of catastrophic levee failure as water pressure increases or following a major seismic event.

In May 2019, DWR withdrew its permit for the two-tunnel WaterFix project in favor of a smaller one-tunnel project alternative. In July 2022, the draft Environmental Impact Report (EIR) for the recommended Delta Conveyance Project alternative was issued, with the project potentially operational by 2045 (Delta Conveyance Design and Construction Authority, 2024), though its implementation faces strong opposition by environmental organizations and other interests in the Delta. The maximum value of the Delta Conveyance Project, when coupled with 250,000 AF of new regional storage, is estimated to be 367,000 AFY for MET, with 63,000 AFY of that amount for Orange County. The Delta Conveyance Project also reduces the probability that any shortage occurs by about 10 percent, meaning a doubling of the time between shortage conditions from once every 5 years to once every decade (MWDOC OC Water Reliability Study, 2023).

6.2.3.2 Current Conditions and Supply

Just like the Colorado River, the amount of water that can be delivered from the SWP to its 29 contractors varies annually based on hydrology and reservoir storage along the SWP. The DWR publishes the maximum entitlement of SWP water for each water contracting agency in "Table A." DWR sets these allocations to balance the needs for human health and safety, agricultural, and municipal water, considering factors like reservoir storage, runoff forecasts, and Endangered Species Act (ESA) requirements. The primary drivers that influence allocations are hydrologic conditions (precipitation and snowmelt) along with storage levels, especially in Lake Oroville. Actual deliveries typically average less than 50 percent of Table A due to hydrologic and regulatory constraints (MET, 2025). MET's actual annual allocations based on springtime Table A values for the past UWMP cycles are summarized in Table 6.3.

Table 6.3 MET SWP Program Capabilities

Year	Average Annual Table A Spring Allocation (MAF)
2015	0.38
2020	0.38
2025	0.96
Percent Change(1)	+252.6%

Notes:
(1) Percent change is between the years 2020 and 2025.
Source: SWP Allocations 1996-2026.

SWP contractors may additionally receive Article 21 water on a short-term basis in addition to Table A water if requested. Article 21 of SWP contracts allows contractors to receive additional water deliveries only under specific conditions, generally during wet months of the year (December through March). Because a SWP contractor must have an immediate use for Article 21 supply or a place to store it outside of the SWP, there are few contractors like MET that can access such supplies (MET, 2025).

Carryover water is SWP water allocated to an SWP contractor and approved for delivery to the contractor in a given year but not used by the end of the year. The unused water is stored in the SWP's share of San Luis Reservoir, when space is available, for the contractor to use in the following year (MET, 2025).

Turnback pool water is Table A water that has been allocated to SWP contractors who have exceeded their demands. This water can then be purchased by another contractor depending on its availability (MET, 2025).

The following factors affect the ability to estimate existing and future water delivery reliability:

- **Water availability at the source:** Availability can be highly variable and depends on the amount and timing of rain and snow that fall in any given year. Generally, during a single dry year or two, surface and groundwater storage can supply most water deliveries, but multiple dry years can result in critically low water reserves. Fisheries issues can also restrict the operations of the export pumps even when water supplies are available.
- **Water rights with priority over the SWP:** Water users with prior water rights are assigned higher priority in DWR's modeling of the SWP's water delivery reliability, even ahead of SWP Table A water.
- **Climate change:** Mean temperatures are predicted to vary more significantly than previously expected. This change in climate is anticipated to bring warmer winter storms that result in less snowfall at lower elevations, reducing total snowpack. From historical data, DWR projects that by 2050, the Sierra snowpack will be reduced from its historical average by 25 to 40 percent. Increased precipitation as rain could result in a larger number of "rain-on-snow" events, causing snow to melt earlier in the year and over fewer days than historically, affecting the availability of water for pumping by the SWP during summer. Furthermore, water quality may be adversely affected due to the anticipated increase in wildfires. Rising sea levels may result in potential pumping cutbacks on the SWP and CVP. DWR's recent planning documents and the Draft 2025 DCR describe climate-adjusted "existing conditions" baselines and future scenarios used by agencies for UWMPs.
- **Regulatory restrictions on SWP Delta exports:** The BiOps protect special-status species such as delta smelt and spring- and winter-run Chinook salmon and imposed substantial constraints on Delta water supply operations through requirements for Delta inflow and outflow and export pumping restrictions. Restrictions on SWP operations imposed by state and federal agencies contribute substantially to the challenge of accurately determining the SWP's water delivery reliability in any given year (DWR, 2020b).
- **Ongoing environmental and policy planning efforts:** Following the 2019 withdrawal of WaterFix, DWR certified the Delta Conveyance Project Final EIR and approved the Bethany alignment in December 2023, a key modernization initiative for the SWP. EcoRestore and related habitat efforts continue to advance.
- **Delta levee failure:** The levees are vulnerable to failure because most original levees were simply built with soils dredged from nearby channels and were not engineered. A breach of one or more levees and island flooding could affect Delta water quality and SWP operations for several months. When islands are flooded, DWR may need to drastically decrease or even cease SWP Delta exports to evaluate damage caused by salinity in the Delta.

It can be concluded that the federal regulatory framework affecting the Bay-Delta's ecosystem, species, and water supply are constantly evolving by adapting to new scientific information, changing climate conditions, and legal challenges. This dynamic and complex regulatory landscape, along with hydrologic and storage conditions along the SWP, continues to result in water supply uncertainties that impact all SWP contractors, including MET, MWDOC, and its member agencies (MET, 2025).

6.2.3.3 SWP Programs/Plans

In the past five years, MET has updated and implemented planning, regulatory, infrastructure, and operational programs to improve the reliability of the SWP supplies while addressing environmental, seismic, and climate-related risks in the Sacramento–San Joaquin Delta and along the California Aqueduct. Key SWP programs and planning efforts include:

- **SWP Biological Opinions and California Incidental Take Permit** - Updated federal Biological Opinions and a California ITP issued in 2024 provide a new operating framework intended to improve flexibility and species protection. The 2025 MET UWMP characterizes the net reliability benefit at approximately +60,000 AFY relative to prior permits, subject to hydrologic and regulatory conditions.
- **Healthy Rivers and Landscapes (HRL) Voluntary Agreements** - MET supports the State's proposed Healthy Rivers and Landscapes program, which establishes a voluntary framework for improving Delta ecosystem conditions through coordinated flow contributions and habitat restoration projects. The HRL approach is intended to provide regulatory stability while supporting environmental objectives consistent with SWP operations.

6.2.4 Storage, Transfers, and Conveyance Programs

Storage is a major component of MET's dry year resource management strategy. MET's likelihood of having adequate supply capability to meet projected demands, without implementing its Water Supply Allocation Plan (WSAP) depends on its storage resources. Following a significant drawdown during the 2020–2022 drought, MET rebuilt storage as hydrologic conditions improved. By the end of 2023, MET had approximately 3.4 MAF of regional dry-year storage. Storage increased to 3.8 MAF by the end of 2024, with levels projected to reach approximately 3.9 MAF by the end of 2025. MET also maintains approximately 750 TAF of emergency storage dedicated to catastrophic supply interruption conditions, including a major seismic failure of the Delta levees.

In its 2025 UWMP, MET evaluates storage based on median starting storage at the beginning of each -five-year increment, representing a 50 percent probability that actual storage will be higher or lower. This approach differs from earlier UWMPs, which relied on average storage assumptions, and provides a more conservative and realistic representation of storage availability. All storage capability values incorporate conveyance and recovery constraints associated with SWP terminal reservoirs, the CRA, and MET's in-region and out-of-region groundwater banking programs.

Lake Oroville continues to serve as the SWP's largest storage facility with a capacity of approximately 3.5 MAF. Water released from Oroville moves to the Feather River and then to the Sacramento River before being pumped south at the Harvey O. Banks pumping plant into the California Aqueduct. MET's storage portfolio includes surface reservoirs such as Diamond Valley Lake, Lake Mathews, and Lake Skinner; SWP terminal storage in San Luis Reservoir; groundwater banking programs including Semitropic, Arvin-Edison, the High Desert Water Bank, Kern Delta, and Mojave; and ICS storage in Lake Mead. These storage assets provide operational flexibility during dry years and help maintain supplies during extended droughts or emergency events.

MET endeavors to increase the reliability of water supplies through the development of flexible storage and transfer programs including groundwater storage (MET, 2025). These include:

- **Antelope Valley-East Kern (AVEK) Water Agency Exchange and Storage Program:** Under the exchange program, for every 2 AF MET receives, MET returns 1 AF back to AVEK, and MET will also be able to store up to 30,000 AF in the AVEK's groundwater basin, with a dry-year return capability of 10,000 AF.
- **Arvin-Edison Storage Program:** The storage program is estimated to deliver 75,000 AF, and the specific amount of water MET can expect to store in and subsequently receive from the program depends on hydrologic conditions and any regulatory requirements restricting MET's ability to export water for storage. During wet years, MET has the discretion to use to program to store portions of its SWP supplies which are in excess, and during dry years, the Arvin-Edison Water Storage District returns MET's previously stored water to MET by direct groundwater pump-in or by exchange of surface water supplies.
- **Diamond Valley Lake to Rialto Pipeline:** Planned for completion in 2028, this project creates new conveyance that improves the ability to move non-SWP supplies (120 cubic feet per second (cfs), including CRA and banked water) into areas historically dependent on SWP deliveries, increasing drought and seismic resilience.
- **High Desert Water Bank Program:** Developed in partnership with AVEK, this regional groundwater banking program allows MET to store up to 280,000 AF of SWP Table A or other available supplies in the Antelope Valley groundwater basin. The program provides a put-and-take capability of up to approximately 70,000 AFY, with infrastructure including monitoring and production wells, California Aqueduct turnouts, pipelines, recharge basins, and pump facilities. Phase 1 became operational in 2023, with full build-out expected by approximately 2030.
- **Kern-Delta Water District Storage Program:** This groundwater storage program has 250,000 AF of storage capacity, and water for storage can either be directly recharged into the groundwater basin or delivered to Kern-Delta Water District farmers in lieu of pumping groundwater. During dry years, the Kern-Delta Water District returns MET's previously stored water to MET by direct groundwater pump-in return or by exchange of surface water supplies.
- **Mojave Storage Program:** MET entered into a groundwater banking and exchange transfer agreement with Mojave Water Agency that allows for the cumulative storage of up to 390,000 AF. The agreement allows for MET to store water in an exchange account for later return.
- **Richvale & Western Canal Water Transfers:** These multi-year transfer options will provide supplemental dry-year supplies when available, with volumes up to approximately 54,000 AF (2025-2027).
- **San Bernardino Valley MWD Surplus SWP Program:** Programmatic access to surplus SWP supplies (approximately 13 TAF) will be available from SBVMWD under certain hydrologic and operational conditions.
- **Semitropic Storage Program:** The maximum storage capacity of the program is 350,000 AF, and the minimum and maximum annual yields available to MET are 34,700 AF and 236,200 AF, respectively. The specific amount of water MET can expect to store in and subsequently receive from the program depends on hydrologic conditions, any regulatory requirements restricting MET's ability to export water for storage and demands placed by other program participants. During wet years, MET has the

discretion to use the program to store portions of its SWP supplies which are in excess, and during dry years, the Semitropic Water Storage District returns MET's previously stored water to MET by direct groundwater pump-in or by exchange of surface water supplies.

- **Sepulveda Feeder Pump Stations (Stage 1):** This program includes pumping improvements that expand westward movement of CRA/SWP/banked supplies across service areas to address localized system constraints. Pumping capacity is expected to be 30 cfs upon completion of Stage 1 in 2027.
- **Yuba Accord Extension:** This project is a continuation of an established dry-year transfer program from the Yuba watershed that can be accessed subject to hydrologic and regulatory conditions. As of 2025, the extension is under negotiation for approximately 250,000 AFY in supply.

6.2.5 Potential Future Water Projects

6.2.5.1 Climate Adaptation Master Plan for Water

In February 2023, the MET's Board directed its staff to integrate water resources planning, climate resilience planning, and financial planning into a *Climate Adaptation Master Plan for Water* (CAMP4W). Then a Joint Task Force of Board Members and Member Agency Managers was convened to facilitate the development of CAMP4W in a timely and transparent process. The main elements of CAMP4W include:

1. Identify climate and growth scenarios, building from analyses conducted for MET's *Integrated Resources Plan* (IRP).
2. Develop time-bound targets for new regional water supplies and system improvements.
3. Establish a framework for decision-making and annual reporting.
4. Form policies, initiatives, and partnerships.
5. Evaluate business models and funding strategies.

Because investments required for regional supply reliability and system resilience are significant, it is important that decisions are made through an adaptive management process to avoid the risks associated with over-investment or under-performance. Tracking signposts and progress towards time-bound targets is therefore critical for CAMP4's annual reporting. Currently, regional projects being explored by MET include Pure Water Southern California, new reservoir storage in Southern California of up to 155,000 AFY, regional seawater desalination, and participation in California's Delta Conveyance Project. These projects will be scored against the following CAMP4W criteria: (1) reliability; (2) resilience; (3) financial; (4) adaptability/flexibility; (5) equity; and (6) environmental co-benefits.

Pure Water Southern California - The potential Pure Water Southern California program, a partnership with the Sanitation Districts of Los Angeles County, would purify wastewater treatment effluent that currently flows to the ocean to produce high quality recycled water. The purified water would be delivered to Metropolitan's member agencies to meet their groundwater replenishment and storage requirements. It should be noted that the 2025 MET UWMP does not include Pure Water yield in projected supplies (MET, 2025).

Sites Reservoir - This potential project includes a water storage reservoir of 1.5 MAF and would require the construction of two large dams up to 310 feet high and 9 smaller saddle dams. The water stored in the reservoir, located north of Sacramento, would be diverted from the Sacramento River during high flow events and returned to the Sacramento River during dry and critical years, thereby providing additional

dry-year water for environmental flows and project partners including SWP agencies south of the Delta. The current operations model estimates the annual water yield of the Sites Reservoir Project at approximately 270,000 AFY by 2032, when the Sites Reservoir Project is scheduled to be operational (MET, 2025). It should be noted that the 2025 MET UWMP does not include Sites Reservoir in projected supplies (MET, 2025).

Delta Conveyance Project - Following DWR's withdrawal and subsequent termination of the California WaterFix project, the State advanced a new single-tunnel Delta Conveyance Project to address seismic risk, sea-level rise, extreme weather, and regulatory uncertainty while improving long-term SWP delivery reliability. The environmental review was completed in 2023 and DWR has approved the project. Potential yield used in planning analyses is on the order of approximately 400,000 AFY. It should be noted that the 2025 MET UWMP does not include Delta Conveyance Project yield in projected supplies pending future milestones and contracting decisions (MET, 2025).

6.2.6 Supply Reliability Within MET

MET's 2025 UWMP reports on its water reliability and identifies projected supplies to meet the long-term demand within its service area. The MET 2025 UWMP discusses the current water supply conditions and long-term plans for supply implementation and continued development of a diversified resource mix. It describes the programs being implemented, such as the CRA, SWP, Central Valley storage/transfer programs, water use efficiency programs, local resource projects, and in-region storage that will enable the region to meet its water supply needs. MET's 2025 UWMP also presents MET's supply capacities from 2025 through 2050 for average year, single dry year, five consecutive dry years, and more frequent and severe droughts, as specified in the UWMP Act.

Information concerning MET's UWMP, including the background, associated challenges, and long-term development of programs for each of MET's supply sources and capacities have been summarized and included in the following subsections. Additional information on MET can be found directly in MET's 2025 UWMP.

6.2.6.1 MET's Water Service Reliability Assessment Results

In MET's 2025 UWMP, MET evaluated supply reliability by projecting supply and demand under a normal year, single-dry year, and five-year consecutive dry years, based on conditions affecting the SWP (MET's largest and most variable supply). For this supply source, the average of 100 historical years 1922-2021 most closely represents water supply conditions in a normal water year, the single driest year was 1977 and the five-year dry period was 1988-1992. The analyses also include Colorado River supplies under the same hydrological variations.

MET also incorporated the SWP and Colorado River's reliability factors, such as water quality objectives set by the SWRCB, BiOps, and amendments to the Coordinated Operations Agreement for the SWP and Quantification Settlement Agreements for the Colorado River into their assessment.

MET has concluded that the region can provide reliable water supplies under normal, single-dry, and five-year consecutive dry conditions as presented in Table 6.4, Table 6.5, and Table 6.6, respectively.

In each of the following tables, "Current Programs" supplies include:

- In-Region Supplies and Programs:
  - Metropolitan Surface Storage (Diamond Valley Lake, Lake Mathews, Lake Skinner).
  - Flexible Storage in Castaic Lake and Perris Lake.
  - Groundwater Storage for Conjunctive Use.
- California Aqueduct (SWP), including Central Valley transfers and storage program supplies conveyed by the aqueduct.
- Colorado River Aqueduct, including deliveries, programs, and exchanges with SDCWA.

These supplies are impacted—typically reduced—by the single dry year and multiple dry year scenarios. Though demands increase in these drought conditions, MET projects reliable supply, even surplus, through 2050. MWDOC is a MET member agency, and MET's projections take into account the imported demands from Orange County. As such, MET's water reliability assessments are used to determine that demands within MWDOC can be met for all three hydrological conditions.

Table 6.4 MET's Projected Supply Capability and Demands through 2050 for a Normal Year

Normal Year
Supply Capability[1] and Projected Demands
Average of 1922-2021 Hydrologies
(acre-feet per year)

Forecast Year	2030	2035	2040	2045	2050
Current Programs					
In-Region Supplies and Programs	789,000	776,000	746,000	733,000	827,000
California Aqueduct[2]	1,723,000	1,694,000	1,668,000	1,641,000	1,641,000
Colorado River Aqueduct					
Total Supply Available[3]	1,334,700	1,358,200	1,336,000	1,323,500	1,345,500
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**3,762,000**	**3,720,000**	**3,664,000**	**3,624,000**	**3,718,000**
Demands					
Total Demands on Metropolitan	1,225,000	1,238,000	1,266,000	1,285,000	1,303,000
Exchange with SDCWA	278,000	278,000	278,000	278,000	278,000
Total Metropolitan Deliveries[5]	**1,503,000**	**1,516,000**	**1,544,000**	**1,563,000**	**1,581,000**
Surplus	**2,259,000**	**2,204,000**	**2,120,000**	**2,061,000**	**2,137,000**
Programs Under Development					
In-Region Supplies and Programs	0	0	0	0	0
California Aqueduct	0	0	0	0	0
Colorado River Aqueduct					
Total Supply Available[3]	0	0	0	0	0
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**0**	**0**	**0**	**0**	**0**
Potential Surplus	**2,259,000**	**2,204,000**	**2,120,000**	**2,061,000**	**2,137,000**

Notes:
1. Represents Supply Capability for resource programs under listed year type.
2. California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
3. Colorado River Aqueduct includes programs and Exchange with SDCWA conveyed by the aqueduct.
4. Maximum CRA deliveries limited to 1.25 MAF including Exchange with SDCWA.
5. Total demands are adjusted to include Exchange with SDCWA.

Table 6.5 MET's Projected Supply Capability and Demands through 2050 for a Single Dry Year

Single Dry Year
Supply Capability[1] and Projected Demands
Repeat of 1977 Hydrology
(acre-feet per year)

Forecast Year	2030	2035	2040	2045	2050
Current Programs					
In-Region Supplies and Programs	789,000	776,000	746,000	733,000	827,000
California Aqueduct[2]	662,000	649,000	635,000	622,000	622,000
Colorado River Aqueduct					
Total Supply Available[3]	1,334,700	1,358,200	1,336,000	1,411,000	1,433,000
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	1,250,000
Colorado River Aqueduct Capability	1,250,000	1,250,000	1,250,000	1,250,000	1,250,000
Capability of Current Programs	**2,701,000**	**2,675,000**	**2,631,000**	**2,605,000**	**2,699,000**
Demands					
Total Demands on Metropolitan	1,356,000	1,375,000	1,401,000	1,419,000	1,436,000
Exchange with SDCWA	278,000	278,000	278,000	278,000	278,000
Total Metropolitan Deliveries[5]	**1,634,000**	**1,653,000**	**1,679,000**	**1,697,000**	**1,714,000**
Surplus	**1,067,000**	**1,022,000**	**952,000**	**908,000**	**985,000**
Programs Under Development					
In-Region Supplies and Programs	0	0	0	0	0
California Aqueduct	0	0	0	0	0
Colorado River Aqueduct					
Total Supply Available[3]	0	0	0	0	0
Aqueduct Capacity Limit[4]	*0*	*0*	*0*	*0*	*0*
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Proposed Programs	**0**	**0**	**0**	**0**	**0**
Potential Surplus	**1,067,000**	**1,022,000**	**952,000**	**908,000**	**985,000**

Notes:
1. Represents Supply Capability for resource programs under listed year type.
2. California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
3. Colorado River Aqueduct includes programs and Exchange with SDCWA conveyed by the aqueduct.
4. Maximum CRA deliveries limited to 1.25 MAF including Exchange with SDCWA.
5. Total demands are adjusted to include Exchange with SDCWA.

Table 6.6 MET's Projected Supply Capability and Demands through 2050 for a Drought (5 Consecutive Water Years)

Drought Lasting Five Consecutive Years
Supply Capability[1] and Projected Demands
Repeat of 1988-1992 Hydrology
(acre-feet per year)

Forecast Year	2030	2035	2040	2045	2050
Current Programs					
In-Region Supplies and Programs	160,000	156,000	149,000	146,000	165,000
California Aqueduct[2]	733,200	720,400	690,400	660,400	579,400
Colorado River Aqueduct					
Total Supply Available[3]	1,189,200	1,241,700	1,204,500	1,197,000	1,245,500
Aqueduct Capacity Limit[4]	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*	*1,250,000*
Colorado River Aqueduct Capability	1,189,200	1,241,700	1,204,500	1,197,000	1,245,500
Capability of Current Programs	**2,082,400**	**2,118,100**	**2,043,900**	**2,003,400**	**1,989,900**
Demands					
Total Demands on Metropolitan	1,324,000	1,390,000	1,411,000	1,434,000	1,453,000
Exchange with SDCWA	278,000	278,000	278,000	278,000	278,000
Total Metropolitan Deliveries[5]	**1,602,000**	**1,668,000**	**1,689,000**	**1,712,000**	**1,731,000**
Surplus	**480,400**	**450,100**	**354,900**	**291,400**	**258,900**
Programs Under Development					
In-Region Supplies and Programs	0	0	0	0	0
California Aqueduct	0	0	0	0	0
Colorado River Aqueduct					
Total Supply Available[3]	0	0	0	0	0
Aqueduct Capacity Limit[4]	*60,800*	*8,300*	*45,500*	*53,000*	*4,500*
Colorado River Aqueduct Capability	*0*	*0*	*0*	*0*	*0*
Capability of Proposed Programs	**0**	**0**	**0**	**0**	**0**
Potential Surplus	**480,400**	**450,100**	**354,900**	**291,400**	**258,900**

Notes:
1. Represents Supply Capability for resource programs under listed year type.
2. California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
3. Colorado River Aqueduct includes programs and Exchange with SDCWA conveyed by the aqueduct.
4. Maximum CRA deliveries limited to 1.25 MAF including Exchange with SDCWA.
5. Total demands are adjusted to include Exchange with SDCWA.

6.2.6.2 MET's Drought Risk Assessment Results

For its Drought Risk Assessment (DRA), MET assessed the reliability of each individual water supply source over the five-consecutive-year drought through a modeling method using the same historical hydrologic conditions as the water service reliability assessment: 1922 to 2021. MET used the five consecutive years of 1988 to 1992 to complete its DRA, because this represents the driest five-consecutive year historical sequence for MET's supply. The results, shown in Table 6.7, indicate that MET's SWP and CRA supplies alone cannot meet demands during this five-year drought period without additional actions. MET's 2025 UWMP therefore identifies Water Shortage Contingency Plan (WSCP) actions as necessary tools to close

the deficit and maintain service through the modeled drought sequence. Supply augmentation is anticipated to provide the additional water needed to meet projected demands without requiring demand reduction actions. Supply augmentation actions are comprised of MET's portfolio of water storage reserves and flexible supply sources that are available on an as-needed basis, such as water from its storage facilities and from transfer and exchange programs. Therefore, MET's water supply from the SWP and CRA combined with supply augmentation strategies can reliably meet the demands of a five-year drought from FY 2025-26 through FY 2029-30 (Table 6.7).

Table 6.7 MET's Water Use, Supply, and Drought Risk Assessment for 2026-2030

Metropolitan's Drought Risk Assessment
Water Use, Supply, and Risk Assessment for 2026 – 2030
(also included as Appendix 11 DWR Submittal Table 7-5)

Submittal Table 7-5 Wholesale: Five-Year Drought Risk Assessment **Water Code Section 10635(b)(3)**		
2026		**Total**
Total Water Use	(AF)	1,511,000
Total Supplies	(AF)	973,000
Surplus/Shortfall w/o WSCP Action		(538,000)
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	538,000
WSCP - use reduction savings benefit	(AF)	0
Revised Surplus/(shortfall)		0
2027		**Total**
Total Water Use	(AF)	1,633,000
Total Supplies	(AF)	2,267,000
Surplus/Shortfall w/o WSCP Action		634,000
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	0
WSCP - use reduction savings benefit	(AF)	0
Revised Surplus/(shortfall)		634,000
2028		**Total**
Total Water Use	(AF)	1,714,000
Total Supplies	(AF)	1,169,000
Surplus/Shortfall w/o WSCP Action		(545,000)
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	545,000
WSCP - use reduction savings benefit	(AF)	0
Revised Surplus/(shortfall)		0
2029		**Total**
Total Water Use	(AF)	1,561,000
Total Supplies	(AF)	1,197,000
Surplus/Shortfall w/o WSCP Action		(364,000)
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	364,000
WSCP - use reduction savings benefit	(AF)	0
Revised Surplus/(shortfall)		0
2030		**Total**
Total Water Use	(AF)	1,588,000
Total Supplies	(AF)	1,301,000
Surplus/Shortfall w/o WSCP Action		(287,000)
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)		
WSCP - supply augmentation benefit	(AF)	287,000
WSCP - use reduction savings benefit	(AF)	
Revised Surplus/(shortfall)		0
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the		
NOTES: Totals may not foot due to rounding. See 2025 UWMP discussion in Chapter 2.4 Drought Risk Assessment regarding the supply augmentation actions that may be exercised to meet demands through 2030.		

6.3 Local Groundwater

Among all local supplies available to the City's service area, groundwater supplies make up the majority, with the primary supply from the OC Basin. The water supply resources within the City's service area are enhanced by the existence of groundwater basins, which provide a reliable local source and, additionally, are used as reservoirs to store water during wet years and draw from storage during dry years. Table 6.8 shows a breakdown of historical groundwater production by the City.

This section describes the groundwater basin(s) used by the City and provides a 25-year projection of the service area's groundwater supply.

Table 6.8 Submittal Table 6-1 Retail: Groundwater Pumped in the Past 5 Years Within the City's Service Area (AF)

Submittal Table 6-1 Retail: Groundwater Volume Pumped Water Code Section 10631(4) and 10631(4)(c)						
Groundwater Type	Location or Basin Name	2021	2022	2023	2024	2025
		(AF)	(AF)	(AF)	(AF)	(AF)
Alluvial Basin	Orange County Groundwater Basin	20,963	14,137	18,341	19,934	19,737
	Total	20,963	14,137	18,341	19,934	19,737
NOTES: Source - City of Orange Water Production Summary						

6.3.1 Orange County Groundwater Basin

This section describes the OC Basin and the management measures taken by OCWD, the basin manager and member agency of MWDOC, to optimize local supply and minimize overdraft.

The OCWD was formed in 1933 by a special legislative act of the California State Legislature to protect and manage the County's vast, natural, groundwater supply using the best available technology and defend its water rights to the OC Basin. This legislation is found in the State of California Statutes, Water – Uncodified Acts, Act 5683, as amended. The OC Basin is managed by OCWD under the Act, which functions as a statutorily-imposed physical solution. The OCWD Management Area includes approximately 89 percent of the land area of the OC Basin, and 98 percent of all groundwater production occurs within the area. Approximately 2.5 million residents live within OCWD's boundaries and rely upon the basin for their primary water supply. OCWD manages water resource monitoring programs, land use elements related to basin management, groundwater elevation, groundwater quality, and coastal area monitoring through a number of monitoring programs. OCWD monitors the basin by collecting groundwater elevation and quality data from approximately 400 District-owned wells and manages an electronic database that stores water elevation, water quality, production, recharge, and other data on over 2,000 wells and facilities within and outside OCWD boundaries (OCWD, 2023). For detailed monitoring programs and management information, refer to the 2017 Basin 8-1 Alternative (Appendix D).

Groundwater levels are managed within a safe basin operating range to protect the long-term sustainability of the OC Basin and to protect against land subsidence. OCWD, a member of agency of MWDOC, purchases untreated water from MET for basin recharge, as needed. In addition, OCWD regulates groundwater levels in the OC Basin by regulating the annual amount of pumping and setting the Basin Production Percentage (BPP) for the water year. As defined in the District Act, the BPP is the ratio of water produced from groundwater supplies within the OCWD service area to all water produced

within the area from both supplemental sources and groundwater within the OCWD (OCWD, 2020a). More information regarding the BPP is discussed in Section 6.3.1.2.

6.3.1.1 Basin Characteristics

The OC Basin underlies the northern half of Orange County beneath broad lowlands. The OC Basin, managed by OCWD, covers an area of approximately 350 square miles, bordered by the Coyote and Chino Hills to the north, the Santa Ana Mountains to the northeast, and the Pacific Ocean to the southwest. The OC Basin boundary extends to the Orange County-Los Angeles Line to the northwest, where groundwater flows across the county line into the Central Groundwater Basin of Los Angeles County. A map of the OC Basin is shown on Figure 6.4. The total thickness of sedimentary rocks in the OC Basin is over 20,000 feet, with only the upper 2,000 to 4,000 feet containing fresh water. The OC Basin's estimated full storage volume is approximately 66 MAF.

There are three major aquifer systems that have been subdivided by OCWD, the Shallow Aquifer System, the Principal Aquifer System, and the Deep Aquifer System. These three aquifer systems are hydraulically connected as groundwater can flow between each other through intervening aquitards or discontinuities in the aquitards. The Shallow Aquifer system occurs from the surface to approximately 250 feet below ground surface. Most of the groundwater from this aquifer system is pumped by small water systems for industrial and agricultural use. The Principal Aquifer system occurs at depths between 200 and 1,300 feet below ground surface. Over 90 percent of groundwater production is from wells that are screened within the Principal Aquifer system. Only a minor amount of groundwater is pumped from the Deep Aquifer system, which underlies the Principal Aquifer system and is up to 2,000 feet deep in the center of the OC Basin.

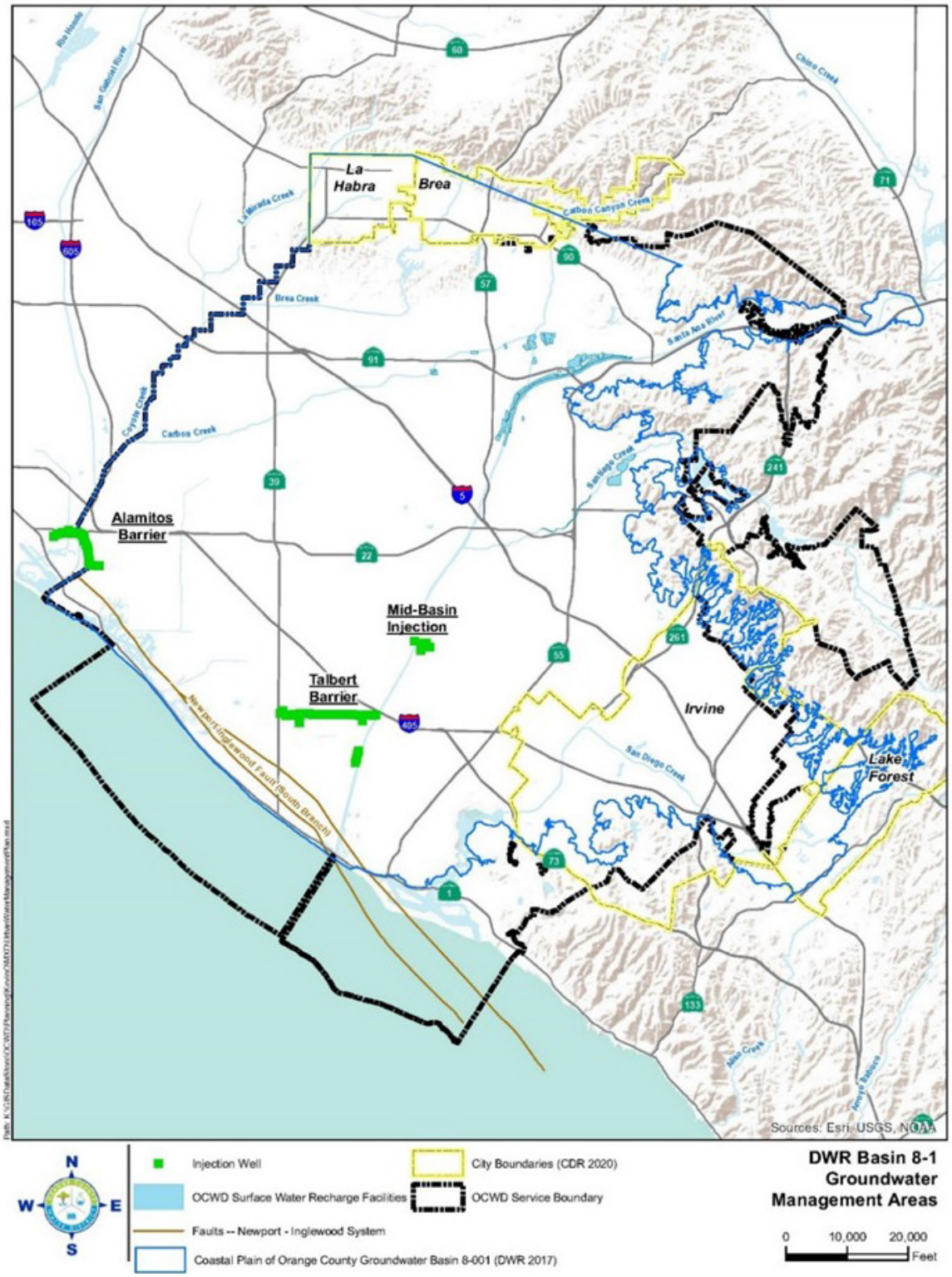


Figure 6.4 Map of the OC Basin (OCWD, 2022)

6.3.1.2 Sustainable Groundwater Management Act

In 2014, the State of California adopted the Sustainable Groundwater Management Act (SGMA) to promote sustainable groundwater management and limit "undesirable results", including significant groundwater-level declines, land subsidence, and water quality degradation. SGMA requires all high- and medium-priority basins, as designated by DWR, to be sustainably managed. DWR designated the Coastal Plain of the OC Basin (Basin 8-1) as a medium-priority basin, primarily due to heavy reliance groundwater as a water supply source.

Compliance with SGMA can be achieved in one of the following two ways (OCWD, 2023):

1. Formation of a Groundwater Sustainability Agency (GSA) and adoption of a Groundwater Sustainability Plan (GSP).
2. Preparation and submittal of an Alternative to a GSP by eligible agencies, including special act districts such as OCWD.

Agencies within Basin 8-1, including OCWD, the City of La Habra, and the Irvine Ranch Water District (IRWD), collaborated to submit the original Alternative to a GSP in 2017, titled the "Basin 8-1 Alternative" to demonstrate compliance with SGMA . Under SGMA, alternatives and GSPs must be updated and submitted every 5-years. OCWD prepared its first periodic update in 2022.

For the remainder of this report, when the term "OC Basin" is used, it refers to the portion of Basin 8-1 that is within OCWD's service area (see Figure 6.5).

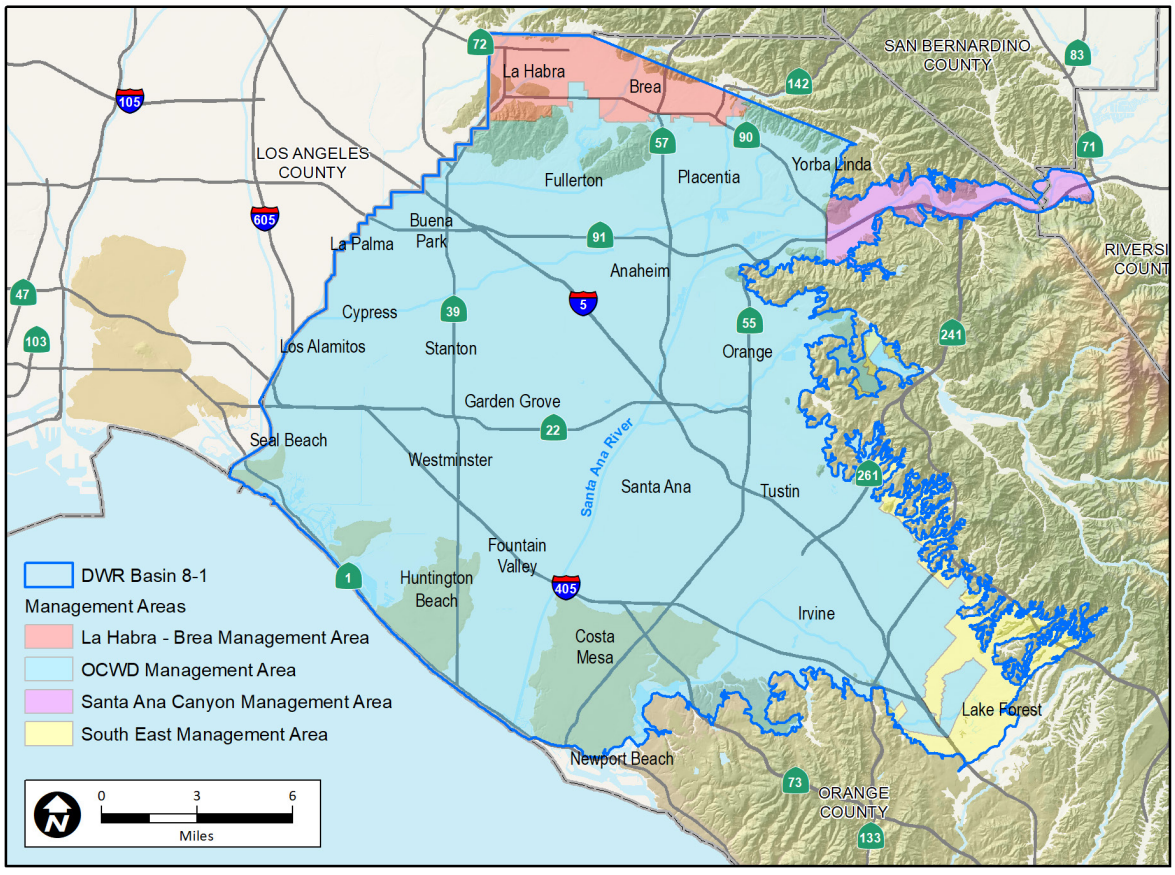


Figure 6.5 Basin 8-1 Management Areas (OCWD, 2023)

6.3.1.3 Basin Production Percentage

Background

The OC Basin is not adjudicated; therefore, groundwater production is managed through a framework that uses financial incentives to encourage sustainable pumping. The framework is based on the BPP, which represents the percentage of each Producer's total water supply that comes from groundwater pumped from the OC Basin. Groundwater production at or below the BPP is assessed by the Replenishment Assessment (RA). While there is no legal limit as to how much an agency pumps from the OC Basin, there is a financial impact to pump above the BPP. The BPP is set uniformly for all Producers by OCWD on an annual basis. Agencies that pump above the BPP are charged the RA plus the Basin Equity Assessment (BEA). The BEA is calculated so that the cost of groundwater production above the BPP is equivalent to the cost of importing potable water supplies. This approach ensures there is no financial advantage for production above the BPP. The BEA can be increased to discourage production above the BPP if necessary.

The BPP is set annually by OCWD based on groundwater conditions, availability of imported water supplies, and OC Basin management objectives. The supplies available for recharge must be estimated for a given year. The estimated supplies of recharge water include: (1) stormflow from the Santa Ana River and Santiago Creek; (2) natural incidental recharge; (3) Santa Ana River baseflow; (4) GWRS supplies; and (5) other supplies such as imported water and recycled water purchased for the Alamitos Barrier.

The BPP is a major factor in determining the cost of groundwater production from the OC Basin. For the 2026–27 water year, OCWD maintained a BPP of 85 percent. Under normal hydrologic conditions, groundwater production could reach approximately 315,000 AFY. However, actual production in FY 2026-27 is expected to be approximately 299,000 AFY due to PFAS-related impacts that continue to limit groundwater availability among several producers.

BPP Adjustments for Basin Management

OCWD has established management guidelines that are used to establish future BPPs, as seen in Table 6.9. Raising or lowering the BPP allows OCWD to manage the amount of pumping from the basin. OCWD has a policy to manage the groundwater basin within a sustainable range to avoid adverse impacts to the basin. OCWD seeks to maintain some available storage space in the basin to maximize surface water recharge when such supplies are available, especially in relatively wet years. By keeping the basin relatively full during wet years, and for as long as possible in years with near-normal recharge, the maximum amount of groundwater could be maintained in storage to support pumping in future drought conditions. During dry hydrologic years, when less water is available for recharge, the BPP could be lowered to maintain groundwater storage levels. A component of OCWD's BPP policy is to manage the groundwater basin so that the BPP will not fluctuate more than 5 percent from year to year.

The OCWD's GWRS came online in 2008 with a capacity of approximately 70 million gallons per day (mgd) and was expanded to 100 mgd in 2015. In 2023, it was expanded again to a final capacity of 130 mgd. The GWRS provides a resilient local water supply that recharges the OC Basin with advanced treated wastewater. The additional yield supported OCWD's move to raise the BPP from the long-standing ~77 percent level prior to 2023 to 85 percent beginning in February 2023. Monthly water-resources reports show agencies achieving 86 percent-88 percent pumping shares after the final expansion in

late-2024 to early-2025, which reflects increased reliance on local groundwater supplies enabled by GWRS production along with the reduced water demands of approximately 400,000 AFY.

Modeling and forecasts generate estimates based on historical averages. Consequently, forecasts use average hydrologic conditions, which smooth the dynamic and unpredictable local hydrology. Variations in local hydrology are the most significant impact to supplies of water available to recharge the groundwater basin. The current BPP of 85 percent is based on modeling of average annual rainfall weather patterns and estimated groundwater recharge volumes. If OCWD were to experience a relatively dry period, the BPP could be reduced to maintain water storage levels, along with other management actions shown in Table 6.9.

Table 6.9 Management Actions Based on Changes in Groundwater Storage

Available Storage Space(1)	Basin Management Action to Consider
Less than 100,000 AF	Raise BPP
100,000 to 300,000 AF	Maintain and/or raise BPP towards 85% goal
300,000 to 350,000 AF	Seek additional supplies to refill basin and/or lower the BPP
Greater than 350,000 AF	Seek additional supplies to refill basin and lower the BPP

Notes:
(1) Amount below full basin condition.

Basin Equity Assessment Exemptions

In some cases, OCWD encourages treating and pumping groundwater that does not meet drinking water standards to protect water quality. This is achieved by using a financial incentive called the BEA Exemption. A BEA Exemption is used to promote beneficial uses of poor-quality groundwater and reduce or prevent the spread of poor-quality groundwater into non-degraded aquifer zones. OCWD uses a partial or total exemption of the BEA to compensate a qualified participating agency or Producer for the costs of treating poor quality groundwater, which typically include capital, interest and operations and maintenance costs for treatment facilities (City of La Habra et al., 2017). Similarly, for proactive water quality management, OCWD occasionally exempts a portion of the BEA for their Coastal Pumping Transfer Program (CPTP). The CPTP encourages inland groundwater producers to increase pumping and coastal producers to decrease pumping to reduce the groundwater basin drawdown at the coast and protect against seawater intrusion. Inland pumpers can pump above the BPP without having to pay the full BEA for the amount pumped above the BPP (OCWD, 2015). Coastal pumpers receive BEA revenue from OCWD to assist in offsetting their additional water supply cost from taking less groundwater.

OCWD Resilience Plan

To address evolving conditions within OCWD's service area, it is important to anticipate potential challenges and proactively plan for strategies that sustain and enhance water supply reliability, water quality, and overall system resilience. The OCWD Resilience Plan is an adaptive management plan that evaluates future water demands and available supplies, while also identifying potential projects and response strategies to address risks to key District assets, including the groundwater basin, Santa Ana River, groundwater replenishment facilities, and natural resources.

The plan builds on OCWD's historical planning efforts and provides a flexible, project-based framework to maintain sustainable basin conditions and strengthen the long-term resilience of the District's water resources over a 5- to 25-year planning horizon.

The Resilience Plan also supports evaluation of future water supply projects, recharge strategies, and operational improvements to guide management of the OC Basin under changing hydrologic, regulatory, and demand conditions.

The Basin 8-1 Alternative submitted to DWR in 2017 showed that Basin 8-1 had been sustainably managed for the prior 10 years, which was a SGMA requirement. Based on avoiding undesirable results as defined in SGMA, the OC Basin has been sustainably managed since the construction of the Talbert Seawater Intrusion Barrier in the mid-1970s. Required annual reports and periodic updates submitted to DWR show that Basin 8-1 continues to be sustainably managed.

Current water demand projections show a relatively slow increase over the 25-year planning horizon, which is generally of similar magnitude as the additional production from the GWRS since its final expansion in early 2023 to 130 mgd. This locally controlled, drought proof supply of water reduces the region's dependance on imported water.

Historically, the Santa Ana River has served as the primary source of water to recharge the OC Basin. To determine the availability of future Santa Ana River flows, OCWD utilized surface water flow modeling of the upper watershed. Modeling was developed to predict the impacts future stormwater capture and wastewater recycling projects in the upper watershed would have on future Santa Ana River flow rates at Prado Dam. Santa Ana River base flows are expected to decrease as more water recycling projects are built in the upper watershed. OCWD continues to work closely with the US Army Corps of Engineers (USACE) to temporarily impound and slowly release up to approximately 20,000 AF of stormwater in the Prado Dam Conservation Pool. The amount of water that can be temporarily impounded in the conservation pool has grown over time and in 2025, it was increased to over 25,000 AF. To some extent, the losses in baseflow are partially offset through the capture of additional stormwater held in the Prado Dam Conservation Pool. When available, OCWD will continue to augment groundwater recharge through the purchase of imported water through MET. OCWD will diligently monitor and evaluate future water supply projects to sustainably manage and protect the OC Basin for future generations.

OCWD Engineer's Report

The OCWD Engineer's Report documents groundwater conditions and evaluates water supply and basin utilization within OCWD's service area. The most recent report is the 2024–25 Engineer's Report filed in March 2026. As reported, the basin production percentage (BPP) for the 2024–25 water year was maintained at 85 percent by the OCWD Board of Directors. The overall BPP achieved within OCWD for non-irrigation use was 83.8 percent, with the reduced achievement attributed primarily to PFAS-related well shutdowns. Groundwater stored in the OC Basin decreased by 50,000 AF for the 2024–25 water year, and the annual overdraft was 165,300 AF, which reflects the amount by which natural replenishment was exceeded. The decrease in storage was reflected by a relatively dry year and the total groundwater recharge was 252,214 AF, which included contributions from supplemental water recharged by the GWRS.

For the 2026–27 water year, OCWD is proposing to maintain a BPP of 85 percent. Under normal hydrologic conditions, groundwater production could reach approximately 315,000 AF; however, OCWD anticipates groundwater production during 2026–27 will be approximately 299,000 AF due to PFAS-related impacts that continue to limit groundwater availability among several producers.

It is estimated that approximately 13,500 AF of additional production above the BPP will be undertaken by the City of Tustin, City of Huntington Beach, Mesa Water District, and Irvine Ranch Water District to support groundwater quality improvement projects. As in prior years, groundwater produced above the BPP for these water-quality projects will be partially or fully exempt from the Basin Equity Assessment (BEA) due to the basin-wide benefit of pumping and treating poor-quality groundwater.

During the 2024–25 water year and current 2025-26 water year, MET untreated full-service water supplies were available for groundwater replenishment; however, OCWD did not purchase replenishment water due to favorable basin storage conditions. OCWD likewise does not plan to purchase untreated full-service water for replenishment in 2026–27.

6.3.1.4 Recharge Management

Recharging water into the OC Basin through natural and artificial means is essential to support pumping from the OC Basin. Active recharge of groundwater began in 1936, in response to increasing drawdown of the OC Basin and, consequently, the threat of seawater intrusion. The OC Basin's primary source of recharge is supplied from the Santa Ana River, which is diverted into recharge basins and its main Orange County tributary, Santiago Creek. Other sources of recharge water include natural infiltration, recycled water, and imported water. Natural recharge consists of subsurface inflow from local hills and mountains, infiltration of precipitation and irrigation water, recharge in small flood control channels, and groundwater underflow to and from Los Angeles County and the ocean.

Recycled water for OC Basin recharge is from two sources. The main source is the Groundwater Replenishment System (GWRS), which completed its final expansion in 2023 and now produces up to 130 mgd of advanced-purified water for recharge at the Talbert Seawater Barrier and in the Kraemer, Miller, Miraloma, and La Palma basins. The second source is recycled water purified at the Water Replenishment District of Southern California's (WRD) Leo J. Vander Lans Advanced Water Treatment Facility (LVL), which provides up to 8 mgd for injection at the Alamitos Seawater Barrier (owned and operated by the Los Angeles County Department of Public Works). In recent years, WRD's upgrades and operations have increased the use of recycled water at the Alamitos Barrier and reduced reliance on imported supplies. Injection of recycled water into these barriers is an ongoing effort by OCWD (in coordination with WRD and Los Angeles County) to control seawater intrusion into the OC Basin; operation of the injection wells forms a hydraulic barrier to seawater intrusion.

OCWD also purchases imported water for recharge through MWDOC. Untreated imported water can be used to recharge the OC Basin through the surface recharge system at multiple locations, such as Anaheim Lake, the Santa Ana River, Irvine Lake, and San Antonio Creek, while treated imported water may be used for in-lieu recharge when appropriate. For current planning context and detailed recharge management strategies, refer to OCWD's most recent planning documents, including the 2024 OCWD Resilience Plan, in addition to prior foundational documents (Appendix E).

6.3.1.5 MET Imported Water for Groundwater Replenishment

In the past, OCWD, MWDOC, and MET have coordinated water management to increase storage in the OC Basin when imported supplies are available for this purpose. MET's groundwater replenishment program was discontinued on January 1, 2013, and currently MET via MWDOC sells replenishment water to OCWD at the full-service untreated MET rate. Figure 6.6 shows MWDOC's imported water sales to OCWD since FY 1990-91, which averages approximately 27,888 AF per year. In three of the past five water years, OCWD did not need to purchase more imported water to replenish groundwater.

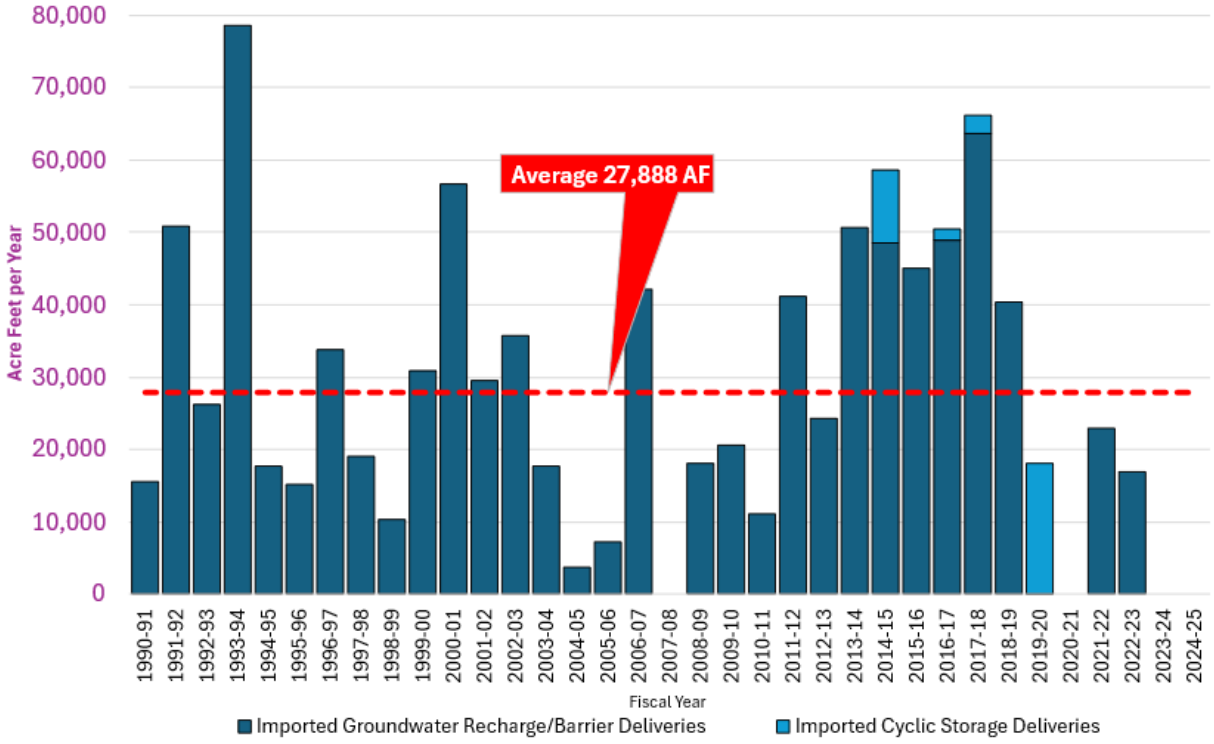


Figure 6.6 MWDOC Imported Water Sales for Groundwater Replenishment

6.3.2 Planned Future Groundwater Sources

The City is constructing two new wells, Well 28 and Well 29, to increase local water supply and ensure local groundwater and continued drinking water safety. These well construction projects are further described in Section 6.9.

On a regional scale, OCWD regularly evaluates potential projects and conducts studies to review the feasibility of new projects or sources. Groundwater basin-related projects that are planned or in progress are described below:

Forecast Informed Reservoir Operations (FIRO) at Prado Dam: Stormwater represents a significant source of water used by OCWD to recharge the OC Basin. Much of this recharge is made possible by the capture of Santa Ana River stormflows behind Prado Dam in the Conservation Pool. FIRO represents the next generation of operating water reservoirs using the best available technology. Advances in weather and stormwater runoff forecasting hold promise to allow USACE to safely impound more stormwater

while maintaining equivalent flood risk management capability behind Prado Dam. Analyses indicate that FIRO would increase average annual recharge by approximately 4,000–6,000 AFY, and up to 23,000 AF in very wet years, consistent with earlier preliminary analyses. Federal and local partners have indicated FIRO at Prado Dam is moving from technical assessment toward implementation via Water Control Manual (WCM) updates.

6.4 Surface Water

6.4.1 Existing Surface Water Sources

The City purchases local water from Serrano Water District. The source of local water is the Irvine Lake. In FY 2024-25, the City used 738 AFY of surface water to supplement its supply portfolio and it is projected that 1,200 AFY of supply will be available through 2050.

With a capacity of nearly 28,000 AF, Santiago Reservoir, or Irvine Lake, is the largest surface water reservoir in Orange County. Irvine Lake was built in 1931 and captures runoff from the upper Santiago Creek Watershed, as well as stores imported water (Orange County Local Agency Formation Commission, [2020]). The 700-acre Irvine Lake is co-owned by IRWD and Serrano Water District (Serrano). The lake holds more than 9 billion gallons of water and is contained by the 810-foot-tall Santiago Dam. IRWD uses water from Irvine Lake as a source of water for non-drinking purposes such as irrigation and as a source of water for the Baker Treatment Plant. Serrano Water District (SWD) also uses Irvine Lake to provide treated drinking water to its customers in the City of Villa Park and parts of the City of Orange. Both agencies balance the benefits of storing water in Irvine Lake by minimizing evaporation and preserving the ability to capture rainwater from the surrounding hills. During years with less rainfall, IRWD and Serrano also add imported water from MET to the lake (IRWD, 2021a). Planned Future Surface Water Sources

As of 2025, there are no planned surface water uses in the City's service area.

6.5 Stormwater

6.5.1 Existing Stormwater Sources

There are, currently, no direct stormwater uses in the City's Service area.

6.5.2 Planned Future Stormwater Sources

As of 2025, there are no planned stormwater uses in the City's service area.

6.6 Wastewater and Recycled Water

The City is directly involved in wastewater services through its ownership and operation of the wastewater collection system in its service area. However, the City does not own or operate wastewater treatment facilities. The sewer system service area includes approximately 308 miles of sewer main that connect to OC San's trunk system to convey wastewater to OC San's treatment plants. The wastewater system serves about 136,000 customers (City of Orange's Sewer Master Plan, 2012). For additional details on the City's wastewater services, refer to the 2012 City of Orange Sewer Master Plan.

Recycled water is wastewater that is treated through primary, secondary, and tertiary processes and is acceptable for most non-potable water purposes such as irrigation, and commercial and industrial process water per Title 22 requirements. Recycled water opportunities have continued to grow in Southern California as public acceptance and the need to expand local water resources continues to be a priority. Recycled water also provides a degree of flexibility and added reliability during drought conditions when imported water supplies are restricted. The City is indirectly involved in recycled water production, through its supply of wastewater for IPR. The following sections expand on the existing agency collaboration involved in these efforts as well as the City's projected recycled water use over the next 25 years.

6.6.1 Agency Coordination

The City does not own or operate wastewater treatment facilities and sends all collected wastewater to OC San for treatment and disposal. OC San provides treated water to OCWD, the manager of the OC Basin. OCWD is the manager of the Orange County Groundwater Basin and strives to maintain and increase the reliability of the Orange County Groundwater Basin through replenishment with imported water, stormwater, and advanced treated wastewater. A full description of the Orange County Groundwater Basin is available in Section 6.3.1. OCWD and OC San have jointly constructed and expanded two water recycling projects to meet this goal that include: (1) OCWD Green Acres Project (GAP); and (2) OCWD GWRS.

6.6.1.1 Orange County Sanitation District

OC San collects wastewater from residential, commercial, and industrial customers in 20 cities, four special districts, and portions of unincorporated Orange County, totaling 479 square miles that serves more than 2.6 million residents in northwest and central Orange County (OC San, 2025). These flows include dry weather urban runoff collected from 15 diversion points and discharged into the sewer system for treatment and Santa Ana River Interceptor flows from the upper Santa Ana watershed (OC San, 2017).

OC San operates and maintains two treatment plants: Reclamation Plant No. 1, located in Fountain Valley with a capacity of 320 mgd, and Reclamation Plant No. 2 located in Huntington Beach with a capacity of 312 mgd. OC San also operates 572 miles of collection system pipelines along with 15 offsite pump stations. Approximately 150 mgd of secondary effluent undergoes advanced treatment at the GWRS facility operated by the OCWD and 7 mgd undergoes tertiary treatment at OCWD's GAP facility. Treated wastewater is discharged to the Pacific Ocean via an ocean outfall in compliance with state and federal requirements as set forth in OC San's National Pollutant Discharge Elimination System (NPDES) permit. OC San's ocean outfall is 120-inch diameter and extends four miles off the coast of Huntington Beach. A 78-inch diameter emergency outfall also exists that extends 1.3 miles off the coast (OC San, 2017).

OC San Reclamation Plant No. 1: Reclamation Plant No. 1 treats raw wastewater and has a maximum treatment capacity of 320 mgd. The plant provides primary and secondary treatment and supplies secondary effluent to OCWD for further tertiary treatment at their GAP facility and advanced treatment at their GWRS. Reclamation Plant No. 1 is the only plant that provides water to OCWD for additional treatment and recycling. An interplant pipeline allows flows to be conveyed to Treatment Plant No. 2.

OC San Treatment Plant No. 2: Treatment Plant No. 2 provides primary and secondary treatment to raw wastewater and has a maximum treatment capacity of 312 mgd. All secondary effluent from their plant is discharged to the ocean through the ocean outfall.

6.6.1.2 Orange County Water District

OCWD is the manager of the OC Basin and provides water to 19 municipal water agencies and special districts. A full description of the OC Basin is available in Section 6.3.1. OCWD and OC San have jointly constructed and expanded two water recycling projects that include: 1) OCWD GAP and 2) OCWD GWRS.

OCWD GAP

OCWD owns and operates the GAP, a water recycling system that treats up to 7.5 mgd and provides 8,400 AFY of recycled water for irrigation and industrial uses. GAP provides an alternate source of water that is mainly delivered to parks, golf courses, greenbelts, cemeteries, and nurseries in the cities of Costa Mesa, Fountain Valley, Newport Beach, and Santa Ana. Approximately 100 customer sites use GAP water, current recycled water users include Mile Square Park and Golf Courses in Fountain Valley, Costa Mesa Country Club, Chroma Systems carpet dyeing, Kaiser Permanente, and Caltrans.

OCWD GWRS

OCWD's GWRS allows southern California to decrease its dependency on imported water and creates a local and reliable source of water. OCWD's GWRS purifies secondary treated wastewater from OC San to levels that meet and exceed all state and federal drinking water standards. The GWRS Phase 1 plant has been operational since January 2008 and uses a three-step advanced treatment process consisting of MF, RO, and ultraviolet (UV) light with hydrogen peroxide. A portion of the treated water is injected into the seawater barrier to prevent seawater intrusion into the groundwater basin. The other portion of the water is pumped to ponds where the water percolates into deep aquifers and becomes part of Orange County's water supply. The treatment process is described on OCWD's website. (OCWD, GWRS, 2020).

The GWRS first began operating in 2008 producing 70 million gallons of water per day and in 2015, it underwent a 30 mgd expansion. Approximately 39,200 AFY of the highly purified water is pumped into the injection wells and 72,900 AFY is pumped to the percolation ponds in the City of Anaheim where the water is naturally filtered through sand and gravel to deep aquifers of the groundwater basin. The OC Basin provides approximately 77 percent of the potable water supply for north and central Orange County. The design and construction of the first phase (78,500 AFY) of the GWRS project was jointly funded by OCWD and OC San; Phase 2 expansion (33,600 AFY) was funded solely by OCWD.

The Final Expansion of the GWRS is the third and final phase of the project and was completed in 2023. The plant now produces 130 mgd and requires additional treated wastewater from OC San. This additional water comes from OC San's Treatment Plant 2, which is in the City of Huntington Beach approximately 3.5 miles south of the GWRS. The Final Expansion project included expanding the existing GWRS treatment facilities, constructing new conveyance facilities at OC San Plant 2, and rehabilitating an existing pipeline between OC San Plant 2 and the GWRS. Following completion, the GWRS plant now recycles 100 percent of OC San's reclaimable sources and produces enough water to meet the needs of over one million people.

6.6.2 Wastewater

The City operates and maintains 308 miles of local sewer collection pipes that feed into the OC San's trunk sewer system to OC San's extensive system of gravity flow sewers, pump stations, and pressurized sewers. Ultimately, the wastewater is treated at OC San treatment plants in Fountain Valley (Plant No. 1) and Huntington Beach (Plant No. 2). Plant No. 1 has a total rated primary capacity of 108 mgd and a secondary treatment capacity of 80 mgd. Plant No. 2 has a rated primary capacity of 168 mgd and secondary treatment capacity of 90 mgd. Both plants share a common ocean outfall, but Plant No. 1 currently provides all its secondary treated wastewater to OCWD's GWRS for beneficial reuse. The 120-inch diameter ocean outfall extends 4 miles off the coast of Huntington Beach. A 78-inch diameter emergency outfall also extends 1.3 miles off the coast. Table 6.10 summarizes the wastewater collected by the City and transported to OC San's system in 2025.

Table 6.10 Submittal Table 6-2 Retail: Wastewater Collected within the City's Service Area in 2025

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2025 Water Code Section 10633(a)				
Wastewater Collection			Recipient of Collected Wastewater	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number	Is WWTP Located Within UWMP Area?
City of Orange	Estimated	19,885	OCSD Plant 1, Place ID 758392	No
			OCSD Plant 2, Place ID 259158	No
Total Wastewater Received from UWMP Service Area in 2025:		19,885		
NOTES: Assumed a return rate of 79% (City of Orange, 2012)				

6.6.3 Current Recycled Water Uses

There are currently no direct recycled water uses within the City's service area. For indirect use, the City also benefits from OCWD's GWRS system that provides IPR through replenishment of OC Basin with water that meets state and federal drinking water standards.

6.6.4 Projected Recycled Water Uses

As of April 2019, the State of California amended its recycled water policy to expand its numeric goal of recycled water use to 2.5 million AFY by 2030 and added annual required reporting requirements for wastewater and recycled water. The City does not have any direct non-potable uses within their service area and does not currently have the potential for non-potable reuse because of non-existent or planned recycled water infrastructure. The City will continue to supply wastewater to support the region's IPR via GWRS.

6.6.5 Potential Recycled Water Uses

While the City recognizes the potential for beneficial reuse in their service area, there is no source of recycled water supply in proximity to the City. The City's wastewater is conveyed to OC San's regional treatment facilities where the wastewater is treated, recycled, or discharged to the ocean. Recycled water analyses performed over the years have shown that local treatment and reuse facilities are not feasible. The City supports the continued development of recycled water and potential uses throughout the region with OCWD's GWRS.

6.6.6 Optimization Plan

Studies of water recycling opportunities within Southern California provide a context for promoting the development of water recycling plans. It is recognized that broad public acceptance of recycled water requires continued education and public involvement. Currently, most of the recycled water available being directed toward replenishment of the groundwater basin and improvements in groundwater quality. As a user of groundwater, the City supports the efforts of OCWD and OC San to use recycled water as a primary resource for groundwater recharge in Orange County.

6.6.6.1 Public Education

The City participates in the MWDOC public education and school education programs, which include information on water recycling. MWDOC's water use efficiency public information programs are a partnership with agencies throughout the county. Through a variety of public information programs, MWDOC reaches the public, including those in the City, with information regarding present and future water supplies, the demands for a suitable quantity and quality of water, including recycled water, and the importance of implementing water efficiency techniques and behaviors. Through MWDOC, water education programs have reached thousands of students in the City with grade-specific programs that include information on recycled water.

6.6.6.2 Financial Incentives

The implementation of recycled water projects involves a substantial upfront capital investment for planning studies, Environmental Impact Reports (EIRs), engineering design, and construction before recycled water is available to the market. The establishment of new supplemental funding sources through federal, state, and regional programs now provides significant financial incentives for water agencies to develop and make use of recycled water locally. Potential sources of funding include federal, state, and local funding opportunities. These funding sources include the United States Department of Interior Bureau of Reclamation (USBR), California Proposition 13 Water Bond, Proposition 84 and MET Local Resources Program (LRP). These funding opportunities may be sought by the City or possibly more appropriately by regional agencies. The City will continue to support seeking funding for regional water recycling projects and programs.

6.6.6.3 Optimization Plan

The City does not use recycled water, therefore, there is no need for a recycled water optimization plan. In other areas of Orange County, recycled water is used for irrigating golf courses, parks, schools, businesses, and communal landscaping, as well as for groundwater recharge. Analyses have indicated that present

worth costs to incorporate recycled water within the City are not cost effective as compared to purchasing imported water from MWDOC or using groundwater. The City will continue to conduct feasibility studies for recycled water and seek out creative solutions such as funding, regulatory requirements, institutional arrangement, and public acceptance for recycled water use with MWDOC, OCWD, MET, and other cooperative agencies.

6.7 Desalination Opportunities

6.7.1 Ocean Water Desalination

There are currently no ocean desalination opportunities within the City's service area.

6.7.2 Groundwater Desalination

There are currently no brackish groundwater opportunities within the City's service area.

6.8 Water Exchanges and Transfers

6.8.1 Existing Exchanges and Transfers

Interconnections with other agencies result in the ability to share water supplies during short term emergency situations or planned shutdowns of major imported water systems. Transfers of water can help with short-term outages but can also be involved with longer term water exchanges to deal with droughts or long-term emergency situations. The City maintains emergency interconnections with neighboring agencies at the locations as follows:

- City of Anaheim (5):
  - Roxbury Street (Orange) and Londerry Lane (Anaheim) (two ways).
  - 3733 E Mandeville Place.
  - Nohl Canyon Road and Nohl Ranch Road.
  - Reservoir #3 (two ways).
  - Altaview Drive and Sky Gate Lane (two ways).
- EOCWD (2):
  - Chandler Ranch Rd and La Cumbre Drive (two ways).
  - McPherson Road and Pearl Avenue.
- GSWC (1):
  - Notre Dame Street and Kings Crown Road (two ways).

- IRWD (Orange Park Acres) (7):
  - Randall Street and Meads Avenue.
  - Santiago Canyon Road and Sandberg Lane.
  - 20612 E Amapola Avenue.
  - 20021 E Chapman Avenue.
  - Cannon Street and Patria Court.
  - Jamboree Road and Canyon View Avenue (two ways).
  - 678 N Gravier Street.
- Serrano Water District (2):
  - Reservoir #6 (two ways).
  - Wanda Road and Santiago Boulevard.

6.8.2 Planned and Potential Exchanges and Transfers

The City does not currently have plans to introduce new exchanges and transfers. However, MWDOC continues to help its retail agencies develop transfer and exchange opportunities that promote reliability within their systems. Therefore, MWDOC will look to help its retail agencies navigate the operational and administrative issues of transfers within the MET distribution system.

Santa Ana River Conservation and Conjunctive Use Project (SARCCUP) - The Santa Ana River Conservation and Conjunctive Use Project (SARCCUP) is a joint project established by five regional water agencies within the Santa Ana River Watershed (Eastern Municipal Water District, Inland Empire Utilities Agency, Western Municipal Water District, Orange County Water District, and San Bernardino Valley Municipal Water District). In September 2021, the participating agencies, in coordination with MET, executed a regional agreement framework establishing SARCCUP as a watershed-scale groundwater banking program to improve drought reliability across Orange, Riverside, and San Bernardino counties.

In 2016, SARCCUP received $55 million in Proposition 84 funding from DWR; however, implementation has since advanced with the 2021 agreements and subsequent program updates. The overall SARCCUP program consists of three main elements: (1) Watershed-Scale Cooperative Water Banking Program; (2) Water Use Efficiency—landscape design/irrigation improvements and water budget assistance; and (3) Habitat creation and Arundo donax removal within the Santa Ana River.

The Watershed-Scale Cooperative Water Banking Program is the largest component of SARCCUP. Under MET's arrangement with San Bernardino Valley Municipal Water District (Valley), when Valley declares surplus SWP water and offers it to MET, MET offers at least 50 percent of an equivalent amount to SARCCUP member agencies for storage and later use in the Santa Ana River watershed, consistent with MET policy. This structure formalizes the purchase and storage pathway that had been under development and aligns with MET's extraordinary supply policy during allocations.

Program capacity planning identifies up to ~137,000 AF of storage across six basins, including up to 36,000 AF in the OC Basin for use in dry years. Stored SARCCUP supplies may be designated "extraordinary supplies" during a MET allocation if managed consistent with MET's Water Supply Allocation Plan, thereby enhancing participating agencies' drought reliability.

Within Orange County, extraordinary supply assignment agreements among MET, MWDOC/OCWD, and certain retail agencies (e.g., Anaheim, Fullerton, Santa Ana) document how SARCCUP extraordinary supply

is assigned and delivered locally. Program implementation and participation details continue to be refined among OCWD, retail agencies, and MWDOC.

6.9 Future Water Projects

The City has identified the following future water supply projects, which are further summarized in Table 6.11:

Well 28 Construction - The site for Well 28 is located at 225 W Maple Avenue in the Old Towne area of the City of Orange. The property is vacant/devoid of structures and paved with asphalt. It is located in a portion of the Historic District characterized by historic industrial and residential structures, as well as more recent infill development associated with Chapman University academic facilities and a City of Orange/Metrolink parking structure that was recently completed.

The new Well 28 is situated in the northeast corner of the site. The remainder of the site will be a pocket public park which will be constructed in association with well construction. Well 28 will pump water to 370 Zone and is expected to produce approximately 3,000 gallons per minute flow capacity. Construction of the well and pocket public park will involve removal of existing surface asphalt and drilling of the well head in close proximity to structures documented as historic "contributing" structures to both the local and National Register historic districts. The structure for the well will include a sound enclosure around the well head, a transformer, and a building containing a motor control room, chlorine storage, and electrical meters. Additional discharge piping onto adjacent streets will be necessary. Well 28 is anticipated to be online in May 2026.

Well 29 Construction - The proposed site for Well 29 is located at 1715 W Struck Avenue in the west side of the City of Orange. Currently, the site previously housed the City's existing Well 8 and its supporting appurtenances. The property is mostly unpaved except for small areas of asphalt around the existing well head and equipment. The trapezoidal shaped lot is approximately 0.25 acres between Katella and Struck Avenue. Existing block wall surrounds the site's perimeter, and entrance gate is facing Struck Avenue.

The City destroyed Well 8 to construct the new Well 29 and treatment systems. Well 29 will pump water to 370 Zone and will be expected to produce approximately 3,000 gallons per minute flow capacity. Construction of the well and treatment systems will involve removal of the existing submersible pump and motor, sand separator, supporting structures, surface asphalt, and drilling of the new well head in the westerly portion of the site. The structure for the well will include a sound enclosure around the well head, a transformer, and a building containing a motor control room, chlorine storage, and electrical meters. In addition, final paving, fencing, building design (including drawings and materials), and landscaping for the site are also part of the scope of work and shall be included on provided project plans.

Construction for the well drilling phase is expected to begin in late 2025 and construction for well equipping phase and treatment systems will begin immediately thereafter. Well 29 is anticipated to be online in December 2027.

Table 6.11 Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs Water Code Section 10631 (f)							
Name of Future Projects or Programs	Joint Project with other suppliers?		Additional Description (as needed)	Water Type (after treatment if treated) (OPTIONAL)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier (This may be a range)
	(yes/no)	If Yes, Supplier Name					(AF)
New Well (Well 28)	No	N/A	Construction of a new well	Potable	CY 2028	All Year Types	4,842
New Well (Well 29)	No	N/A	Construction of a new well	Potable	CY 2028	All Year Types	4,842
NOTES: Source – City of Orange							

6.10 Energy Intensity

The City owns and operates a water distribution system and a wastewater collection system. This section reports the energy intensity for each system using data from CY 2024. Water and energy resources are inextricably connected. Known as the "water-energy nexus", the California Energy Commission estimates the transport and treatment of water, treatment and disposal of wastewater, and the energy used to heat and consume water account for nearly 20 percent of the total electricity and 30 percent of non-power plant related natural gas consumed in California. In 2015, California issued new rules requiring 50 percent of its power to come from renewables, along with a reduction in greenhouse gas (GHG) emissions to 40 percent below 1990 levels by 2030. Consistent with energy and water conservation, renewable energy production, and GHG mitigation initiatives, the City reports the energy intensity of its water and wastewater operations.

The methodology for calculating water energy intensity outlined in Appendix O of the UWMP Guidebook was adapted from the California Institute for Energy Efficiency exploratory research study titled "Methodology for Analysis of the Energy Intensity of California's Water Systems" (Wilkinson 2000).

The study defines water energy intensity as the total amount of energy, calculated on a whole-system basis, required for the use of a given amount of water in a specific location. UWMP reporting is limited to available energy intensity information associated with water processes occurring within an urban water supplier's direct operational control. Operational control is defined as authority over normal business operations at the operational level. Any energy embedded in water supplies imparted by an upstream water supplier (e.g., water wholesaler) or consequently by a downstream water purveyor (e.g., retail water provider) is not included in the UWMP energy intensity tables. The City's calculations conform to methodologies outlined in the UWMP Guidebook and Wilkinson study.

6.10.1 Water Supply Energy Intensity

In CY 2024, the City consumed 724 kilowatt-hour (kWh) per AF, or 2223 kWh per million gallons (MG), for water extraction and delivery (Table 6.12). The basis for calculations is provided in more detail in the following subsections.

Table 6.12 Optional Submittal Table O-1A: Energy Intensity Reporting

Optional Submittal Table O-1A: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - WATER SUPPLY PROCESS APPROACH									
Water Delivery Product	Retail Potable Deliveries	**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**							
Start Date of Reporting Period	1/1/2024	**Water Management Process**						**Non-Con-sequential Hydropower**	
End Date of Reporting Period	12/31/2024								
Is upstream embedded energy included in the values reported?	No								
	Units for Water Volume	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	**Total Utility**	Hydropower	Net Utility
Volume of Water Entering Process	AF	19,598	0	0	0	22,178	22,178	0	22,178
Energy Consumed (kWh)	N/A	14,694,098	0	0	0	1,370,597	16,064,695	0	16,064,695
Energy Intensity (kWh/vol. converted to MG)	N/A	2,301	0.0	0.0	0.0	189.7	2,223	0.0	2,223
Quantity of Self-Generated Renewable Energy									
0	kWh								
Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)									
Combination of Estimates and Metered Data									
Data Quality Narrative:									
Volume of Water Entering Process: Extraction data based on MWDOC Compiled Water Audits "Volume from Own Sources" and Distribution data based on MWDOC Compiled Water Audits "Authorized-Consumption." Non-Revenue Water is not considered in this calculation - the energy efficiency is based on water delivered to customers. **Energy Consumed**: Based on metered data.									
Narrative:									
The City of Orange relies on imported water, local groundwater, and recycled water to meet its customers' water needs. Operational control is limited to groundwater wells and potable water booster stations.									

6.10.1.1 Operational Control and Reporting Period

As described throughout the report, the City is a retail agency that relies on groundwater and imported water. Water supply energy intensity was calculated for the 2024 calendar year. This is a standard for energy and GHG reporting to the Climate Registry, California Air Resources Board, and the United States Environmental Protection Agency. Calendar year reporting provides consistency when assessing direct and indirect energy consumption within a larger geographical context, as fiscal year starting dates can vary between utilities and organizations.

6.10.1.2 Volume of Water Entering Processes

According to the MWDOC Compiled Water Audits, the City extracted 19,598 AF of groundwater from the OC Basin and distributed 22,178 AF of both groundwater and imported water. Water volume is based on water audit data. The Extracted volume is based on the "Volume from Own Sources" data point while water deliveries are based on "Authorized Consumption." This calculation excludes water losses so that the final energy intensity is based on the water that is actually delivered to customers.

6.10.1.3 Energy Consumption and Generation

According to Southern California Edison Electricity Bills, groundwater wells consumed 14,694,098 kWh of electricity and pump stations along the distribution system consumed 1,370,597 kWh of electricity. Currently, the City does not generate renewable energy. Energy consumption is based on metered data.

6.10.2 Wastewater and Recycled Water Energy Intensity

The City does not have energy data for the wastewater system readily available and has therefore chosen not to calculate an energy intensity for the wastewater system.

6.10.3 Key Findings and Next Steps

Calculating and disclosing direct operationally controlled energy intensities is another step towards understanding the water-energy nexus. However, much work is still needed to better understand upstream and downstream (indirect) water-energy impacts. When assessing water supply energy intensities or comparing intensities between providers, it is important to consider reporting boundaries as they do not convey the upstream embedded energy or impacts energy intensity has on downstream users. Engaging one's upstream and downstream supply chain can guide more informed decisions that holistically benefit the environment and are mutually beneficial to engaged parties. Suggestions for further study include:

- Supply-chain engagement - The City relies on a variety of water sources for their customers. While some studies have used life cycle assessment tools to estimate energy intensities, there is a need to confirm this data. The 2025 UWMP requirement for all agencies to calculate energy intensity will help the City and neighboring agencies make more informed decisions that would benefit the region as a whole regarding the energy and water nexus. A similar analysis could be performed with upstream supply chain energy, for example, with State Project Water.
- Internal benchmarking and goal setting - With a focus on energy conservation and a projected increase in water demand despite energy conservation efforts, the City's energy intensities will likely

decrease with time. Conceivably, in a case where water demand decreases, energy intensities may rise as the energy required to pump or treat is not always proportional to water delivered. In the course of exploring the water-energy nexus and pursuing renewable energy goals, there is a need to assess whether energy intensity is a meaningful indicator or if it makes sense to use a different indicator to reflect the City's commitment to energy and water conservation. Current efforts could be expanded with the addition of a wastewater energy intensity evaluation.

- Regional sustainability - Water and energy efficiency are two components of a sustainable future. Efforts to conserve water and energy, however, may impact the social, environmental, and economic livelihood of the region. In addition to the relationship between water and energy, over time, it may also be important to consider and assess the connection these resources have on other aspects of a sustainable future.

CHAPTER 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

This chapter of the Urban Water Management Plan (UWMP) describes the City of Orange's (City) water service reliability assessment for three long-term hydrological conditions: a normal year, a single dry year, and a drought period lasting five consecutive years. The Drought Risk Assessment (DRA) assesses water supply reliability during a severe drought lasting the next five consecutive years, from 2026 to 2030. Factors affecting reliability, such as water quality, regulations, and climate change, are also summarized in this assessment of reliability.

7.1 Water Service Reliability Overview

As part of the UWMP, every urban water supplier is required to assess the reliability of their water service to its customers under a normal year, a single dry year, and multiple dry years. The City's water sources are from local groundwater and imported water purchased from the Municipal Water District of Orange County (MWDOC). MWDOC is one of 26 member agencies of the Metropolitan Water District of Southern California (MET), which imports water from the Colorado River through its own Colorado River Aqueduct (CRA) and from Northern California through the California Aqueduct managed by the State Water Project (SWP).

MET has also invested in numerous programs and projects to augment its direct deliveries of imported water such as water transfers, groundwater banking, and use of its reservoir storage as summarized in Chapter 6.

Local groundwater in the Orange County Groundwater Basin (OC Basin) is managed by the Orange County Water District (OCWD). As summarized in Chapter 6, OCWD has developed programs and projects to improve groundwater recharge and augment groundwater through recycled water, conjunctive use, and water transfers. OCWD assesses groundwater conditions and sets its basin production percentage (BPP), which determines how much water will be pumped from the basin year, and the Basin Equity Assessment (BEA), which is a surcharge for exceeding the BPP. Currently, the BPP is set at 85 percent. Likewise, MET has also invested in numerous programs and projects to augment its direct deliveries of imported water such as water transfers, groundwater banking, and use of its reservoir storage as summarized in Chapter 6. MET's draft 2025 UWMP demonstrates that MET will be able to meet its projected water demands for the next 25 years under normal, dry, and multiple dry year conditions (MET, 2025).

In 2025, all water agencies in Orange County, in collaboration with their wholesalers, MWDOC and OCWD, developed a water demand forecast model for their service areas that estimated water demand at the individual retail water agency level. The demand model statistically correlates municipal and industrial (M&I) water use with demographic, socioeconomic, conservation, and weather variables as reported in the 2025 Orange County Water Demand Projection Model TM (MWDOC, 2025). Because the model isolates weather, future water demand can be estimated under single and multiple-year droughts and under future climate change scenarios. The model used a 33-year dataset (1991-2024) to estimate demand under average (normal), single-dry year, and five consecutive dry years hydrologic conditions. Correlation

coefficients between demand, temperature, and precipitation were applied to the hottest and driest historical sequences to calculate high-demand scenarios, which were expressed as scaling factors relative to the 33-year average demand.

Table 7.1 Optional Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)

OPTIONAL Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2024-2025, use 2025	**Available Supplies if Year Type Repeats**	
		☐ Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. **Location:** [insert location from UWMP]	
		Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available	**% of Average Supply**
Average Year	1991-2024		100%
Single-Dry Year	2014		107%
Consecutive Dry Years 1st Year	1991-2024		107%
Consecutive Dry Years 2nd Year	1991-2024		112%
Consecutive Dry Years 3rd Year	1991-2024		113%
Consecutive Dry Years 4th Year	1991-2024		115%
Consecutive Dry Years 5th Year	1991-2024		117%
NOTES:			

7.2 Factors Affecting Water Supply Reliability

To prepare realistic water supply reliability assessments, various factors affecting reliability were considered. These include climate change and environmental requirements, regulatory changes, water quality impacts, and locally applicable criteria. In May 2025, DWR published a technical addendum to the 2023 State Water Project Delivery Capability Report (DCR) describing the impact of subsidence to future SWP deliveries. The study showed that SWP deliveries could be reduced by future subsidence. DWR recommends using the 2025 DCR to support long-term planning efforts because DWR has planned near-term fixes and is committed to restoring the conveyance capacity of the California Aqueduct. MET will continue to stay informed and incorporate any suitable subsidence modeling in the future.

7.2.1 Climate Change and the Environment

Changing climate patterns are expected to shift precipitation patterns and affect water supply availability. Unpredictable weather patterns will make water supply planning more challenging. Although climate change impacts are associated with exact timing, magnitude, and regional impacts of these temperature and precipitation changes, researchers have identified several areas of concern for California water planners (CAMP4W, 2025). These areas include:

- A reduction in Sierra Nevada Mountain snowpack.

- Extreme heat threatens both infrastructure and the health and safety of human lives.
- Prolonged drought periods.
- Water quality issues associated with an increase in wildfires.
- Rising sea levels resulting in:
  - Impacts to coastal groundwater basins due to seawater intrusion.
  - Increased risk of damage from storms, high-tide events, and the erosion of levees.
  - Potential pumping cutbacks to the SWP and Central Valley Project (CVP).

Other important issues of concern due to global climate change include:

- Effects on local supplies such as groundwater.
- Changes in urban and agricultural demand levels and patterns.
- Alterations to power generation and pumping regime.
- Increases in ocean algal blooms affected seawater desalination supplies.

Without additional surface storage, earlier and heavier runoff will flow to the ocean instead of being held as mountain snowpack, causing California to lose more water. California, therefore, needs to place a strong emphasis on expanding storage. As described in Chapter 6, the Colorado River Basin supplies have been inconsistent since about the year 2000, with precipitation near normal while runoff has been less than average in two out of every three years. Climate models are predicting a continuation of this pattern, whereby hotter and drier weather conditions will result in continuing lower runoff, pushing the system toward a drying trend that is often characterized as long-term drought.

Dramatic swings in annual hydrologic conditions have affected water supplies available from the SWP over the last decade. The declining ecosystem in the Delta has also led to a reduction in water supply deliveries, and operational constraints will likely continue until a long-term solution to these problems is identified and implemented (MET, 2025).

Climate change is also projected to impact future water demands. The 2025 Orange County Water Demand Model TM developed a sensitivity for the water demand forecast based on using future climate variables from a subset of 15 downscaled global climate models (GCMs) from the World Climate Research Program (WCRP) Coupled Model Intercomparison Project (CMIP6). Future weather variables under two climate scenarios were substituted for baseline historical average weather, with the results indicating that projected water demands under one to five consecutive dry years could be 5 percent to 17 percent greater than baseline demands (MWDOC, 2025).

7.2.2 Regulatory and Legal

Ongoing regulatory restrictions, such as those imposed by the Biological Opinions (BiOps) on the effects of SWP and the federal CVP operations on certain marine life, also contribute to the challenge of determining water delivery reliability. Endangered species protection and conveyance needs in the Delta have resulted in operational constraints that are particularly important because pumping restrictions impact many water resources programs—SWP supplies and additional voluntary transfers, Central Valley storage and transfers, and in-region groundwater and surface water storage. BiOps protect special-status species listed as threatened or endangered under the Endangered Species Act (ESA) and impose

substantial constraints on Delta water supply operations through requirements for Delta inflow and outflow and export pumping restrictions.

In addition, the State Water Resources Control Board (SWRCB) has set water quality objectives that must be met by the SWP, including minimum Delta outflows, limits on SWP and CVP Delta exports, and maximum allowable salinity level. SWRCB has implemented the new Lower San Joaquin River flow objectives from the Phase 1 Delta Plan amendments through adjudicatory (water rights) and regulatory (water quality) processes. The Lower San Joaquin River flow objectives are estimated to reduce water available for municipal water use. New litigation, listings of additional species under the ESA, or regulatory requirements imposed by the SWRCB could further adversely affect SWP operations in the future by requiring additional export reductions, releases of additional water from storage, or other operational changes impacting water supply operations.

The Colorado River 2007 Interim Guidelines governing the Lower Basin water supply shortages and the operations of Lakes Mead and Powell are set to expire in 2026, and new operating guidelines will need to be developed for 2027 and beyond. At the time of this 2025 UWMP, negotiations over the successor post-2026 guidelines are ongoing and the outcome is highly uncertain. It is anticipated that California will likely be required to reduce its supplies from the Colorado River, on average, under the new guidelines, and that, as the junior priority, MET is at risk. A final EIS with a Selected Alternative is expected in the summer of 2026, with a record of decision to follow.

The difficulty and implications of environmental review, documentation, and permitting pose challenges for multi-year transfer agreements, recycled water projects, and seawater desalination plants. The timeline and roadmap for getting a permit for recycled water projects are challenging and inconsistently implemented in different regions of the state. Indirect Potable Reuse (IPR) projects face regulatory restraints such as treatment, blended water, retention time, and Basin Plan Objectives, which may limit how much recycled water can feasibly be recharged into the groundwater basins. New regulations and permitting uncertainty are also barriers to seawater desalination supplies, including updated Ocean Plan Regulations, Marine Life Protected Areas, and Once-Through Cooling Regulations (MET, 2025).

7.2.3 Water Quality

The following sub-section describes the water quality of the region's water supplies and the measures being taken to continue delivering high-quality drinking water that meets federal and state regulations.

7.2.3.1 Imported Water

MET is responsible for providing high quality potable water throughout its service area. Over 250,000 water quality tests are performed per year on MET's water to test for regulated contaminants and additional contaminants of concern to monitor the safety of its waters (MET, 2025). MET's supplies originate primarily from the CRA and from the SWP. A blend of these two sources, proportional to each year's availability of the source, is then delivered throughout MET's service area.

Although the CRA and SWP have different water quality characteristics, MET has implemented effective treatment and management strategies to maintain high-quality water. The CRA water source contains higher total dissolved solids (TDS), and the SWP contains higher levels of naturally occurring organic matter, lending to the formation of disinfection byproducts. To remediate the CRA's high level of salinity and the SWP's high level of organic matter, MET blends CRA and SWP supplies and has upgraded all its

treatment facilities to include ozone treatment processes. In addition, MET has been engaged in efforts to protect its Colorado River supplies from threats of uranium, perchlorate, and chromium VI while also investigating the potential water quality impact of the following emerging contaminants: N-nitrosodimethylamine (NDMA), pharmaceuticals and personal care products (PPCP), microplastics, per- and polyfluoroalkyl substances (PFAS), and 1,4-dioxane (MET, 2025).

PFAS is a group of widely used man-made "forever chemicals" that include both perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). MET has voluntarily monitored PFAS in its source and treated waters since 2017. Most samples have shown non-detect (ND) for all tested PFAS, including PFOA and PFOS. A limited number of other PFAS—such as PFHxA, PFBA, PFPeA, PFDoA, PFTA, and PFBS- have been detected only at trace levels below their method detection limits. PFOA and PFOS have not been detected in Metropolitan's imported or treated water supplies. However, some member agencies have detected these compounds in local groundwater wells, which may require treatment or source management to comply with emerging Division of Drinking Water (DDW) regulations. As DDW and the US Environmental Protection Agency (EPA) establish enforceable maximum contaminant levels (MCLs) for PFOA and PFOS, some agencies may supplement their local supplies with increased purchases of Metropolitan water (MET, 2025).

The EPA finalized the first national drinking water standards for six PFAS compounds in April 2024. These standards include enforceable MCLs for PFOA and PFOS set at 4 parts per trillion (ppt). In May 2025, the EPA announced that it would extend the compliance deadline for PFOA and PFOS from 2029 to 2031 to provide additional time for testing, planning, and installation of treatment technologies. While MET and its member agencies continue to monitor and test PFAS in imported and local sources, the delay in the federal compliance date allows additional time to evaluate treatment options, coordinate funding, and plan system upgrades necessary to meet forthcoming federal PFAS standards.

The presence of quagga mussels in water sources is a water quality concern. Quagga mussels are an invasive species that was first discovered in 2007 at Lake Mead, on the Colorado River. This species of mussels forms massive colonies in short periods of time, disrupting ecosystems and blocking water intakes. They can cause significant disruption and damage to water distribution systems. MET has had success in controlling the spread and impacts of the quagga mussels within the CRA; however, the future could require more extensive maintenance and reduced operational flexibility than current operations allow. It also resulted in MET eliminating deliveries of CRA water into Diamond Valley Lake (DVL) to keep the reservoir free from quagga mussels (MET, 2025).

In addition, Golden Mussels, another invasive species capable of disrupting pipelines and altering ecosystems, were detected in the Sacramento–San Joaquin Delta in October 2024 and are now spreading through the SWP. These mussels pose similar concerns due to their ability to obstruct raw water conveyance facilities and negatively affect aquatic environments. Although their presence does not typically result in violations of drinking water standards, unmanaged infestations can degrade habitats, clog infrastructure, and reduce the aesthetic and recreational value of lakes and reservoirs. State and regional agencies continue to monitor golden mussel movement and evaluate appropriate response strategies to limit their spread (MET, 2025).

7.2.3.2 Groundwater

Groundwater is a reliable component of the water supply for Orange County, and the OCWD manages the basin to provide long-term quality and sustainability. The basin supports a significant portion of the

region's water demands and is monitored through an extensive network of production, monitoring, and recharge wells that provide data on water levels and water quality conditions across the aquifer system.

Orange County Groundwater Basin

OCWD is responsible for managing the OC Basin. To maintain groundwater quality, OCWD conducts an extensive monitoring program that serves to manage the OC Basin's groundwater production, control groundwater contamination, and comply with all required laws and regulations. A network of nearly 700 groundwater wells provides OCWD with a source for samples, which are tested for a variety of purposes. OCWD collects samples each month to monitor basin water quality. The total number of water samples analyzed varies year-to-year due to regulatory requirements, conditions in the basin, and applied research and/or special study demands. These samples are collected and tested according to approved federal and state procedures as well as industry-recognized quality assurance and control protocols (City of La Habra et al., 2017). OCWD routinely tests for hundreds of regulated constituents, but the parameters discussed, PFAS, TDS, and nitrate, are of focus because they represent the most relevant regional and regulatory considerations that influence groundwater management and long-term supply planning. These issues do not indicate that the groundwater basin is unsafe; rather, they are discussed because they are key focus areas for state agencies and water suppliers throughout Southern California.

PFAS are of particular concern for groundwater quality, and since the summer of 2019, the DDW requires testing for PFAS compounds in some groundwater production wells in the OCWD area. According to the EPA, the established federal Maximum Contaminant Levels (MCLs) for certain PFAS compounds in drinking water include 4 nanograms per liter (ng/L), or parts per trillion (ppt), for PFOA and PFOS. In addition, the California State Water Resources Control Board has established health-based notification levels (NLs) and response levels (RLs) for several PFAS compounds. The current NLs are 4 ng/L for PFOA and 4 ng/L for PFOS, while the RLs are 10 ng/L for PFOA and 40 ng/L for PFOS. If PFAS concentrations exceed the NL, water systems must notify their governing body; if concentrations exceed the RL, water systems are expected to take corrective actions such as removing the source from service or implementing treatment.

PFAS have been detected in the OC Basin in very tiny amounts (parts per trillion), entering primarily via the Santa Ana River, whose flows infiltrate into the basin. Despite playing no role in releasing PFAS into the environment, OCWD is working with its cities and retail water districts to remove them from local water supplies in order to comply with new state and federal regulations. More than 100 wells have been impacted due to various state and federal regulations. Fifteen impacted agencies will have to temporarily purchase more costly imported water to replace PFAS contaminated supplies. As of 2025, 53 impacted wells are back online due to close to a billion dollars being spent on state-of-the-art testing, research, and piloting of different treatment systems, and design and construction of treatment plants that are now operational.

By 2025, OCWD had restored 49 wells to service with operational treatment systems, with an additional 57 wells in planning, design, or construction stages (ACWA, 2025). These systems continue to rely primarily on granular activated carbon (GAC) and ion exchange (IX) media, operated in a lead–lag configuration to achieve non-detect PFAS levels consistent with evolving state and federal regulatory standards (Santa Ana Regional Water Quality Control Board and Orange County Water District, 2023).

Groundwater production in FY 2023–24 totaled 280,420 acre-feet (AF), with slight increases projected over the next two years as additional treatment systems come online, showing continued reductions associated

with PFAS-impacted wells that remain offline across several agencies. Salinity is a significant water quality problem in many parts of southern California, including Orange County. Salinity is a measure of the dissolved minerals in water, including both TDS and nitrates. OCWD continuously monitors the levels of TDS in wells throughout the OC Basin. TDS currently has a California Secondary MCL of 500 milligrams per liter (mg/L). The portions of the OC Basin with the highest levels are generally located in the cities of Irvine, Tustin, Yorba Linda, Anaheim, and Fullerton. There is also a broad area in the central portion of the OC Basin where TDS ranges from 500 to 700 mg/L. Sources of TDS include the water supplies used to recharge the OC Basin and from onsite wastewater treatment systems, also known as septic systems. The TDS concentration in the OC Basin increased on average from 415 mg/L in FY 2022-23 to 432 mg/L in FY 2023-24 (OCWD, 2025).

Nitrates are one of the most common and widespread contaminants in groundwater supplies, originating from fertilizer use, animal feedlots, wastewater disposal systems, and other sources. The MCL for nitrate in drinking water is set at 10 mg/L. OCWD regularly monitors nitrate levels in groundwater and works with producers to treat wells that have exceeded safe levels of nitrate concentrations. OCWD manages the nitrate concentration of water recharged by its facilities to reduce nitrate concentrations in groundwater. This includes the operation of the Prado Wetlands, which was designed to remove nitrogen and other pollutants from the Santa Ana River before the water is diverted to be percolated into OCWD's surface water recharge system. Although water from the deep aquifer system is of very high quality, it is amber-colored and contains a sulfuric odor due to buried natural organic material, requiring treatment before use as drinking water. The principal aquifer, which supplies most basin pumping, occurs at depths of roughly 300 to 1,200 feet below ground surface (OCWD, 2025). The total volume of amber-colored groundwater in the deep system is estimated at approximately 1 MAF.

7.2.4 Locally Applicable Criteria

Within Orange County, there are no significant local applicable criteria that directly affect reliability. Over the years, the water agencies in Orange County have made tremendous efforts to integrate their systems to provide flexibility for interchanging with different sources of supply. There are emergency agreements in place to provide an adequate supply of water in all parts of the County. In the northern part of the County, agencies can meet most of their demands from groundwater with very little limitation, except for the OCWD BPP. For the agencies in South Orange County, most of their demands are met with imported water, and their limitations are based on the capacity of their systems, which are very robust. However, if a major earthquake on the San Andreas Fault occurs, it can potentially be damaging to key water aqueducts and disrupt imported supplies to the entire Southern California for up to six months. The MET region would likely require a water-use reduction of 10 25 percent until the system is repaired. However, MET has taken proactive steps to handle such disruption, such as constructing DVL, which mitigates potential impacts. DVL, along with other local reservoirs, can store a six to twelve-month supply of emergency water (MET, 2025).

7.3 Water Service Reliability Assessment

This section assesses the reliability of the City's water service to its customers. This is completed by comparing the projected long-term water demand (Chapter 4) to the projected water supply sources available to the City (Chapter 6), in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years.

7.3.1 Normal Year Reliability

In 2025, MWDOC and OCWD, in collaboration with Orange County retail agencies, developed water demand forecast models for individual retail water agencies in Orange County, as described in detail in Chapter 4. This 25-year demand forecast uses statistical models to account for demographic, socioeconomic, conservation, and weather variables (MWDOC, 2025). For normal year reliability, the demand forecast represents average weather conditions. The City is 100 percent reliable for normal year demands from 2025 through 2050. The City receives imported water from MWDOC via connection to MET's regional distribution system. Although pipeline and connection capacity rights do not guarantee the availability of water, they do guarantee the ability to convey water into the local system when it is available to the MET distribution system.

A comparison between the supply and demand for projected years between 2025 and 2050 is shown in Table 7.2. The table demonstrates that projected supplies and demands are equal in every planning year, with no anticipated surpluses or shortfalls. As stated above, the available supply will meet projected demands due to a diversified supply and conservation measures limiting and reducing imported demands in the later years. The City's supplies are provided by MWDOC and OC Basin. In MWDOC's 2025 Urban Water Management Plan, they identify their wholesale supplies as 100 percent reliable under normal-year conditions (Submittal Table 7-2; MWDOC, 2025).

Table 7.2 Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison

Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030	2035	2040	2045	2050 (Opt)
	(AF)	(AF)	(AF)	(AF)	(AF)
Supply totals (autofill from Submittal Table 6-9 R)	24,529	24,550	24,675	24,646	24,640
Use totals (autofill from Submittal Table 4-2 R)	24,529	24,550	24,675	24,646	24,640
Surplus/(shortfall)	0	0	0	0	0
NOTES: This table compares the projected demand and supply volumes determined in Sections 4.3.2 and 6.1, respectively.					

7.3.2 Single Dry Year Reliability

A single dry year is defined as a single year of minimal to no rainfall within a period where average precipitation is expected to occur. Orange County's water demand projection model (described in Chapter 4) isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition. For a single dry-year condition (FY 2013-14), the model projects a seven percent increase in demand for the City's service area (MWDOC, 2025). Detailed information about the model is included in Appendix E.

The City has documented that it is 100 percent reliable for single dry year demands from 2025 through 2050. As shown in Table 7.3, projected single dry year supplies and demands are equal from 2030 to 2050, resulting in no anticipated shortages. This assessment incorporates a seven percent increase in demand

above normal-year levels and shows the significant reserves and conservation measures available within MET.

Table 7.3 Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

Submittal Table 7-3 Retail: Single Dry Year Supply and Use Comparison Water Code Section 10635(a)					
	2030	**2035**	**2040**	**2045**	**2050 (Opt)**
	(AF)	(AF)	(AF)	(AF)	(AF)
Supply totals	26,296	26,319	26,453	26,422	26,415
Use totals	26,296	26,319	26,453	26,422	26,415
Surplus/(shortfall)	0	0	0	0	0
NOTES: The single dry year projections estimate a 7% increase on imported M&I demand.					

7.3.3 Multiple Dry Years Reliability

Multiple dry years are defined as five or more consecutive dry years with minimal rainfall within a period of average precipitation. Orange County water demand projection model (described in Chapter 4) isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition. During multiple dry years, the UWMP applies dry-year adjustment factors to reflect future climate conditions and retail level water demand. These increase 7 percent in single-dry and first multiple-dry years, going up to 12, 13, 15, and 17 percent in subsequent drought years, relative to average-year demand (see Table 7.1) (MWDOC, 2025). Rather than repeating the single-dry-year factor for all five years, the five-year multi-dry-year scenario applies the year-specific dry-year adjustment factors for each consecutive year, reflecting the increasing impacts of extended drought. The City has demonstrated that its water supplies remain fully reliable throughout a five-consecutive- year dry period from 2025 through 2050. Even assuming a conservative demand increase of 7 to 17 percent per year over five consecutive years, the City is capable of meeting all customers' demands from 2025 through 2050 (Table 7.5), with significant reserves held by MET and conservation.

The table includes treated water from MET for M&I and non-M&I demands. The multiple dry-year projections estimate a seven percent increase on imported M&I demand. The 2030 column assesses supply and demand for FY 2025-26 through FY 2029-30; the 2035 column assesses FY 2030-31 through FY 2034-35 and so forth, to end the water service reliability assessment in FY 2045-50.

Table 7.4 Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison Water Code Section 10635(a)						
		2030	2035	2040	2045	2050 (Opt)
		(AF)	(AF)	(AF)	(AF)	(AF)
First year	Supply totals	26,296	26,319	26,453	26,422	26,415
	Use totals	26,296	26,319	26,453	26,422	26,415
	Surplus/(shortfall)	0	0	0	0	0
Second year	Supply totals	27,460	27,484	27,623	27,591	27,584
	Use totals	27,460	27,484	27,623	27,591	27,584
	Surplus/(shortfall)	0	0	0	0	0
Third year	Supply totals	27,631	27,655	27,795	27,763	27,756
	Use totals	27,631	27,655	27,795	27,763	27,756
	Surplus/(shortfall)	0	0	0	0	0
Fourth year	Supply totals	28,154	28,178	28,321	28,289	28,281
	Use totals	28,154	28,178	28,321	28,289	28,281
	Surplus/(shortfall)	0	0	0	0	0
Fifth year	Supply totals	28,632	28,657	28,802	28,769	28,762
	Use totals	28,632	28,657	28,802	28,769	28,762
	Surplus/(shortfall)	0	0	0	0	0
NOTES: The 2030 column assesses supply and demand for FY 2025-26 through FY 2029-30; the 2035 column assesses FY 2030-31 through FY 2034-35 and so forth, to end the water service reliability assessment in FY 2049-50.						

7.4 Management Tools and Options

Existing and planned water management tools and options that seek to maximize local resources and results in minimizing the need to import water are described below:

- **Reduced Delta Reliance:** Both MWDOC and MET have demonstrated consistency with Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance (Delta Plan policy WR P1) by reporting the expected outcomes for measurable reductions in supplies from the Delta. MET has improved its self-reliance through methods including water use efficiency, water recycling, stormwater capture and reuse, advanced water technologies, conjunctive use projects, local and regional water supply and storage programs, and other programs and projects. Similarly, Orange County water agencies have further invested in water use efficiency, local water supply projects, and advanced water technologies to increase regional self-reliance. In the near term (2030), regional self-reliance during a normal water year for the entire MET service area is projected to increase by approximately 601 MAF compared to the 2010 baseline, an improvement equal to nearly 20 percent of projected 2030 retail demands. Looking ahead to 2050, normal year regional self-reliance is expected to grow by more than 1.0 MAF above the 2010 baseline, representing an increase of roughly 20 percent of projected 2050 retail demands (MET, 2025).
- **The continued and planned use of groundwater:** The water supply resources within the City's service area are enhanced by the existence of groundwater basins that account for the majority of

local supplies available. As described in Chapter 4, the OC Basin is also used as a reservoir to store water during wet years and draw from storage during dry years, subsequently minimizing the MWDOC service area's reliance on imported water. Groundwater basins are managed within a safe basin operating range so that groundwater wells are only pumped as needed to meet water use. Although Buena Park does not manage any of the service area's groundwater basins, as a groundwater producer, Buena Park supports the efforts to maintain the health of the local basins through local groundwater recharge efforts such as OCWD's GWRS Groundwater Replenishment System (GWRS) program.

- **Groundwater storage and transfer programs:** OCWD's involvement in the Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) includes participation in a conjunctive use program that improves water supply resiliency and increases available dry-year yield from local groundwater basins. The groundwater bank has 137,000 AF of storage (Inland Empire Utilities Agency, 2021). MET has numerous groundwater storage and transfer programs in which MET endeavors to increase the reliability of water supplies, including the Antelope Valley-East Kern Water Agency (AVEK) Waste Agency Exchange and Storage Program and the High Desert Water Bank Program. In addition, MET has encouraged storage through its cyclic and conjunctive use programs that allow MET to deliver water into a groundwater basin in advance of agency demands, such as the Cyclic Storage Agreements under the Main San Gabriel Basin Judgment.
- **MWDOC Water Loss Program:** The water loss audit program reduces the City's dependency on imported water from the Delta by implementing water loss control technologies after assessing audit data and leak detection.
- **Increased use of recycled water:** OCWD's GWRS and Green Acres Project (GAP) help southern California reduce its reliance on imported water by providing a local, reliable water supply that meets or exceeds all federal and state drinking water standards. OCWD is currently expanding the GWRS to increase production to 130 MGD, further strengthening regional water self-sufficiency.
- **Implementation of demand management measures during dry periods:** During dry periods, water reduction methods to be applied to the public through the retail agencies, which will in turn reduce the City's overall demands on local and imported water. The City met its conservation target of 20 percent by 2020 as part of the Orange County Regional Alliance, as well as individually.

7.5 Drought Risk Assessment

California Water Code (CWC) Section 10635(b) requires every urban water supplier to include a DRA for its water service as part of the information considered in developing its demand management measures and water supply projects and programs. The DRA is a specific planning action that assumes the City is experiencing a drought over the next five years and addresses water supply reliability in the context of presumed drought conditions. Together, the water service reliability assessment, DRA, and water shortage contingency planning (WSCP) allow the City to have a comprehensive picture of its short- and long-term water service reliability and to identify the tools to address any perceived or actual shortage conditions.

CWC Section 10612 requires the DRA to be based on the driest five-year historical sequence for the City's water supply. However, CWC Section 10635 also requires that the analysis consider plausible changes on projected supplies and demands due to climate change, anticipated regulatory changes, and other locally applicable criteria.

The following sections describe the methodology and results from the City's DRA.

7.5.1 Methodology

As described in more detail in Chapter 4, the water demand forecasting model prepared for the City isolated the impacts that weather and future climate can have on water demand through the use of an econometric model. In addition to weather related factors, the model incorporates explanatory variables that influence both historical and projected water use, including water price, gross domestic product (GDP), median household income, housing density, persons per household, households per account, sectoral employment mix (for CII demand), seasonal patterns, historical conservation trends, drought restrictions, and COVID-19 behavioral effects. These variables allow the model to separately quantify how economic conditions, demographic shifts, land use characteristics, and institutional constraints affect demand across residential, commercial, industrial, institutional, and irrigation sectors (MWDOC, 2025).

The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the average condition. For a single dry year condition (FY 2013-14), the model projects a seven percent increase in demand for the City's service area (MWDOC, 2025). The model used a 33-year dataset (1991-2024) to estimate demand under average (normal), single-dry year, and five consecutive dry years hydrologic conditions. Correlation coefficients between demand, temperature, and precipitation were applied to the hottest and driest historical sequences to calculate high-demand scenarios, which were expressed as scaling factors relative to the 33-year average demand.

For the City, the five consecutive dry year demand scenario is based on the demand model's multiple dry year methodology. In accordance with the econometric demand model approach used to develop UWMP demand projections, a single hot/dry year was first identified based on weather conditions that produced the greatest demand response. Consecutive dry years were then represented by applying incremental scaling factors to this single hot/dry year demand to account for the compounding effects of persistent warm and dry conditions over time. These scaling factors show long-term relationships between regional water use and multi-year temperature and precipitation deficits and are applied sequentially to simulate second through fifth consecutive dry years. This approach is consistent with the demand modeling framework summarized in Tables 7.1 and 7.5.

7.5.1.1 Water Demand Characterization

The City's water supplies consist of groundwater from the OC Basin and purchased water from MWDOC, regardless of hydrologic conditions. As described in Chapter 6, MET's supplies are from the Colorado River, SWP, and in-region storage. In MET's 2025 UWMP, the DRA concluded that even without activating WSCP actions. Beyond this, MET's DRA indicated a surplus of supplies that would be available to all of its member agencies, including MWDOC, should the need arise. Therefore, any increase in demand that is experienced in MWDOC's service area is assumed to be met by MET's water supplies. Based on the water demand projection model discussed in more detail in Chapter 4, in a single dry year, demand is expected to increase by 7 percent above a normal year (see Table 7.1). The City's DRA conservatively assumes that a drought from FY 2025-26 through FY 2029-30 is based on the FY 2025 normal year supply with the five-year consecutive dry year hydrology (from Table 7.1) (MWDOC, 2025).

7.5.1.2 Water Supply Characterization

The City's assumptions for its supply capabilities are discussed and presented in 5-year increments under its water reliability assessment in Section 7.3. For Buena Park's DRA, these supply capabilities are further refined and presented annually for the years 2026 to 2030, which the Orange County Demand Model (2025) applied a historical dry-year sequence from within the 1991-2024 dataset as an analog for five consecutive dry years. Groundwater is sustainably managed through the BPP and robust management measures (Section 6.3.4 and Appendix G), direct and indirect recycled water uses provide additional local supply (Section 6.6), and based on MET's and MWDOC's UWMP, imported water is available to close any local water supply gap (Section 7.5.1). For its DRA, the model assessed the reliability of supplies available to Orange County through MET using historical supply availability under dry-year conditions. MET's supply sources under the CR, SWP, and in-region supply categories are individually listed and discussed in detail in MET's UWMP. Future supply capabilities for each of these supply sources are also individually tabulated in Appendix 3 of MET's UWMP, with consideration for plausible changes on projected supplies under climate change conditions, anticipated regulatory changes, and other factors. Total Water Supply and Use Comparison

The City's anticipated total water use and supply under a five-year drought from FY 2025-26 through FY 2029-30 are compared in Table 7.5. The City's assessment reveals that its supply capabilities are expected to balance with its projected water use for the next five years, from 2026 to 2030.

Table 7.5 Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment

Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)		
2026		**Total**
Total Water Use	(AF)	27,029
Total Supplies	(AF)	27,029
Surplus/Shortfall w/o WSCP Action		0
2027		**Total**
Total Water Use	(AF)	28,225
Total Supplies	(AF)	28,225
Surplus/Shortfall w/o WSCP Action		0
2028		**Total**
Total Water Use	(AF)	28,401
Total Supplies	(AF)	28,401
Surplus/Shortfall w/o WSCP Action		0
2029		**Total**
Total Water Use	(AF)	28,939
Total Supplies	(AF)	28,939
Surplus/Shortfall w/o WSCP Action		0
2030		**Total**
Total Water Use	(AF)	29,430
Total Supplies	(AF)	29,430
Surplus/Shortfall w/o WSCP Action		0
NOTES:		

7.5.2 Water Source Reliability

The City's water supply portfolio is predominantly supported by the OC Basin, which provides roughly 85 percent of the City's water under the FY 2025–26 BPP and is expected to remain a reliable source through FY 2029–30. OCWD's active basin management, such as adjusting the BPP and securing supplemental recharge supplies, helps maintain long-term groundwater reliability. Local supply is further strengthened by the City's use of indirect potable reuse water from OCWD's Groundwater Replenishment System, which enhances drought resilience. While emergency interconnections with neighboring agencies are not part of the normal supply mix, they offer additional backup capacity if ever needed. The City's DRA concludes that available supplies meet projected demands during a modeled five-year drought, with the ability to increase MET purchases if necessary.

As detailed in Chapter 8, the City has in place a robust WSCP and comprehensive shortage response planning efforts that include demand reduction measures and supply augmentation actions. However, since the City's DRA shows a balance, no water service reliability concern is anticipated, and no shortfall mitigation measures are expected to be exercised over the next five years. The City and its wholesale, MWDOC, will periodically revisit its representation of the supply sources and of the gross water use estimated for each year, and will revise the DRA if needed.

CHAPTER 8 WATER SHORTAGE CONTINGENCY PLANNING

8.1 Background

Water shortage contingency planning is a strategic planning process that the City of Orange (City) engages to prepare for and respond to water shortages. A water shortage is defined when water supply available is insufficient to meet the customer demand at a given point in time. This may occur due to water supply availability changes, water quality changes, and/or catastrophic events (e.g., earthquake). The Water Shortage Contingency Plan (WSCP), included in Appendix F and summarized in this chapter, provides a water supply availability assessment and structured steps designed to respond to actual conditions. This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The Water Code Section 10632 requires that every urban water supplier that serves more than 3,000 acre-feet (AF) per year or has more than 3,000 connections prepared adopt a standalone WSCP as part of its UWMP. The WSCP is required to plan for a greater than 50 percent supply shortage. The WSCP may require updating based on new DWR requirements every five years and will be adopted as a current update for submission to DWR by July 1, 2026.

8.2 Overview of the Water Shortage Contingency Plan

The WSCP serves as the operating manual that the City will use to prevent catastrophic service disruptions through proactive, rather than reactive, mitigation of water shortages. The WSCP defines the processes and procedures that would be deployed when shortage conditions arise so that the City's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to mitigate a water shortage to the level appropriate for the degree of water shortfall anticipated. The relationship between the three procedural documents related to planning for and responding to water shortages is graphically depicted in Figure 8.1.



Figure 8.1 Purpose and Relationships of the UWMP, WSCP, and Water Shortage Response Ordinance

A complete version of the City's WSCP is provided in Appendix F and includes the steps to assess if a water shortage is occurring, and what level of demand reduction actions to trigger the most appropriate response to the water shortage conditions. The WSCP has prescriptive elements, including an analysis of water supply reliability; the drought shortage actions that align with water shortage levels that correspond to water shortage percentages ranging from 10 percent to greater than 50 percent; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an annual water supply and demand assessment; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

8.3 Summary of Water Shortage Response Strategy and Required DWR Tables

The WSCP is organized into the following three main sections with Section 3 aligned with the California Water Code Section 16032 requirements.

- **Section 1 Introduction and WSCP Overview** gives an overview of the WSCP fundamentals.
- **Section 2 Background Information** provides a background on the City's water service area.
- **Section 3 Water Shortage Contingency Preparedness and Response Planning.**
  - **Section 3.1 Water Supply Reliability Analysis** provides a summary of the water supply analysis and water reliability findings from the 2025 UWMP.
  - **Section 3.2 Annual Water Supply and Demand Assessment Procedures** provides a description of procedures to conduct and approve the Annual Assessment.
  - **Section 3.3 Six Standard Water Shortage Stages** explains WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50 percent shortages.
  - **Section 3.4 Shortage Response Actions** describes WSCP's shortage response actions that align with the defined shortage levels.

- **Section 3.5 Communication Protocols** addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.
- **Section 3.6 Compliance and Enforcement** describe customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.
- **Section 3.7 Legal Authorities** describes the legal authorities that enable the City to implement and enforce its shortage response actions.
- **Section 3.8 Financial Consequences of the WSCP** provides a description of the financial consequences of and responses for drought conditions.
- **Section 3.9 Monitoring and Reporting** describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.
- **Section 3.10 WSCP Refinement Procedures** addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.
- **Section 3.11 Special Water Feature Distinction** provides a required definition for inclusion in a WSCP per the Water Code.
- **Section 3.12 Plan Adoption, Submittal, and Availability** describes the process the City followed to adopt its WSCP.

The WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage will aim to make the relevant stakeholders understand what to expect during a water shortage situation. City adopted water shortage levels consistent with the requirements identified in Water Code Section 10632 (a)(3)(A) (Table 8.1).

The six shortage levels the City uses in their water shortage planning and documented in their WSCP are the same as DWR's six standard shortage levels, as indicated in Table 8.1. The water supply augmentation measures that align with each agency shortage level are described in Table 8.2 This table also estimates the extent to which that action will augment supplies to reduce the gap between supplies and demands. The demand reduction action measures that align with each shortage level and how each measure will reduce the shortage gap between expected supplies and the shortage level is summarized in Table 8.3. The purpose of Table 8.2 and 8.3 are to demonstrate the results the City can expect once shortage level actions are implemented. to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

Table 8.1 Submittal Table 8-1: Cross-Reference for Standard vs Supplier Shortage Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

Table 8.2 Submittal Table 8-2 Retail: Supply Augmentation and Other Actions

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)	
Add additional rows as needed				
1 through 6	Other Purchases	Percentage	0 - 100%	Additional imported water purchases through MWDOC
1 through 6	Other Purchases	Percentage	0 - 100%	Additional groundwater pumping in the Orange County Groundwater Basin
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES: Additional imported water purchases and groundwater pumping may be subject to rate penalties from MWDOC and OCWD, respectively.				

Table 8.3 Submittal Table 8-3 Retail: Demand Reduction Actions

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
0	Landscape - Prohibit certain types of landscape irrigation		Statewide Prohibition is Required	Limit on watering nonfunctional turf: Watering or irrigation of nonfunctional turf (NFT) on State and local government properties, commercial, industrial and institutional owned landscapes, homeowners' associations common area landscapes, and local government facilities in disadvantaged communities (DAC) is prohibited. See Note 1 below.	No
0	Landscape - Limit landscape irrigation to specific times		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits of watering hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
0	Landscape - Prohibit all landscape irrigation		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limit on watering duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two gallons water per hour, and weather based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation		Statewide Prohibition is Required	No excessive water flow or runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited	
0	Other - Prohibit use of potable water for washing hard surfaces		Statewide Prohibition is Required	No washing down hard or paved surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure cleaning machine equipped to recycle any water used.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Obligation to fix leaks, breaks or malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions, in the water user's plumbing or distribution system for any period of time after such escape of water should have been discovered and corrected and in no event more than seven days of receiving a notice from the City is prohibited.	Yes
0	Water Features - Restrict water use for decorative water features, such as fountains		Statewide Prohibition is Required	Re-circulating water required for water fountains and decorative water features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of single pass cooling systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of non-re-circulating in commercial car wash and laundry systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	No
0	Other - Require automatic shut of hoses		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.	Yes
1	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 1 Protocols)	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 72 hours of notification by the City unless other arrangements are made with the City.	Yes
1	CII - Lodging establishment must offer opt out of linen service	Percentage	1%	Commercial lodging establishments must provide option to not launder linen daily: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	No

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
1	CII - Commercial kitchens required to use pre-rinse spray valves	Percentage	1%	Restaurants required to use water conserving dish wash spray valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.	No
1	CII - Restaurants may only serve water upon request	Percentage	1%	Drinking water served upon request only: Eating or drinking establishments, including, but not limited to, a restaurant, hotel, café, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.	Yes
1	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the Director of Public Works, or his designee, after notice to customers.	Yes
2	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 2 Protocols)	No
2	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	1%	Limits on filling ornamental lakes or ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this chapter.	No
2	Other water feature or swimming pool restriction	Percentage	2%	Limits on filling residential swimming pools and spas: Re-filling of more than 1 foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.	Yes
2	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 48 hours of notification by the City unless other arrangements are made with the City.	Yes
2	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
3	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 3 Protocols)	No
3	Other	Percentage	5%	Reporting mechanism—hotline: The City may establish a water waste hotline for residents to report violations of this chapter.	Yes
3	Landscape - Other landscape restriction or prohibition	Percentage	3%	Large landscape areas—rain sensors: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.	No
3	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 2 days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 1 day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification by the City unless other arrangements are made with the City.	Yes
3	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes

Submittal Table 8-3 Retail: Demand Reduction Actions **Water Code Section 10632(a)(4)(B) and (E)**					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
4	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 4 Protocols)	No
4	Other	Percentage	1%	Retrofits upon sale or transfer: No structure shall be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	3%	Water recycling required if alternative available: The use of potable water, other than recycled water, is prohibited for specified uses after the City has provided to the customer an analysis showing that recycled water is a cost-effective alternative to potable water for such uses and the customer has had a reasonable time, as determined by the City Manager, to make the conversion to recycled water.	No
4	Other	Percentage	1%	Change in service: Upon the establishment of new water service or a change in water service from one person to another non-family member, all existing plumbing fixtures are required to be retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	1%	Limits of building permits: The City may limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare.	No
4	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to one day per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
5	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 5 Protocols)	No
5	Other	Percentage	2%	City conservation reports: Upon request of the City Manager, City Departments must prepare and submit quarterly reports on their water conservation efforts. The reports will be consolidated by the City Manager and reported to the City Council at a minimum of once a year.	Yes
5	Landscape - Prohibit all landscape irrigation	Percentage	10%	No watering or irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited.	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	Percentage	5%	No new potable water service: No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statement of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:	No
5	Other	Percentage	5%	Customer water conservation reports: The City may, by written request, require all commercial, residential and industrial customers using 25,000 or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations.	No
5	Other	Percentage	1%	Discontinue service: The City, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section.	No
6	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 6 Protocols)	Yes
6	Other	Percentage	20%	Water use for public health and safety purposes only.	Yes
6	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES: Note 1: NFT irrigation requirements begin January 1, 2027 for State and local government properties, January 1, 2028 for commercial, industrial and institutional owned landscapes, January 1, 2029 for homeowners' associations common area landscapes, and January 1, 2031 for local government properties in disadvantaged communities (DAC).					

CHAPTER 9 DEMAND MANAGEMENT MEASURES

Over the past several decades, water use efficiency and conservation have evolved from voluntary best practices into core regulatory requirements shaping urban water management throughout California and Orange County. In response to recurring droughts, growing urban demand, and increasing competition for limited water supplies, the California Urban Water Conservation Council (CUWCC) was formed in 1991 to promote statewide cooperation on urban water conservation. Through the development and implementation of the CUWCC Best Management Practices (BMPs), water agencies established a consistent, voluntary framework for improving efficiency through locally tailored programs. This early foundation was later strengthened by legislative actions, most notably Senate Bill (SB) X7-7, the Water Conservation Act of 2009, which set enforceable urban water use reduction targets to cut per capita use by 20 percent by 2020 and required retail water suppliers to actively manage demand as part of long-term water planning. All Orange County water agencies came together to create the Orange County 20x2020 Regional Alliance and met compliance as a region. The City of Orange (City) also met compliance individually. These efforts reflected a growing recognition that efficient water use is essential to ensuring reliability amid population growth, limited supplies, and increasing climate variability.

Recurring drought conditions have further accelerated the pace and scale of conservation efforts in the last decade. The 2013–2014 drought prompted a statewide emergency response, culminating in an executive order mandating a 25 percent reduction in urban water use across California. All Orange County Water Agencies, including The City, met this reduction target as reported in Chapter 5 of this 2025 Urban Water Management Plan (UWMP). More recently, the 2021–2022 drought reinforced the need for sustained efficiency gains and durable demand management strategies beyond temporary emergency actions. These regulatory and hydrologic drivers ultimately led to the passing and adoption of SB 606 and Assembly Bill (AB) 1668, the "Making Conservation a California Way of Life" legislation (passed in 2018 and adopted in 2024). The legislation establishes long-term water use objectives for individual water suppliers and reinforces conservation as a permanent element of water management. Together, these milestones underscore the necessity for the Municipal Water District of Orange County (MWDOC) and the City to implement comprehensive demand management measures and meet established urban water use reduction targets to ensure regional water supply resilience.

The goal of the Demand Management Measures (DMM) chapter is to provide a comprehensive description of the water use efficiency programs that the City has implemented in the most recent five years, is currently implementing, and plans to implement to meet its urban water use reduction targets. Per the "Making California a Conservation Way of Life" Framework (Conservation Framework), each Urban Water Supplier is required to calculate and report their Urban Water Use Objective (UWUO) and to stay within their calculated annual water budget. The UWUO is an aggregate efficient water use of:

- Indoor Residential Use (population x gallons per capita per day [GPCD] standard).
- Outdoor Residential Use (measurements of irrigated/irrigable area, local weather data, and a landscape efficiency factor).
- Outdoor Use with Dedicated Irrigation Meters (measurements of irrigated area, local weather data, and a landscape efficiency factor).
- Distribution System Water Losses.

- Approved Variances.
- Potable Reuse Bonus.

Additionally, the Conservation Framework includes commercial, industrial, and institutional (CII) non-volumetric Performance Measures, including CII customer account classifications, thresholds for converting CII mixed-use meters (MUMs) irrigating over half an acre of landscape to dedicated irrigation meters (DIMs) or in lieu technologies, CII BMPs, and identification of and information sharing with disclosable buildings.

One of the City's top priorities since the adoption of the "Making California a Conservation Way of Life" Framework has been to make progress toward compliance with the Conservation Framework. This chapter will describe the City's DMM activities, including those administered by its wholesaler and supplemental programs administered locally at the retail level.

9.1 City of Orange Demand Management Measures

This section describes the specific DMMs performed by the City, including DMMS offered in partnership with MWDOC, its wholesale supplier, to encourage water conservation within its service area. Table 9.1 summarizes DMM implementation by the City as well as the responsibilities of MWDOC.

Table 9.1 DMM Implementation Responsibility and Regional Programs in Orange County

Efficiency Measure	Responsibility of:		MWDOC Regional Program and Activities
	Retailer	MWDOC as a Wholesaler	
Operations Practices			
Wholesale Agency Assistance Programs	-	✓	✓
Conservation Pricing	✓	✓	✓
Conservation Coordinator	✓	✓	✓
Water Waste Prevention	✓	-	✓
Water Loss Control (System Water Audits, Leak Detection and Repair)	✓	(1)	✓
Metering with Commodity Rates	✓	(1)	(1)
Education and Outreach			
Public Outreach Programs	✓	✓	✓
K-20 Water Education Initiatives and K-12 School Programs	✓	✓	✓
OC Scouts Boy Scouts of America (BSA) and OC Girl Scouts Programs	✓	✓	✓
Water Awareness Poster Contest	✓	✓	✓
Water Energy Education Alliance	✓	✓	✓
Qualified Water Efficient Landscaper (QWEL) Training Program	✓	✓	✓
Residential Indoor Implementation			
Residential Indoor Rebates	✓	-	✓
Flow Monitor Device Rebates	✓	-	✓

Efficiency Measure	Responsibility of:		MWDOC Regional Program and Activities
	Retailer	MWDOC as a Wholesaler	
Commercial, Industrial, and Institutional Implementation			
Water Savings Incentive Program	✓	-	✓
On-site Retrofit Program	✓	-	✓
CII Indoor Rebates (High Efficiency Toilets and Urinals, Plumbing Flow Control Valves, Connectionless Food Steamers, Air-cooled Ice Machines, Food Defrosters, Cooling Tower Conductivity Controllers and pH Controllers, Dry Vacuum Pumps, Laminar Flow Restrictors)	✓	-	✓
Landscape Programs			
Turf Replacement Program (including Tree Rebate)	✓	-	✓
Spray-to-Drip Irrigation Rebate Program	✓	-	✓
Landscape Rebates (Smart Timers, High Efficiency Sprinkler Nozzles, Large Rotary Nozzles, In-stem Flow Regulators)	✓	-	✓
Residential Landscape Design Assistance Program	✓	-	✓

Notes:
(1) MWDOC does not own or operate a distribution system; water wholesaled by MWDOC is delivered through the Metropolitan Water District of Southern California (MET) distribution system and meters.

9.1.1 Operations Practices

9.1.1.1 Wholesale Agency Assistance Programs

MWDOC's Assistance Programs are described in Section 9.3.

9.1.1.2 Conservation Pricing

The entirety of the City is metered, and this method is used to determine consumption per connection. The City promotes conservation through a three-tiered increasing block pricing structure, which became effective in 2001. The water rate structure contains a fixed service capacity charge based on meter size and promotes water conservation via an increasing tiered block commodity rate structure. The water structure includes three rate tiers for residential and commercial customers. The current rates became effective January 1, 2025, with tier allocations shown in Table 9.2.

Table 9.2 City of Orange Water Rates

Water Rates Effective January 1, 2025		
Tier	Units of Water (1 Unit = 100 cubic feet)	Unit Rate
Single Family Dwellings		
1	0-23	$3.53
2	24-42	$3.67
3	43+	$3.85
Multi-Unit Family Dwellings		
1	0-15	$3.52
2	16-19	$3.60
3	20+	$3.67
Other		
Agricultural		$3.78
Commercial		$3.67
Construction		$3.78

9.1.1.3 Conservation Coordinator

The City does not directly employ a water conservation coordinator. MWDOC provides this service on behalf of the City on an as-needed basis. Communication regarding regional water use efficiency programs and policies is directed to the Water Manager, who assigns appropriate resources based upon staffing and budgetary opportunities. The City's Engineering Staff also shares in the water conservation program responsibilities. Funding for these activities is included in the City's operations and maintenance (O&M) budget.

9.1.1.4 Water Waste Prevention Ordinances

The City Council adopted the Water Conservation and Supply Shortage Program Ordinance No. 5-14 in 2014. Ordinance No. 5-14 establishes permanent water conservation requirements and prohibitions against waste that are effective at all times and are not dependent upon a water shortage for implementation, as follows:

- Limits on watering hours.
- Limit on watering duration.
- No excessive water flow or runoff.
- No washing down hard or paved surfaces.
- Obligation to fix leaks, breaks, or malfunctions.
- Re-circulating water required for water fountains and decorative water features.
- No installation of single pass cooling systems.
- No installation of non-recirculating water systems in commercial car wash and laundry systems.
- Limits on washing vehicles.

On October 13, 2021, the City Council introduced and conducted First Reading of Ordinance No. 16-21, an Ordinance of the City Council of the City of Orange removing Chapter 7.02 of the Orange Municipal Code (the Water Conservation and Water Supply Shortage Program) and adopting new Chapter 7.02 (the Water Shortage Contingency Response Ordinance). In the event of a water supply shortage, the ordinance further establishes six levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies. The provisions and water conservation measures to be implemented in response to each shortage level are described in the City's Water Shortage Contingency Plan (WSCP).

In May 2022, the City Council adopted Resolution No. 11392 declaring a Level 2 water supply shortage as defined in the City's WSCP due to the statewide drought conditions. Once water supply conditions improved, the City rescinded Resolution No. 11392, effective May 1, 2023.

9.1.1.5 Water Loss Control

SB 555, signed into law in 2015, requires urban water suppliers to submit annual, validated water loss audit reports to the California Department of Water Resources (DWR). Water auditing is the basis for effective water loss control. DWR's UWMP Guidebook includes a water audit manual intended to help water utilities complete the AWWA Water Audit on an annual basis. Audits must be validated by a certified water auditor to ensure accuracy.

A Water Loss Audit was completed for the City, which identified areas for improvement and quantified total loss. Based on the data presented, the three priority areas identified were customer metering inaccuracies, billed metered, and water imported. Multiple criteria are a part of each validity score, and a system-wide approach will need to be implemented for the City's improvement. The City completes a system water audit to calculate water losses on an annual basis. Expressing water loss audit results in terms of Real Losses per Service Connection per Day allows for standardized comparison across MWDOC retailer agencies and is a metric consistent with the Water Board's forthcoming economic model. The City responds to leaks, hydrant knockoffs, and other emergencies on a 24-hour basis. Standby crews repair all leaks quickly and efficiently to minimize losses. From time to time, the City surveys specific neighborhoods for leak detection. Additionally, the City is part of the MWDOC leak detection program and has an ongoing program to replace deteriorated and substandard pipelines and service lines. The City also has a valve and hydrant program where all valves in the system are exercised and maintained at regular intervals. This facilitates prompt shut-offs for repairs when necessary and minimizes water losses.

9.1.1.6 Metering

The City understands that meters are an important component of effective water measurement and management. The City does not have any unmetered service connections, and all new service connections are metered and billed by volume of use. The City has a meter replacement and calibration program to replace small meters as they are identified for repair. The City is in the process of replacing all meters with Advanced Metering Infrastructure (AMI), with over 35 percent of meters changed over as of December 2025.

9.1.2 Public Education and Outreach

The City implements several public education and outreach measures, including the programs administered by MWDOC, its wholesale supplier. The City develops, coordinates, and delivers a substantial amount of public information, education, and outreach programs aimed at elevating water agency and consumer awareness and understanding of current water issues, as well as efficient water use and water-saving practices, sound policy, and water reliability investments that are in the best interest of the region. These efforts encourage good water stewardship that benefits all of the City's residents, businesses, and industries across all demographics. An outline of the City's public education initiatives is below.

9.1.2.1 K-20 Water Education Initiatives and K-12 School Programs

Over the past several years, MWDOC's investment in K-20 water education has significantly grown, evolving to include programs and activities that support environmental literacy for all Orange County students. The effort has expanded beyond K-12 water education programs to include career and workforce development initiatives in higher education through the Water Energy Education Alliance (WEEA), described in more detail in Section 9.1.2.4.

MWDOC's K-12 Water Education School Programs bring standards-aligned, engaging water lessons directly into classrooms and connect water to every part of students' lives. All elementary, middle, and high school programs meet California State Standards and Next Generation Science Standards, providing students with high-quality, relevant learning experiences that build both academic and real-world understanding. This includes a Grab-and-Go Water Activities program, developed in partnership with the Orange County Department of Education, that provides free, self-guided water activities for K-12 teachers, parents, and students.





Figure 9.1 City of Orange Water Camp

9.1.2.2 OC Scouts Boy Scouts of America (BSA) and OC Girl Scouts Programs

The City, in partnership with MWDOC, hosts multiple water education workshops each year to help Scouts BSA earn the *Soil & Water Conservation Merit Badge* and Girl Scouts earn the *MWDOC Water Resources & Conservation Patch*. These hands-on science, technology, engineering, and mathematics (STEM) clinics teach children of all ages where their water comes from, how to use water more efficiently, and how all life depends on the health and security of our natural resources, fostering water awareness and responsibility through fun, activity-based learning.

9.1.2.3 Water Awareness Poster Contest

The City participates in MWDOC's annual Water Awareness Poster Contest, offered for students in grades K-12. The Poster Contest presents children with an opportunity to use their artistic talents to express the importance and value of water through artwork. Each year, hundreds of entries are collected from students and classrooms across the county, and from these entries, 40 winners are selected.

9.1.2.4 Water Energy Education Alliance (WEEA)

The Water Energy Education Alliance (WEEA) unites over 260 water, energy, and education leaders across the state to build and strengthen career pathways for all California students. Administered and led by the MWDOC, WEEA is comprised of a powerful statewide coalition of education leaders, workforce advocates, and industry experts to raise student awareness, forge strong partnerships, and cultivate a diverse, highly skilled talent pipeline. By connecting students with high-impact opportunities, WEEA is shaping a workforce that fuels industry success, enhances worker well-being, and ensures a resilient, thriving California.

9.1.2.5 Qualified Water Efficient Landscaper (QWEL) Training Program

Since 2018, MWDOC, along with the City, has offered free Qualified Water Efficient Landscaper (QWEL) certification classes designed for landscape professionals. Classes are open to any city staff, professional landscaper, water district employee, or maintenance personnel who would like to become a Qualified Water Efficient Landscaper. The QWEL certification program provides 20 hours of instruction on water efficient areas of expertise such as local water supply, sustainable landscaping, soil types, irrigation systems, and maintenance, as well as irrigation controller scheduling and programming. QWEL has received recognition from EPA WaterSense for continued promotion of water use efficiency. To earn the QWEL certification, class participants must demonstrate their ability to perform an irrigation audit as well as pass the QWEL exam. Successful graduates will be listed as a Certified Professional on the WaterSense website as well as on MWDOC's landscape resources page, to encourage Turf Removal participants or those making any landscape improvements to hire a QWEL-certified professional.

Started in December 2020, a hybrid version of QWEL is available in conjunction with the California Landscape Contractors Association's Water Management Certification Program. This joint effort allows the landscape industry an opportunity to obtain two nationally recognized EPA WaterSense Professional Certifications with one course and one written test. This option is offered through MET.

9.1.3 Residential Indoor Rebate Programs

The City partners with MWDOC to implement residential measures that target indoor water use efficiency for single-family and multifamily residential customers.

9.1.3.1 High Efficiency Clothes Washer and Toilet Rebate Programs

The High Efficiency Clothes Washer (HECW) Rebate Program provides residential customers with rebates starting at $85 for purchasing and installing HECWs that use 35 to 50 percent less water than standard washer models. Devices must meet or exceed the Consortium for Energy Efficiency (CEE) Tier 1 Standard, and a listing of qualified products can be found at ocwatersmart.com. There is a maximum of one rebate per home.

The Premium High Efficiency Toilet (HET) Rebate Program offers residential customers rebates starting at $40 for replacing their toilets using 1.6 gallons per flush (gpf) with Premium HETs. Premium HETs use just 1.1 gallons of water or less per flush, which is 20 percent less water than WaterSense standard toilets.

9.1.3.2 Flow Monitor Device Pilot

This pilot program provides rebates starting at $100, or more in select areas, per flow monitor device installed. These devices monitor a home's water use and can help detect leaks, making them a proactive tool for preventing expensive water bills and water damage due to unforeseen leaks. A list of residential rebate-eligible flow monitoring devices is provided.

9.1.4 CII Programs

The City provides a variety of financial incentives, in partnership with MWDOC, to help businesses, restaurants, institutions, hotels, hospitals, industrial facilities, and public sector sites achieve their efficiency goals. Water users in these sectors have options to choose from a standardized list of water-efficient equipment/devices or may complete customized projects through a pay-for-performance model, where the incentive is proportional to the amount of water saved. Such projects include high-efficiency commercial equipment installation and manufacturing process improvements.

9.1.4.1 Water Savings Incentive Program

The Water Savings Incentive Program (WSIP) is designed for non-residential customers to improve their water efficiency through upgraded equipment or services that do not qualify for standard rebates. WSIP is unique because it provides an incentive based on the actual amount of water saved by the customers. This "pay-for-performance" design lets customers implement custom projects for their sites. The City partners with MWDOC and MET to offer this program.

Projects must save at least 10 MG of water to qualify for the Program, and incentives are paid by MET based on the amount of water saved. Payment amount is up to $0.60 per 1,000 gallons saved per year over the project life, up to a maximum of 10 years. Payments are limited to 50 percent of the eligible project costs while funding is available. Additional funding may be available through MWDOC, but it is limited. Examples of successful projects include, but are not limited to, changing industrial process system water to capture and reuse process wastewater, capturing condensation, and using it to supplement cooling tower water supply, and replacing water-using equipment with more efficient products.

9.1.4.2 Recycled Water On-site Retrofit Program

Through the Recycled Water On-site Retrofit Program, the City, in partnership with MWDOC and MET, offers incentives for CII properties to convert potable water irrigation or industrial systems to recycled water. Financial incentives of up to $1,950 per acre-foot of potable water saved are available for the customer-side on the meter retrofits. Projects may also be eligible for up to an additional $325 per acre-foot of annual water savings from MWDOC. Recycled water conversion projects can help to ensure a more reliable water future for Orange County.

9.1.4.3 CII Rebates

The City offers additional financial incentives under the SoCal Water$mart Rebate Program, which offers rebates for various water-efficient devices to CII customers. Core funding is provided by MET, and supplemental funding is sourced from MWDOC via grant funds and/or retail water agencies. Devices include High Efficiency Toilets and Urinals, Plumbing Flow Control Valves, Connectionless Food Steamers, Air-cooled Ice Machines, Food Defrosters, Cooling Tower Conductivity Controllers and pH Controllers, Dry Vacuum Pumps, and Laminar Flow Restrictors.

9.1.5 Landscape Programs

Some of the most active and effective water use efficiency programs the City provides are those that target the reduction of outdoor water use. With a large proportion of water consumed outdoors via landscape demands, this sector has been and will continue to be a focus for MWDOC and the City.

9.1.5.1 Turf Replacement Program

The Orange County Turf Replacement Program offers incentives to replace existing turf grass with California-native, drought-tolerant plants and landscaping. Residential, commercial, and public properties in the City's service area are all eligible for this program. The goals of this program are to increase water use efficiency through sustainable landscaping practices that result in multi-benefit projects across Orange County. Participants are encouraged to utilize smart irrigation timers, and furthermore, projects are required to include a stormwater capture feature, such as a rain garden or dry stream bed, and have a minimum of three plants per 100 square feet to increase plant density and promote healthy soils. These projects save water and reduce dry and wet weather runoff, increase urban biomass, and sequester more carbon than turf landscapes.

Additionally, MWDOC is piloting a tree program that allows eligible trees to qualify as a sustainability feature in Turf Replacement projects. Beginning March 4, 2024, Turf Replacement Program participants became eligible for an additional incentive for planting trees as part of their Turf Replacement project. Participants can receive up to $100 per tree, for up to 5 trees ($500), in addition to the Turf Replacement rebate. The pilot goals include increasing the presence of trees in Turf Replacement projects and breaking down barriers to participation. It is anticipated that the pilot will be evaluated in 2026.

9.1.5.2 Spray-to-Drip Rebate Program

The Spray to Drip Rebate Program offers residential, commercial, and public agency customers rebates for converting areas irrigated by traditional high-precipitation rate spray heads to low-precipitation rate drip irrigation. Drip irrigation systems are extremely water-efficient. Rather than spraying wide areas subject to

wind drift, overspray, and runoff, drip systems use point emitters to deliver water to specific locations at or near plant root zones. Water drips slowly from the emitters either onto the soil surface or belowground. As a result, less water is lost to wind, evaporation, overspray, saving water, and reducing irrigation runoff and non-point source pollution. The City partners with MWDOC to provide $1 per square foot of conversion area when replaced with eligible drip irrigation products.

9.1.5.3 SoCal Water$mart Rebate Program for Landscape

The City also offers financial incentives under the SoCal Water$mart Rebate Program for a variety of water-efficient landscape devices, such as Smart Irrigation Timers and Central Computer Irrigation Controllers, large rotary nozzles and rotating sprinkler nozzles, soil moisture sensors, irrigation master valves, and in-stem flow regulators.

9.1.5.4 Landscape Design Assistance Rebate

This program is offered for residential customers who are participating in the turf replacement program and are seeking professional design services. Participants must hire a landscape design professional to provide a design that meets the rebate eligible design requirements. Participants will receive up to $1,000 upon completion of their turf replacement project if they have used a professional designer.

9.2 City of Orange DMM Implementation (2020-2025)

During the past five years, FY 2020-21 to 2024-25, the City, with the assistance of MWDOC, has continued water use efficiency programs for its residential, CII, and landscape customers, with the participation shown in Table 9-3. The City will continue to implement all applicable programs in the next five years.

Table 9.3 City of Orange Water Use Efficiency Program Participation

Program	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25
High Efficiency Clothes Washer (HECW)	90	49	45	42	26
High Efficiency Toilets (HETs)	6	2	1	24	3
Flow Monitoring Devices (FMD)	--	3	7	5	9
Commercial Plumbing Fixtures (CII)	2	0	359	151	0
Water Savings Incentives Projects (WSIP)	0	0	0	0	0
Turf Replacement (Res.)	15,343	22,783	50,016	41,474	12,794
Turf Replacement (Comm.)	0	2,816	102,170	8,807	66,221
Landscape Design Rebate Program (LDAP)	16	22	22	10	0
Landscape Design Rebate Program (LMAP)	3	3	6	6	0
Spray-to-Drip (Res.)	1,927	6,426	27,414	42,171	9,702
Spray-to-Drip (Comm.)	0	72,290	28,224	0	43,373
Rotating Nozzles (Small Res.)	30	0	184	96	38
Rotating Nozzles (Small Comm.)	0	0	0	0	0
Rotating Nozzles (Large Comm.)	0	0	0	0	0

Program	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25
Smart Timers (Res.)	95	39	47	53	28
Smart Timers (Comm.)	2	12	0	16	0
Rain Barrels	2	6	5	11	3
Recycled Water Onsite Retrofits	0	0	0	0	0

9.3 MWDOC Demand Management Implementation Assistance Programs

To help facilitate implementation of DMMs throughout Orange County, MWDOC's wholesale efforts focus on the following three areas: (1) State Water Conservation Compliance Assistance (e.g., Conservation Framework and Non-Functional Turf); (2) Regional Rebate Programs and Local Program Assistance; and (3) Research and Evaluation. This both complies with and goes beyond the Foundational BMPs of Utility Operations Programs requirements.

9.3.1 State Water Conservation Compliance Assistance

To support Orange County retailers with compliance of SB 606 and AB 1668, MWDOC is providing multi-level support to assist agencies in meeting the primary goals of the legislation, including to use water more wisely and to eliminate water waste. Beginning in 2023, urban water suppliers were required to calculate and report their annual UWUO, submit validated water audits annually, and implement and report BMP CII performance measures.

MWDOC offers Orange County water suppliers a "Conservation Framework Technical Assistance Program (TAP)" and "Meter Area Measurements Program" to assist them with compliance with the Conservation Framework.

9.3.1.1 Conservation Framework Technical Assistance Program (TAP)

This program provides Orange County water suppliers with support on tasks that are required as part of the Conservation Framework. An agency may opt in to receive support with any of the following:

- Readiness Assessment - perform a retailer-specific readiness assessment, including task recommendations and pricing to help retail agencies understand what areas need to be addressed.
- Conservation Framework Compliance Plan - create a customized Framework Compliance Plan that outlines (1) what the retailer needs to do to prepare for compliance; and (2) what needs to be implemented to achieve the water savings necessary to comply with the Urban Water Use Objective.
- Annual Report Compilation and Data Management - support the retailer with Annual Report preparation and assistance; and organize and manage data needed to comply with the reporting requirements of the Regulation.
- CII Account Classification - classify CII customer accounts according to the Regulation requirements and create a guidance plan to keep classifications at 95 percent (or higher).
- CII BMPs and In-Lieu Technologies Implementation Plan - create a customized implementation plan mapping compliance with the Conservation Framework regulation, including the CII BMP

requirements of §974, the in-lieu technologies and accompanying BMP requirements in §973, and disclosable buildings requirements in §974a.

- Miscellaneous Framework Technical Assistance - various activities such as:
  - » Development of Development of metrics and annual targets to demonstrate progress.
  - » Additional training or technical support.
  - » Workshop or webinar facilitation to spur cross-team collaborations.
  - » Develop outreach and engagement plans and implement meetings to support engagement of internal and external collaborators.

9.3.1.2 Meter Area Measurements Program

The Program assists Orange County water supplier in providing (1) landscape area measurements (LAM) associated with dedicated irrigation meters (DIMs), which may include the creation of water efficiency budgets for dedicated landscape meter customers; (2) identification of mixed-use CII meters (MUMs) irrigating landscapes greater than half acre and subject to the regulation; and (3) reconciliation of DIM and residential LAMs where areas may overlap.

9.3.2 Regional Rebate Programs and Local Program Assistance

MWDOC develops, obtains funding for, and implements regional water savings rebate programs on behalf of all retail water agencies in Orange County, such as the Turf Replacement Program. This approach minimizes confusion for consumers by providing the same programs with the same participation guidelines, maintains a consistent message to the public to use water efficiently, and provides support to retail water agencies by acting as program administrators for the region. As a leader of water efficiency in Orange County, MWDOC provides a holistic suite of programs that are accessible to all consumer groups in the region. When requested, MWDOC also assists retail agencies in developing and implementing local programs within their service areas. This assistance includes collaboration with each retail agency to design a program that fits that agency's local needs, including providing staffing, targeting customer classes, acquiring grant funding from a variety of sources, and implementing, marketing, reporting, and evaluating the program.

On behalf of its member agencies, MWDOC also organizes and provides the following:

- Monthly coordinator meetings.
- Marketing materials.
- Public speaking.
- Community events.

9.3.3 Research and Evaluation

An essential part of MWDOC's regional water use efficiency program is the ongoing research and evaluation of both existing and potential initiatives. Research allows an agency to measure the water savings benefits of a specific program and compare those benefits to the costs of implementing the program. This allows the agency to evaluate the economic feasibility of the program when compared to other efficiency projects or existing or potential sources of supply, before investing in new initiatives or

continuing to implement existing programs. MWDOC routinely conducts statistical water savings (impact) evaluations and process evaluations to guide strategic investment and ensure the effective management of its regional water use efficiency programs.

From 2021 to 2025, MWDOC conducted several research initiatives to support informed decision-making. In partnership with Flume Data Labs, MWDOC completed its Residential End Use Study in 2021, with subsequent updates in 2022 and 2024. This study provided detailed insights into disaggregated residential indoor and outdoor water use, significantly enhancing the understanding of water use patterns across Orange County. In 2023, MWDOC released its Potential and Opportunities study, which quantified the remaining water savings potential in the Orange County residential market, identified the most promising and cost-effective methods for reducing residential demand, and made recommendations on how best to direct financial and technical assistance to Retail Agencies and consumers for implementing residential water efficiency upgrades.

To assess the economic impact of the Conservation Framework, MWDOC worked with M.Cubed and, in 2023, published the Draft Water Use Efficiency Standards Economic Analysis: Impact Assessment of State-Mandated Urban Water Use Objectives. MWDOC continues to evaluate the impact of the regulation and Orange County retailer compliance.

Additionally, MWDOC is piloting a tree program that allows eligible trees to qualify as a sustainability feature in Turf Replacement projects. Pilot goals include increasing the presence of trees in Turf Replacement projects and breaking down barriers to participation. It is anticipated that the pilot will be evaluated in 2026. A pilot research program investigating water savings associated with the replacement of broken pressure regulating valves at residential homes wrapped up in 2025. The results of this study are expected in 2027.

9.4 Urban Water Use Objective and CII Performance Measure Compliance

A large focus for the City is to implement DMMs that will help them to meet the requirements of the Conservation Framework. DMMs described in this chapter may help to support member agencies with meeting their required UWUO and achieving CII Performance Measure Compliance. In addition, MWDOC provides support to agencies to assist with the calculation of UWUOs and compliance with CII Performance measures via the Meter Area Measurement and TAP Programs, as described in Section 9.3.

9.4.1 UWUO Components

Table 9.4 describes MWDOC's programs that will assist agencies in meeting their UWUO, through both direct measures (programs/activities that result in directly quantifiable water savings) and indirect measures (programs that provide resources promoting water efficiencies to the public that are impactful but not directly measurable). Additionally, MWDOC provides technical assistance to support water suppliers with compliance.

Table 9.4 MWDOC Programs to Help OC Retail Agencies Meet their Urban Water Use Objectives

UWUO Component	Calculation	Program	Impact
Indoor Residential	Population and GPCD standard	Direct Impact: ▪ High efficiency indoor fixtures and appliance rebates.	Direct Impact: ▪ Increased indoor residential efficiencies and reductions of GPCD use.
Outdoor Residential	Irrigated/irrigable area measurement and a landscape efficiency factor of local ETo and effective precipitation	Direct Impact: ▪ Turf Replacement. ▪ High efficiency irrigation rebates. Indirect Impact: ▪ Online resources such as OC Friendly Gardens Webpage. ▪ Educational classes.	Direct Impact: ▪ Increase outdoor residential efficiencies and reductions of gallons per square foot of irrigated/ irrigable area used. Indirect Impact: ▪ Provide information, resources, and education to promote efficiencies in the landscape.
Outdoor Dedicated Irrigation Meters	Irrigated area measurement and a landscape efficiency factor of local ETo and effective precipitation	Technical Assistance: ▪ DIM landscape classification and measurement. Direct Impact: ▪ Turf Replacement. ▪ High efficiency irrigation rebates. Indirect Impact: ▪ OC Friendly Gardens Webpage. ▪ Educational training and resources.	Technical Assistance: ▪ Classification and measurement of landscapes associated with DIMs are required to complete the calculation. Direct Impact: ▪ Increase outdoor residential efficiencies and reductions of gallons per square foot of irrigated/ irrigable area used. Indirect Impact: ▪ Provide information, resources, and education to promote landscape efficiencies.
Water Loss	Agency-specific loss factor and number of connections	Technical Assistance: ▪ Water Balance Validation. ▪ Customer Meter Accuracy Testing. ▪ Distribution System Pressure Surveys. Direct Impact: ▪ Distribution System Leak Detection.	Technical Assistance: ▪ The accuracy of the water loss audit is validated for submission to the State. Direct Impact: ▪ Identify areas of the distribution system that need repair, replacement, or other actions to limit water loss.
Bonus Incentives	Volume of indirect potable reuse water applied to residential and DIM irrigation uses; not to exceed 15% of UWUO	Direct Impact: ▪ Groundwater replenishment system (GWRS).	Direct Impact: ▪ The GWRS (run by OCWD) recharges the groundwater basin with purified, highly treated wastewater, allowing OCWD-member agencies to access indirect potable reuse.

9.4.2 CII Performance Measures

Urban water supplies are required to report BMPs for CII customers. The City, in partnership with MWDOC, offers a wide variety of programs and incentives to help CII customers implement BMPs and increase their water efficiencies (Table 9.5).

Table 9.5 City of Orange CII BMP and Water Efficiency Programs and Incentives

Component	Requirement	Program Offered	Impact
CII Customer Account Classifications	Classify each CII water user, based on the end-use of water for the water user, in accordance with Energy Star Portfolio Manager's 18 broad categories, in addition to 4 other categories.	Technical Assistance: ▪ CII Customer Account Classification.	Technical Assistance: ▪ Classify customer accounts according to the specified categories to comply with the regulation.
Large Landscape Identification	Identify all CII water users associated with large landscapes – landscapes irrigated with a mixed-use meter greater than half an acre	Technical Assistance: ▪ Large Landscape identification.	Technical Assistance: ▪ Identify and map landscapes associated with MUM landscapes that are greater than half an acre to comply with the regulation.
Best Management Practices (BMPs)	Offer CII BMPs for customers that exceed the recommended size, volume of water use, or another threshold	Technical Assistance: ▪ BMP Implementation Plan.	Technical Assistance: ▪ Provide a BMP Implementation Plan to guide water suppliers with a roadmap to compliance with the regulation.
Disclosable Buildings	Identify disclosable buildings in the service area according to the list provided by the California Energy Commission	Technical Assistance: ▪ Disclosable buildings list.	Technical Assistance: ▪ Provide the California Energy Commission list of disclosable buildings by water supplier to comply with the regulation.

CHAPTER 10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

The Water Code requires the Urban Water Management Plan (UWMP) to be adopted by the City of Orange's (City) governing body. Before the adoption, the City must hold a public hearing allowing members of the public to provide input on the UWMP. Prior to the public hearing, the City must notify the public and surrounding cities, counties, and water agencies within its service area of the scheduled public hearing. Upon completion of the public hearing, the City's governing body shall vote to adopt the UWMP. Post adoption, the City submits the UWMP to the Department of Water Resources (DWR) while also making it available for public access.

This section provides a record of the process the City followed to adopt and implement its UWMP.

10.1 Overview

Recognizing that close coordination among other relevant public agencies is key to the success of its UWMP. The City also encouraged public involvement through its public review and hearing process, which provided residents with an opportunity to learn and ask questions about their water supply management and reliability. Through the public hearing, the public has an opportunity to comment and put forward any suggestions for revisions of the Plan.

Table 10.1 summarizes external coordination and outreach activities carried out by the City and their corresponding dates. The UWMP checklist to confirm compliance with the Water Code is provided in Appendix A.

Table 10.1 External Coordination and Outreach

External Coordination and Outreach	Date	Reference
Notified city or county within supplier's service area that water supplier is preparing an updated UWMP (at least 60 days prior to public hearing)	2/13/2026	Appendix I
Public Hearing Notice	5/26/2026 & 6/2/2026	Appendix I
Held Public Hearing	6/9/2026	
Adopted UWMP and WSCP	6/9/2026	Appendix J
Submitted UWMP to DWR (no later than 30 days after adoption)	7/1/2026	
Submitted UWMP to the California State Library (no later than 30 days after adoption)	7/1/2026	
Submitted UWMP to the cities and county within the supplier's service area (no later than 30 days after adoption)	7/1/2026	

Notes:
UWMP - Urban Water Management Plan; WSCP - Water Shortage Contingency Plan

This UWMP was adopted by the City Council on June 9, 2026. A copy of the adopted resolution is provided in Appendix J.

10.2 Agency Coordination

The Water Code requires the Suppliers preparing UWMPs to notify any city or county within their service area at least 60 days prior to the public hearing. As shown in Table 10.2, the City sent a Letter of Notification to the County of Orange and the cities within its service area on February 13, 2026, to state that it was in the process of preparing an updated UWMP. This notice of preparation is included in Appendix I.

Table 10.2 Submittal Table 10-1 Retail: Notification to Cities and Counties

Submittal Table 10-1 Retail: Notification to Cities and Counties Water Code Section 10621(b) and 10642		
City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Anaheim	Yes	Yes
Garden Grove	Yes	Yes
Santa Ana	Yes	Yes
Tustin	Yes	Yes
Villa Park	Yes	Yes
EOCWD	Yes	Yes
IRWD	Yes	Yes
Serano WD	Yes	Yes
OCWD	Yes	Yes
MWDOC	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Orange County	Yes	Yes

The City's water supply planning relates to the policies, rules, and regulations of its regional and local water providers. The City is dependent on imported water from Metropolitan Water District of Southern California (MET) through Municipal Water District of Orange County (MWDOC), its regional wholesaler. The City is also dependent on groundwater from Orange County Water District (OCWD), the agency that manages the Orange County Basin, and local surface water purchased from Serrano Water District (SWD). As such, the City involved the relevant agencies in this 2025 UWMP at various levels of contribution as described below.

The City's 2025 UWMP leveraged data and regionally consistent analyses supplied by MWDOC, such as population projections from the California State University, Fullerton Center for Demographic Research, and the information quantifying water availability to meet the City's projected demands for the next 25 years, in 5-year increments. This 2025 UWMP was developed in collaboration with MWDOC's 2025 UWMP to ensure consistency between the two documents.

As a groundwater producer who relies on supplies from the OCWD-managed Orange County Basin, the City coordinated the preparation of this 2025 UWMP with OCWD. Several OCWD documents, such as the

Groundwater Reliability Plan, Engineer's Report, and Basin 8-1 Alternative were used to retrieve the required relevant information, including the projections of the amount of groundwater the City is allowed to extract in the 25-year planning horizon.

The various planning documents of the key agencies that were used to develop this UWMP are listed in Chapter 2.2.1.

10.3 Public Participation

The City encouraged community and public interest involvement in the Plan update through a public hearing and inspection of the draft document on June 9, 2026. As part of the public hearing, the City discussed adoption of the UWMP, key components of the UWMP, and the conclusions that served as the basis of the UWMP. Copies of the draft 2025 UWMP were placed for public review at the City Clerk's and Public Works Department offices.

Notices of the public meeting were posted inside City Hall. Legal public notices for the meeting were published in the local newspaper and posted at City facilities. A copy of the Notice of Public Hearing is included in Appendix I.

The hearing was conducted during a regularly scheduled meeting of the City Council.

10.4 UWMP Submittal

The City Council reviewed and approved the 2025 UWMP at its June 9, 2026, meeting after the public hearing. See Appendix J for the resolution approving the Plan.

By July 1, 2026, the City's adopted 2025 UWMP was filed with DWR and sent directly to the California State Library, the County of Orange, and the cities within its service area. The submission to DWR was done electronically through the online submittal tool – WUE Data Portal. The City will make the Plan available for public review on its website no later than 30 days after filing with DWR.

10.5 Amending the Adopted UWMP or WSCP

Based on DWR's review of the UWMP, the City will make any amendments in its adopted UWMP, as required and directed by DWR and will follow each of the steps for notification, public hearing, adoption, and submittal for amending the adopted UWMP.

If the City revises its Water Shortage Contingency Plan (WSCP) after UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

CHAPTER 11 REFERENCES

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APPENDIX A

UWMP WATER CODE CHECKLIST

Retail (x = required)	Wholesale (x = required)	Order	2025 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	Relevant Submittal Table	2025 UWMP Location
x	x	1	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and overview	n/a	Section 1.2
x	x	1	Chapter 1	10630.5	Each plan shall include a simple description of the Supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a Supplier may also choose to include a simple description at the beginning of each chapter.	Plan preparation	n/a	Executive Summary, Chapters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
x	x	2.1	Section 2.1	10620(b)	Every person that becomes a Supplier shall adopt UWMP within one year after it has become a Supplier.	Plan preparation	n/a	Chapter 1 and Section 2.1
x	n/a	2.5	Section 2.5	10644	Supplier shall report the Public Water Systems number, volume of delivered water, and number of connections that are included in this UWMP.	Plan preparation	2-1	Section 2.1
x	x	2.5	Section 2.5	10644	Supplier shall report if this UWMP is an individual UWMP and whether the Supplier belongs to a regional UWMP or regional alliance.	Plan preparation	2-2	Section 2.1
x	x	2.5	Section 2.5	10644	Supplier shall report whether the data is in fiscal or calendar years and the units of measure used for reporting water volumes.	Plan preparation	2-3	Section 2.1
x	x	2.4	Section 2.4	10642	Provide supporting documentation that the Supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan preparation	n/a	Sections 2.2.3, 10.1 and 10.3, Appendix I
x	x	2.4	Section 2.4.2	10620(d)(3)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other Suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan preparation	n/a	Sections 2.2.1 and 10.2
x	n/a	2.4	Section 2.4.1	10631(h)	Retail Suppliers will include documentation that they have provided their Wholesale Supplier(s)—if any—with water use projections from that source.	Plan preparation	2-4 R	Sections 2.2.2 and 4.2
n/a	x	2.4	Section 2.4.1	10631(h)	Wholesale Suppliers will provide their Suppliers with identification and quantification of the existing and planned sources of water available from the Wholesale Supplier to the Supplier during various water year types.	Plan preparation	2-4 W	N/A for Retailers
x	x	3	Chapter 3.0	10631(a)	Describe the Supplier service area.	System description	n/a	Section 3.2
x	x	3.3	Section 3.3	10631(a)	Describe the climate of the Supplier's service area.	System description	n/a	Section 3.3
x	x	3.4	Section 3.4.1	10631(a)	Provide the current and projected service area populations for 2030, 2035, 2040, 2045 and optionally 2050.	System description	3-1	Section 3.4
x	x	3.4	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the Supplier's water management planning.	System description	n/a	Section 3.4.2
x	x	3.5	Section 3.5	10631(a)	Describe the land uses within the service area… include the current and projected land uses within the existing or anticipated service area affecting the Supplier's water management planning. Describe the land uses within the service area.	System description and baselines	n/a	Section 3.5
x	Optional	4.2	Sections 4.2.3 and 4.2.4	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System water use	4-1 and 4-2	Sections 4.1 and 4.2
x	Optional	4.3	Section 4.3.1	10631(d)(3)(A)	Report the distribution system water loss for each of the five years preceding the plan update.	System water use	4-5	Section 4.4 and Appendix D
x	n/a	4.3	Section 4.3.2	10631(d)(3)(C)	Retail Suppliers shall provide data to show the distribution loss standards were met.	System water use	4-6	Section 4.4

x	n/a	4.2	Section 4.2.5.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the Supplier.	System water use	4-3	Section 4.3
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System water use	4-3	Section 4.2
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System water use	4-3	Section 4.3 and Appendix H
x	n/a	4.2	Section 4.2.5.3	10631(d)(4)(B)(ii)	To the extent that a Supplier reports the information described in subparagraph (A), an urban water Supplier shall… Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.	System water use	4-3	Section 4.3.1
x	x	4.2	Section 4.2.5.6	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System water use	n/a	Section 4.3.2 and Appendix H
n/a	x	5.1	Section 5.1	10608.36	Wholesale Suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their Retail Suppliers achieve targeted water use reductions.	Baselines and targets	n/a	N/A for Retailers
x	n/a	5.2	Section 5.2	10608.4	Retail Suppliers shall report on their compliance in meeting their water use targets. Reporting requirements will vary depending on whether the Supplier: - Was considered an urban retail water supplier in 2020, - Met its 2020 target in 2020, or - Was part of a merger or consolidation since 2020. Chapter 5 Subsections 5.2.1, 5.2.2, and 5.2.3 address each of these situations.	Baselines and targets	5-1	Section 5.1
x	x	6.1	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System supplies	n/a	Sections 6.1, 6.2, 6.3, 6.4, 6.6, and 6.8
x	x	6.1	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, including changes in supply due to climate change.	System supplies	n/a	Sections 7.1, 7.2, 7.3, and 7.5
x	x	6.2	Section 6.2.2	10631(b)(4)(C)	Indicate whether groundwater is an existing or planned source of water available to the Supplier. If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years.	Water supplies and recycled water	6-1	Section 6.3
x	x	6.2	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the Supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System supplies	n/a	Section 6.3.1.2 and Appendix E
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System supplies	n/a	Section 6.3.1.1
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the Supplier has the legal right to pump.	System supplies	n/a	Sections 6.3.1.2 and 6.3.1.3

x	x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… (include) information as to whether DWR has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin	Water supplies and recycled water	n/a	Section 6.3.1.2
x	x	6.2	Section 6.2.2	10631(b)(4)(B)	For unadjudicated basins… describe efforts by the Supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	Water supplies and recycled water	n/a	Sections 6.3.1.2, 6.3.1.3, 6.3.1.4, and 6.3.1.5
x	x	6.2	Section 6.2.2.	10631(b)(4)(C)	If groundwater is identified as an existing or planned source of water… (include) a detailed description and analysis of the location, amount and sufficiency of groundwater pumped by the Supplier for the past five years	System supplies	n/a	Sections 6.3 and 6.3.1
x	x	6.2	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System supplies	6-9	Sections 6.1, 6.3.1.1, 6.3.2
x	x	6.1	Section 6.1	10631(b)	Identify and quantify the existing and planned sources of water available for 2025, 2030, 2035, 2040, 2045 and optionally 2050.	System supplies	6-8 and 6-9	Sections 6.1, 6.2, 6.3, 6.4, 6.6, and 6.8
x	x	6.2	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System supplies	n/a	Section 6.8
x	n/a	6.2	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the Supplier's service area with quantified amount of collection and treatment and the disposal methods	System supplies (recycled water)	6-2	Section 6.6.2
x	x	6.2	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System supplies (recycled water)	6-3	Section 6.6.2
x	x	6.2	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the Supplier's service area.	System supplies (recycled water)	6-4	Section 6.6.3
x	x	6.2	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System supplies (recycled water)	6-4	Section 6.6.5
x	x	6.2	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the Supplier's service area at the end of 5, 10, 15, and 20 years, and describe the actual use of recycled water in comparison to uses previously projected.	System supplies (recycled water)	6-4 and 6-5	Section 6.6.4
x	x	6.2	Section 6.2.5	10633(f)	Describe the actions that may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System supplies (recycled water)	6-6	Section 6.6.4
x	x	6.2	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the Supplier's service area.	System supplies (recycled water)	n/a	Section 6.6.6
x	x	6.2	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System supplies	6-7	Section 6.7
x	x	6.2	Section 6.2.10	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water Supplier to address water supply reliability in average, single-dry, and for a period of drought lasting five consecutive water years.	System supplies	6-7	Sections 6.2.5, 6.3.2, 6.6.4, 6.8.2, 6.9
x	x	6.3	Section 6.3 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a Supplier can readily obtain.	System suppliers, energy intensity	O-1A, O-1B, O-1C, and O-2	Section 6.10
x		7.1	Section 7.1	10634	Provide information on the quality of existing sources of water available to the Supplier and the manner in which water quality affects water management strategies and supply reliability	Water supply reliability assessment	n/a	Section 7.2.3

x	x	7.2	Section 7.2	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the Supplier with the total projected water use over the next 20 years.	Water supply reliability assessment	7-2, 7-3, and 7-4	Section 7.3
x	x	7.2	Section 7.2.3	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water supply reliability assessment	n/a	Section 7.4
x	x	7.3	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water supply reliability assessment	n/a	Section 7.5
x	x	7.3	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive years.	Water supply reliability assessment	n/a	Section 7.5.1
x	x	7.3	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water supply reliability assessment	n/a	Sections 7.3, 7.5.2, 7.5.3
x	x	7.3	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the Supplier with the total projected water use for the drought period.	Water supply reliability assessment	7-5	Section 7.5.2
x	x	7.3	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water supply reliability assessment	n/a	Sections 7.2 and 7.5.1
x	x	8	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP
x	x	8	Chapter 8	10632(a)(1)	Provide an analysis of water supply reliability (from Guidebook Chapter 7) in the WSCP.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.1)
x	x	8.2	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the Supplier will use each year to determine its water reliability.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.2.1)
x	x	8.2	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the Supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.2.2)
x	x	8.3	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10%, 20%, 30%, 40%, 50% shortage, and greater than 50% shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.3)
x	x	8.3	Section 8.3	10632(a)(3)(B)	Suppliers with an existing WSCP that uses different water shortage levels must cross reference their categories with the six standard categories.	Water shortage contingency planning	8-1	2025 UWMP Appendix F - WSCP (Section 3.3)
x	x	8.4	Section 8.4	10632(a)(4)(A)	Suppliers with WSCPs that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water shortage contingency planning	8-2	2025 UWMP Appendix F - WSCP (Section 3.4)
x	x	8.4	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water shortage contingency planning	8-3	2025 UWMP Appendix F - WSCP (Section 3.4.2)
x	x	8.4	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water shortage contingency planning	8-2	2025 UWMP Appendix F - WSCP (Section 3.4.3)
x	x	8.4	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to State-mandated prohibitions are appropriate to local conditions.	Water shortage contingency planning	Table 8-3	2025 UWMP Appendix F - WSCP (Section 3.4.4)

x	x	8.4	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water shortage contingency planning	8-2 and 8-3	2025 UWMP Appendix F - WSCP (Appendix A)
x	x	8.4	Section 8.4.6	10632.5	The UWMP shall include a seismic risk assessment and mitigation plan.	Water shortage contingency plan	n/a	2025 UWMP Appendix F - WSCP (Section 3.4.6)
x	x	8.5	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.5)
x	x	8.5	Section 8.5	10632(a)(5)(B), 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.6)
x	n/a	8.6	Section 8.6	10632(a)(6)	Retail Supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.6)
x	x	8.7	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the Supplier to enforce shortage response actions.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.7)
x	x	8.7	Section 8.7	10632(a)(7)(B)	Provide a statement that the Supplier will declare a water shortage emergency per Water Code Chapter 3. *Water Shortage Emergencies*.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.7)
x	x	8.7	Section 8.7	10632(a)(7)(C)	Provide a statement that the Supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.7)
x	x	8.8	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.8)
x	x	8.8	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.8)
x	n/a	8.8	Section 8.8	10632(a)(8)(C)	Retail Suppliers must describe the cost of compliance with Water Code Chapter 3.3, *Excessive Residential Water Use During Drought*.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.8)
x	n/a	8.9	Section 8.9	10632(a)(9)	Retail Suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data are collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.9)
x	x	8.10	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the WSCP to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.10)
x	n/a	8.11	Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.11)
x	x	8.12	Section 8.12	10632(c)	Make available the WSCP to customers and any city or county where it provides water within 30 days after adoption of the plan.	Water shortage contingency planning	n/a	2025 UWMP Appendix F - WSCP (Section 3.12)
x	n/a	9.1	Sections 9.1	10631(e)(1)	Retail Suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code	Demand management measures	n/a	Section 9.2
n/a	x	9.2	Sections 9.2	10631(e)(2)	Wholesale Suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and Supplier assistance program.	Demand management measures	n/a	N/A for Retailers
x	n/a	10	Chapter 10	10608.26(a)	Retail Suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan adoption, submittal, and implementation	n/a	Sections 2.2.3, 10.1, and 10.3

x	x	10.2	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the Supplier provides water that the Supplier will be reviewing the UWMP and considering amendments or changes to the plan.	Plan adoption, submittal, and implementation	10-1	Sections 10.1 and 10.2, Appendix I
x	x	10.4	Section 10.4	10621(f)	Each urban water Supplier shall update and submit its 2025 plan to DWR by July 1, 202 6.	Plan adoption, submittal, and implementation	n/a	Sections 10.1 and 10.4
x	x	10.2	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the Supplier made the UWMP and WSCP available for public inspection, published notice of the public hearing, and held a public hearing about the UWMP and WSCP.	Plan adoption, submittal, and implementation	n/a	Sections 2.2.3, 10.1 and 10.3, Appendix I
x	x	10.2	Section 10.2.2	10642	The Supplier is to provide the time and place of the hearing to any city or county within which the Supplier provides water.	Plan adoption, submittal, and implementation	10-1	Appendix I
x	x	10.3	Section 10.3.2	10642	Provide supporting documentation that the UWMP and WSCP has been adopted as prepared or modified.	Plan adoption, submittal, and implementation	n/a	Appendix J of UWMP and Appendix D of WSCP
x	x	10.4	Section 10.4	10644(a)	Provide supporting documentation that the Supplier has submitted their UWMP to the California State Library.	Plan adoption, submittal, and implementation	n/a	Sections 10.1 and 10.4
x	x	10.4	Section 10.4	10644(a)(1)	Provide supporting documentation that the Supplier has submitted their UWMP to any city or county within which the Supplier provides water no later than 30 days after adoption.	Plan adoption, submittal, and implementation	n/a	Sections 10.1 and 10.4
x	x	10.4	Sections 10.4.1 and 10.4.2	10644(a)(2)	The UWMP, or amendments to the UWMP, submitted to DWR shall be submitted electronically.	Plan adoption, submittal, and implementation	n/a	Section 10.5
x	x	10.7	Section 10.7.2	10644(b)	If revised, submit a copy of the WSCP to DWR within 30 days of adoption.	Plan adoption, submittal, and implementation	n/a	Section 10.5 of UWMP and Section 3.12 of WSCP
x	x	10.5	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its UWMP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Sections 10.1 and 10.4
x	x	10.5	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its WSCP with DWR, the Supplier has or will make the plan available for public review during normal business hours.	Plan adoption, submittal, and implementation	n/a	Sections 10.1 and 10.4, Appendix F
x	x	10.6	Section 10.6	10621(c)	If Supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan adoption, submittal, and implementation	n/a	N/A - Supplier is not regulated by the Public Utilities Commission

APPENDIX B

DEPARTMENT OF WATER RESOURCES (DWR) STANDARDIZED TABLES

Submittal Table 2-1 Retail: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2025	Volume of Water Supplied 2025 (AF)
Add additional rows as needed			
CA3010027	City of Orange	33,099	25,213
	Total	33,099	25,213
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES:			

Submittal Table 2-2: Plan Identification		
Select One	**Type of Plan**	**Name of Regional Alliance or RUWMP** (Drop Down List)
☑	**Individual UWMP**	
	If Water Supplier is also a member of a SB X7-7 Regional Alliance, select name from the drop-down.	Orange County 20x2020 Regional Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**	
	If Supplier selected RUWMP, select name from the drop-down.	
NOTES:		

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesale supplier
☑	Supplier is a retail supplier
Fiscal or Calendar Year (select one)	
☐	UWMP Tables are in calendar years
☑	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
7/1	
Units of measure used in UWMP (Select from the drop down list).	
Unit	AF
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange **Water Code Section 10631(h)**
The retail Supplier has informed the following wholesale supplier(s) of projected water use.
Wholesale Water Supplier Name
Add additional rows as needed
Municipal Water District of Orange County
Orange County Water District
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected Water Code Section 10631(a)						
Population Served	2025	2030	2035	2040	2045	2050(opt)
	142,325	141,093	140,112	140,188	138,777	137,071
NOTES: Source: Center for Demographic Research at California State University, Fullerton, 2025						

Submittal Table 4-1 Retail: Total Uses for Potable and Non-Potable Water — Actual Water Code Section 10631(d)(1)			
Use Type	Additional Description (as needed)	2025 Actual Water Use	
Drop down list May select each use multiple times These are the only use types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	Volume (AF)
Add additional rows as needed			
Agricultural		Potable	123
Commercial	Includes both Commercial and Industrial	Potable	7,432
Landscape		Potable	545
Multi-Family		Potable	4,046
Single Family		Potable	11,439
Distribution System Water Loss		Potable	1,627
		Subtotal Potable	25,213
		Subtotal Non-Potable	0
		Total	25,213
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.			
NOTES: Distribution System Water Loss is calculated as the difference between total potable production and use for FY 2025.			

Submittal Table 4-2 Retail: Total Uses for Potable, and Non-Potable Water — Projected Water Code Section 10631(d)(1)							
Use Type	Additional Description (as needed)	**Projected Water Use** (Report To the Extent that Records are Available)					
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		**Potable or Non-Potable** (OPTIONAL) Drop down list	**2030 (AF)**	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed.							
Single Family		Potable	10,057	10,023	10,034	9,977	9,928
Multi-Family		Potable	7,794	7,804	7,864	7,831	7,816
Commercial	Includes Institutional and Industrial uses	Potable	5,202	5,246	5,293	5,356	5,415
Landscape	Includes Agriculture use	Potable	180	180	181	180	180
Distribution System Water Loss	Includes Other uses	Potable	1,296	1,297	1,303	1,302	1,301
		Subtotal Potable	24,529	24,550	24,675	24,646	24,640
		Subtotal Non-Potable	0	0	0	0	0
		Total	24,529	24,550	24,675	24,646	24,640
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.							
NOTES: Source – 2025 Orange County Water Demand Projection Model Forecast for the City of Orange							

Submittal Table 4-3 Retail: Inclusion in Water Use Projections Water Code Section 10631 (a), 10631 (d)(4)(A), and 10631 (d)(4)(B)	
Are Future Water Savings Included in Projections? **Drop down list (y/n)**	Yes
If "Yes" to above, **state the section or page number**, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found. ***Optional*** Suppliers may complete Optional Submittal Table 4-4 R to quantify the expected savings.	Chapter 4.3
Are Lower Income Residential Demands Included In Projections? **Drop down list (y/n)**	Yes
Optional If the method for accounting Lower Income Residential Demands has been included, provide page number where this accounting can be found.	Chapter 4.3
DWR NOTES: Additional guidance is provided in Appendix K.	
NOTES: Future water savings include passive conservation (defined as water savings that occur without incentives). Active conservation (defined as water savings that occur with incentives) is not included in the projections. The demand projection methodology accounted for the entire population of the service area (i.e. all income levels).	

Optional Submittal Table 4-4 Retail: Passive Water Savings Projections Water Code Section 10631(d)(4)(A)					
Description (Codes, Standards, Ordinances, or Plans)	Passive savings				
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 opt (AF)**
Add additional rows as needed					
	341	340	342	340	339
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.					
NOTES: Passive conservation here is defined as water savings that occur without incentives. Based on the Demand Projection TM, passive conservation is assumed to equal a 1.9% decrease in residential demand due to conservation by 2030 (linearly extrapolated), then remains constant in subsequent years.					

Submittal Table 4-5 Retail: Water Loss Audit Reporting Water Code Section 10631(d)(3)(A)		
Public Water System ID # Reported in Table 2-1 R	Reporting Period	Submitted to DWR Water Loss Audit Program (yes/no)
Report submittal status for all five years for each Public Water System as available. Add rows as needed		
CA3010027	**2020**	Yes
	2021	Yes
	2022	Yes
	2023	Yes
	2024	Yes
DWR NOTES: Suppliers will provide a link to the WUEdata submittals of their Water Loss Audit Reports.		
NOTES: Water Loss Audits reported in Calendar Years (CY).		

Submittal Table 4-6 Retail: Progress Towards 2028 Water Loss Standard
Water Code Section 10631(d)(3)(C)

Public Water System ID # Reported in Submittal Table 2-1 R	Did the Water Board Calculate a Water Loss Standard for this Public Water System? (y/n) If no, Supplier will not complete this row.	Real Water Loss					Apparent Water Loss				
		State Water Board Standard		Most Recent AWWA Water Loss Audit			State Water Board Standard		Most Recent AWWA Water Loss Audit		
		2028 Real Water Loss Standard per Unit per day	Units for Real Water Loss Drop down list	Number of Units (Connections or Miles corresponding with units selected)	Volume of Total Real Loss (from AWWA Water Loss Audit) (AF)	Real Water Loss Per Unit per Day	2028 Apparent Water Loss Standard per Unit per Day	Units for Apparent Water Loss	Number of Connections	Volume of Total Apparent Loss (from AWWA Water Loss Audit) (AF)	Apparent Water Loss Per Unit per Day
Add additional rows as needed.											
CA3010027	Yes	27.1	Gallons per Service Connection per Day (GPSCD)	36,570	559.14	13.6	20.0	Gallons per Service Connection per Day (GPSCD)	36,570	658.56	16.1

Water Board's Calculated Water Loss Standards

DWR NOTES: Units of measure (AF, CCF, MG) for Water Loss **MUST** remain consistent with units reported in Submittal Table 2-3. The units reported in Submittal Table 2-3 are used in this table's calculations.

NOTES:
Uses the Water Board's calculated water loss standards updated as of 01/30/2026 and AWWA Water Loss Audit for CY 2024. Connection count may differ from what is reported in Table 2-1 R for FY 2025.

Submittal Table 5-1 Retail: SB X7-7 2020 Target Progress Water Code Section 10608.40						
☐	Check the box if the Supplier was not an Urban Water Supplier during or before the 2020 UWMP reporting cycle. Proceed to the next table.					
Was Supplier part of a merger or consolidation since 2020?	Regional Alliance Target or Individual Target? Drop down list	2020 Target	Actual 2020 GPCD	Did Supplier Achieve Targeted Reduction for 2020?	Only for suppliers that did not meet the Target in 2020 See DWR NOTES below.	
					Actual 2025 GPCD (From SB X7-7 Compliance Form)	Did Supplier meet the 2020 Target in 2025?
No	Individual Target	181	129	Yes		NA

DWR NOTES:
Suppliers calculating a 2025 GPCD will need to complete and submit SB X 7-7 Compliance Tables to verify the use of SB X7-7 Methodologies.
Suppliers that were part of a merger or consolidation since 2020 see Chapter 5 and Appendix P for guidance.
NA=Not Applicable

NOTES: Supplier met the 2020 target, actual 2025 GPCD not required.

Submittal Table 6-1 Retail: Groundwater Volume Pumped Water Code Section 10631(4) and 10631(4)(c)							
☐	Check the box if the Supplier does not pump groundwater. Proceed to the next table.						
☐	Check the box if all or part of the groundwater described below is desalinated. (OPTIONAL)						
Groundwater Type **Drop Down List** May use each category multiple times	Potable or Non-Potable (OPTIONAL) **Drop down list**	Location or Basin Name	2021 (AF)	2022 (AF)	2023 (AF)	2024 (AF)	2025 (AF)
Add additional rows as needed							
Alluvial Basin		Orange County Groundwater Basin	20,963	14,137	18,341	19,934	19,737
		Total	20,963	14,137	18,341	19,934	19,737
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.							
NOTES: Source - City of Orange Water Production Summary							

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area Water Code Section 10633(a)				
☐	Check the box if there is no wastewater collection system. Proceed to the next table.			
	Percentage of 2025 service area served by wastewater collection system (OPTIONAL)			
	Percentage of 2025 service area population served by wastewater collection system (OPTIONAL)			
Wastewater Collection			**Recipient of Collected Wastewater**	
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? OPTIONAL **Drop Down List**	Volume of Wastewater Collected from UWMP Service Area 2025 (AF)	Name of Wastewater Treatment Plant (WWTP) and Place ID Number **Drop down list**	Is WWTP Located Within UWMP Area? **Drop Down List**
Add additional rows as needed				
City of Orange	Estimated	19,885	OCSD Plant 1, Place ID 758392	No
City of Orange	Estimated		OCSD Plant 2, Place ID 259158	No
Total Wastewater Received from UWMP Service Area in 2025:		19,885		
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3. **Additional Guidance**: See Appendix M, Section M.21 for detailed guidance on this table.				
NOTES: Assumed a return rate of 79% (City of Orange, 2012)				

Submittal Table 6-3 Retail: Wastewater Treatment and Outcomes Within UWMP Service Area
Water Code Section 10633(b)

☑	**Check the box if no wastewater is treated or disposed of within the UWMP service area.** Proceed to the next table.

Wastewater Treatment Plant Name and Place ID Number **Drop down list**	Does This Plant Treat Wastewater Generated Outside the UWMP Service Area? (OPTIONAL) **Drop down list**	2025 Volume of Wastewater Received from UWMP Service Area (As Reported in Submittal Table 6-2 R) (AF)	Total 2025 Volume of Water Treated (AF)	**2025 Outcomes of Treated Wastewater**										
				Water Recycled Within UWMP Service Area (enter data as applicable)		**Water Recycled Outside of UWMP Service Area** (enter data as applicable)		**Effluent Discharge that is not a Permitted Recycled Water Use** (enter data as applicable)		**Required Discharge for Instream Flow** (enter data as applicable)		**Delivered to Another Entity for Additional Treatment** (enter data as applicable)		
				Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Treatment Level **Drop down list**	Volume (AF)	Name of other entity
Add additional rows as needed														
Total		0	-		0		0		0		0		0	

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
IPR: Indirect Potable Reuse would have the treatment level of its end use requirement in the Level of Treatment drop-down.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area
Water Code Section 10633 (c),(d),(e)

☑	Check box if recycled water is not used and is not planned for use within the service area of the supplier. The supplier will only complete the column on "Potential Recycled Water Use" and submit an accompanying narrative on the feasibility of that potential recycled water use.

Name(s) of Facility/ies Producing (Treating) the Recycled Water (OPTIONAL) :	
Name of Supplier Operating the Recycled Water Distribution System (OPTIONAL) :	
Volume of Supplemental Water Added in 2025 (OPTIONAL) :	
Source of 2025 Supplemental Water (OPTIONAL) :	

Use Type **Drop down list**	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop down list	Additional Information (as needed)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)	**Potential Recycled Water Use**	
									Volume	Narrative page number (OPTIONAL)
Add additional rows as needed										
		Subtotal Potable	0	0	0	0	0	0	0	
		Subtotal Non-Potable	0	0	0	0	0	0	0	
		Total	0	0	0	0	0	0	0	0

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.
Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.
Potential recycled water use: a description of the feasibility of these uses must be included in the narrative.
Multiple Producers: If you have multiple recycled water producers, submit a separate table for each.

NOTES:

Submittal Table 6-5 Retail: 2020 UWMP Recycled Water Use Projection Compared to 2025 Actual
Water Code Section 10633(e)

☑	Check the box if recycled water was not used in 2025 nor previously projected for use in 2020. Proceed to the next table.

Use Type Drop Down list	2020 Projection for 2025 (AF)	2025 Actual Use (AF)
Add additional rows as needed		
Total	0	0

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3

Additional Guidance: See Appendix M, Section M.21 for detailed guidance on this table.

NOTES:

Submittal Table 6-6 Retail: Methods to Encourage Future Recycled Water Use Water Code Section 10633(f)			
☑	Check the box if the Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in the UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (AF)
Add additional rows as needed			
		Total (AF)	0
		Unit Conversion to AF	0

DWR NOTES:

Units of measure (AF, CCF, MG) MUST remain consistent with units reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

The unit conversion to Acre Feet addresses the Water Code's requirement that this value be provided in acre-feet.

NOTES:

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs Water Code Section 10631(f)							
☐	Check the box if there are no expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Proceed to the next table.						
☐	Check the box if some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.						
	Provide page location of narrative in the UWMP						
Name of Future Projects or Programs	Joint Project with other suppliers?		Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Planned Implementation Year	Planned for Use in Year Type **Drop Down List**	Expected Increase in Water Supply to Supplier (This may be a range) (AF)
	Drop Down List (yes/no)	If Yes, Supplier Name					
Add additional rows as needed							
New Well (Well 29)	No	N/A	Construction of a new well	Potable	CY 2028	All Year Types	4,842
New Well (Well 28)	No	N/A	Construction of a new well	Potable	CY 2026	All Year Types	4,842
DWR NOTES: **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure reported in Submittal Table 2-3.							
NOTES:							

Submittal Table 6-8 Retail: Water Supplies — Actual Water Code Section 10631(b)				
Water Supply		**2025**		
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	Actual Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed				
Groundwater (not desalinated)	Orange County Groundwater Basin		19,737	
Purchased or Imported Water	MWDOC		4,569	
Purchased or Imported Water	EOCWD		169	
Surface water (not desalinated)	Surface Water		738	
		Subtotal Potable	0	0
		Subtotal Non-Potable	0	0
		Total	25,213	0

DWR NOTES:

Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table identifies the unit of measure selected in Submittal Table 2-3.

Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES: City of Orange, 2025

Submittal Table 6-9 Retail: Water Supplies — Projected
Water Code Section 10631 (b)

Water Supply			Projected Water Supply (Report to the Extent Practicable)									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool	Additional Detail on Water Supply	**Potable or Non-Potable** (after treatment if treated) (OPTIONAL) Drop Down list	**2030**		**2035**		**2040**		**2045**		**2050 (opt)**	
			Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)	Reasonably Available Volume (AF)	Total Entitlement (OPTIONAL) See 'DWR Notes' below (AF)
Add additional rows as needed												
Purchased or Imported Water		Potable	3,679		3,683		3,701		3,697		3,696	
Groundwater (not desalinated)		Potable	20,849		20,868		20,974		20,949		20,944	
		Subtotal Potable	24,528	0	24,551	0	24,675	0	24,646	0	24,640	0
		Subtotal Non-Potable	0	0	0	0	0	0	0	0	0	0
		Total	24,528	0	24,551	0	24,675	0	24,646	0	24,640	0

DWR NOTES:
Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.
Total Entitlement: e.g. Water Right, Groundwater Allocation, Contracted Amount.

NOTES: Source - MWDOC, 2025.
Groundwater volumes assume OCWD's basin production percentage (BPP) to be 85% starting in 2025. Volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections, which are established annually.

Optional Submittal Table O-1A: Recommended Energy Reporting - SINGLE DELIVERY PRODUCT - WATER SUPPLY PROCESS APPROACH

Water Delivery Product drop down list (If delivering more than one type of product recommend using Table O-1C)	Retail Potable Deliveries	**Only for Water Delivery Products Under the Urban Water Supplier's Operational Control**								
Start Date of Reporting Period	1/1/2024	**Water Management Process**							**Non-Consequential Hydropower (if applicable)**	
End Date of Reporting Period	12/31/2024									
Is upstream embedded energy included in the values reported?	No									
`		Units for Water Volume	Extract and Divert	Place into Storage	Conveyance	Treatment	Distribution	**Total Utility** See DWR NOTES	Hydropower	Net Utility
Volume of Water Entering Process		AF	19,598				22,178	22,178		22,178
Energy Consumed (kWh)		N/A	14,694,098				1,370,597	16,064,695		16,064,695
Energy Intensity (kWh/vol. converted to MG)		N/A	2,301	0	0	0	190	2,223	0	2,223

DWR NOTES: Total Utility: The volume of water entered in the "Total Utility" column should equal the volume of water entering the distribution system (excluding recycled water); in most cases, this is the total volume calculated in UWMP Table 4-1: 2025 Actual Total Uses for Potable and Non-Potable Water. Note if recycled water is included in your Submittal Table 4-1, you must exclude it from your volume in this table.

Quantity of Self-Generated Renewable Energy

0 kWh

Data Quality (Estimate, Metered Data, Combination of Estimates and Metered Data)

Combination of Estimates and Metered Data

Data Quality Narrative:

Volume of Water Entering Process: Extraction data based on MWDOC Compiled Water Audits "Volume from Own Sources" and Distribution data based on MWDOC Compiled Water Audits "Authorized-Consumption." Non-Revenue Water is not considered in this calculation - the energy efficiency is based on water delivered to customers.
Energy Consumed: Based on metered data.

Narrative:

The City of Orange relies on imported water, local groundwater, and recycled water to meet its customers' water needs. Operational control is limited to groundwater wells and potable water booster stations.

NOTES:

Optional Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2024-2025, use 2025	**Available Supplies if Year Type Repeats** ☐ Check the box if quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. **Location:** [insert location from UWMP] Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available (AF)	**% of Average Supply**
Average Year	1991-2024		100%
Single-Dry Year	2014		107%
Consecutive Dry Years 1st Year	1991-2024		107%
Consecutive Dry Years 2nd Year	1991-2024		112%
Consecutive Dry Years 3rd Year	1991-2024		113%
Consecutive Dry Years 4th Year	1991-2024		115%
Consecutive Dry Years 5th Year	1991-2024		117%
DWR NOTES: Supplier may use multiple versions of Submittal Table 7-1 R if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Submittal Table 7-1 R, in the "Note" section of each submittal table, state that multiple versions of Submittal Table 7-1 R are being used and identify the particular water source that is being reported in each submittal table. **Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Submittal Table 2-3. This table reports the units of measure reported in Submittal Table 2-3.			
NOTES:			

Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison Water Code Section 10635 (a)					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals (autofill from Submittal Table 6-9 R)	24,529	24,550	24,675	24,646	24,640
Use totals (autofill from Submittal Table 4-2 R)	24,529	24,550	24,675	24,646	24,640
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES: This table compares the projected demand and supply volumes determined in Sections 4.3.2 and 6.1, respectively.					

If you choose to fill these optional tables, please paste the combined information in the submittal table to the left.

OPTIONAL Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison - POTABLE					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals (autofill from Submittal Table 6-9 R)	24,529	24,550	24,675	24,646	24,640
Use totals (autofill from Submittal Table 4-2 R)	24,529	24,550	24,675	24,646	24,640
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
NOTES:					

OPTIONAL Submittal Table 7-2 Retail: Normal Year Supply and Use Comparison - NON-POTABLE					
	2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
Supply totals (autofill from Submittal Table 6-9 R)	0	0	0	0	0
Use totals (autofill from Submittal Table 4-2 R)	0	0	0	0	0
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Use Comparison Water Code Section 10635(a)					
	2030 (AF)	**2035 (AF)**	**2040 (AF)**	**2045 (AF)**	**2050 (AF)**
Supply totals	26,296	26,319	26,453	26,422	26,415
Use totals	26,296	26,319	26,453	26,422	26,415
Surplus/(shortfall)	0	0	0	0	0
OPTIONAL Planned WSCP Actions					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit					
Revised Surplus/(shortfall)					
DWR NOTES : Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES: It is conservatively assumed that a single dry year demand is 7% greater than each respective year's normally projected total water demand.					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Use Comparison Water Code Section 10635(a)						
		2030 (AF)	2035 (AF)	2040 (AF)	2045 (AF)	2050 (AF)
First year	Supply totals	26,296	26,319	26,453	26,422	26,415
	Use totals	26,296	26,319	26,453	26,422	26,415
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Second year	Supply totals	27,460	27,484	27,623	27,591	27,584
	Use totals	27,460	27,484	27,623	27,591	27,584
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Third year	Supply totals	27,631	27,655	27,795	27,763	27,756
	Use totals	27,631	27,655	27,795	27,763	27,756
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fourth year	Supply totals	28,154	28,178	28,321	28,289	28,281
	Use totals	28,154	28,178	28,321	28,289	28,281
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					
Fifth year	Supply totals	28,632	28,657	28,802	28,769	28,762
	Use totals	28,632	28,657	28,802	28,769	28,762
	Surplus/(shortfall)	0	0	0	0	0
	OPTIONAL Planned WSCP Actions					
	WSCP - supply augmentation benefit					
	WSCP - use reduction savings benefit					
	Revised Surplus/(shortfall)					

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.

NOTES: The 2030 column assesses supply and demand for FY 2025-26 through FY 2029-30; the 2035 column assesses FY 2030-31 through FY 2034-35 and so forth, in order to end the water service reliability assessment in FY 2049-50.

Submittal Table 7-5 Retail: Five-Year Drought Risk Assessment Water Code Section 10635(b)(3)	
2026	**Total**
Total Water Use (AF)	27,029
Total Supplies (AF)	27,029
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2027	**Total**
Total Water Use (AF)	28,225
Total Supplies (AF)	28,225
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2028	**Total**
Total Water Use (AF)	28,401
Total Supplies (AF)	28,401
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2029	**Total**
Total Water Use (AF)	28,939
Total Supplies (AF)	28,939
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
2030	**Total**
Total Water Use (AF)	29,430
Total Supplies (AF)	29,430
Surplus/Shortfall w/o WSCP Action	0
OPTIONAL Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit (AF)	
WSCP - use reduction savings benefit (AF)	
Revised Surplus/(shortfall)	
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.	
NOTES:	

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions **Water Code Section 10632(a)(4)(A),(C) and (E)**				
	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)	
Add additional rows as needed				
1 through 6	Other Purchases	Percentage	0 - 100%	Additional imported water purchases through MWDOC
1 through 6	Other Purchases	Percentage	0 - 100%	Additional groundwater pumping in the Orange County Groundwater Basin
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES:				

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
Yes	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
0	Landscape - Prohibit certain types of landscape irrigation		Statewide Prohibition is Required	Watering or irrigation of nonfunctional turf (NFT) on State and local government properties, commercial, industrial and institutional owned landscapes, homeowners' associations common area landscapes, and local government facilities in disadvantaged communities (DAC) is prohibited. See Note 1 below	No
0	Landscape - Limit landscape irrigation to specific times		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits of watering hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes

0	Landscape - Prohibit all landscape irrigation		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limit on watering duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons water per hour, and weather based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation		Statewide Prohibition is Required	No excessive water flow or runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited	
0	Other - Prohibit use of potable water for washing hard surfaces		Statewide Prohibition is Required	No washing down hard or paved surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure cleaning machine equipped to recycle any water used.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Obligation to fix leaks, breaks or malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions, in the water user's plumbing or distribution system for any period of time after such escape of water should have been discovered and corrected and in no event more than seven (7) days of receiving a notice from the City is prohibited.	Yes
0	Water Features - Restrict water use for decorative water features, such as fountains		Statewide Prohibition is Required	Re-circulating water required for water fountains and decorative water features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.	No

0	CII - Other CII restriction or prohibition		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of single pass cooling systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.	No
0	CII - Other CII restriction or prohibition		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of non-re-circulating in commercial car wash and laundry systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	No
0	Other - Require automatic shut of hoses		On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.	Yes
1	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 1 Protocols)	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City unless other arrangements are made with the City.	Yes

1	CII - Lodging establishment must offer opt out of linen service	Percentage	1%	Commercial lodging establishments must provide option to not launder linen daily: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	No
1	CII - Commercial kitchens required to use pre-rinse spray valves	Percentage	1%	Restaurants required to use water conserving dish wash spray valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.	No
1	CII - Restaurants may only serve water upon request	Percentage	1%	Drinking water served upon request only: Eating or drinking establishments, including, but not limited to, a restaurant, hotel, café, cafeteria, bar, club or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.	Yes
1	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the Director of Public Works, or his designee, after notice to customers.	Yes
2	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 2 Protocols)	No
2	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	1%	Limits on filling ornamental lakes or ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this chapter.	No
2	Other water feature or swimming pool restriction	Percentage	2%	Limits on filling residential swimming pools and spas: Re-filling of more than one (1) foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.	Yes

2	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three (3) days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two (2) days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City unless other arrangements are made with the City.	Yes
2	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
3	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 3 Protocols)	No
3	Other	Percentage	5%	Reporting mechanism—hotline: The City may establish a water waste hotline for residents to report violations of this chapter.	Yes
3	Landscape - Other landscape restriction or prohibition	Percentage	3%	Large landscape areas—rain sensors: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.	No

3	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two (2) days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one (1) day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification by the City unless other arrangements are made with the City.	Yes
3	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
4	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 4 Protocols)	No
4	Other	Percentage	1%	Retrofits upon sale or transfer: No structure shall be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	3%	Water recycling required if alternative available: The use of potable water, other than recycled water, is prohibited for specified uses after the City has provided to the customer an analysis showing that recycled water is a cost-effective alternative to potable water for such uses and the customer has had a reasonable time, as determined by the City Manager, to make the conversion to recycled water.	No

4	Other	Percentage	1%	Change in service: Upon the establishment of new water service or a change in water service from one (1) person to another non-family member, all existing plumbing fixtures are required to be retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	1%	Limits of building permits: The City may limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare.	No
4	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to one (1) day per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one (1) day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
5	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 5 Protocols)	No
5	Other	Percentage	2%	City conservation reports: Upon request of the City Manager, City Departments must prepare and submit quarterly reports on their water conservation efforts. The reports will be consolidated by the City Manager and reported to the City Council at a minimum of once a year.	Yes
5	Landscape - Prohibit all landscape irrigation	Percentage	10%	No watering or irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited.	Yes

5	Moratorium or Net Zero Demand Increase on New Connections	Percentage	5%	No new potable water service: No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statement of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:	No
5	Other	Percentage	5%	Customer water conservation reports: The City may, by written request, require all commercial, residential and industrial customers using twenty five thousand (25,000) or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations.	No
5	Other	Percentage	1%	Discontinue service: The City, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section.	No
6	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 6 Protocols)	Yes
6	Other	Percentage	20%	Water use for public health and safety purposes only.	Yes
6	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes

DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.

NOTES: Note 1: NFT irrigation requirements begin January 1, 2027 for State and local government properties, January 1, 2028 for commercial, industrial and institutional owned landscapes, January 1, 2029 for homeowners' associations common area landscapes, and January 1, 2031 for local government properties in disadvantaged communities (DAC).

Submittal Table 10-1 Retail: Notification to Cities and Counties Water Code Section 10621(b) and 10642		
City Name	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Anaheim	Yes	Yes
Garden Grove	Yes	Yes
Santa Ana	Yes	Yes
Tustin	Yes	Yes
Villa Park	Yes	Yes
EOCWD	Yes	Yes
IRWD	Yes	Yes
Serano WD	Yes	Yes
OCWD	Yes	Yes
MWDOC	Yes	Yes
County Name **Drop Down List**	60 Day Notice **Drop Down (yes/no)**	Notice of Public Hearing **Drop Down (yes/no)**
Add additional rows as needed		
Orange County	Yes	Yes
NOTES:		

APPENDIX C

REDUCED DELTA RELIANCE

Appendix C
REDUCED DELTA RELIANCE REPORTING

C.1 Background

Under the Sacramento-San Joaquin Delta Reform Act of 2009, state and local public agencies proposing a covered action in the Delta, prior to initiating the implementation of that action, must prepare a written certification of consistency with detailed findings as to whether the covered action is consistent with applicable Delta Plan policies and submit that certification to the Delta Stewardship Council. Anyone may appeal a certification of consistency, and if the Delta Stewardship Council grants the appeal, the covered action may not be implemented until the agency proposing the covered action submits a revised certification of consistency, and either no appeal is filed, or the Delta Stewardship Council denies the subsequent appeal.

An urban water supplier that anticipates participating in or receiving water from a proposed covered action such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta should provide information in their 2015 and beyond Urban Water Management Plans (UWMPs) that can then be used in the covered action process to demonstrate consistency with Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (WR P1).

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance on the Delta and improved regional self-reliance. WR P1 subsection (a) states that:

(a) Water shall not be exported from, transferred through, or used in the Delta if all of the following apply:

> *(1) One or more water suppliers that would receive water as a result of the export, transfer, or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);*
>
> *(2) That failure has significantly caused the need for the export, transfer, or use; and*
>
> *(3) The export, transfer, or use would have a significant adverse environmental impact in the Delta.*

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

> *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
>
> *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
>
> *(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self- reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).*

The analysis and documentation provided below include all of the elements described in WR P1(c)(1) that need to be included in a water supplier's UWMP to support a certification of consistency for a future covered action.

C.2 Summary of Expected Outcomes for Reduced Reliance on the Delta

As stated in WR P1 (c)(1)(C), the policy requires that, commencing in 2015, UWMPs include expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance. WR P1 further states that those outcomes shall be reported in the UWMP as the reduction in the amount of water used, or in the percentage of water used, from the Delta.

The expected outcomes for the Municipal Water District of Orange County's (MWDOC) regional self-reliance were developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2025 – Final Draft (Guidebook Appendix C) issued in January 2026. The data used in this analysis represent the total regional efforts of Metropolitan, MWDOC, and its member agencies and were developed in conjunction with Metropolitan as part of the UWMP coordination process.

The following provides a summary of the near-term (2030) and long-term (2050) expected outcomes for the City of Orange's (City) Delta reliance and regional self-reliance. The results show that as a region, MWDOC, Metropolitan, and its member agencies are measurably reducing reliance on the Delta and improving regional self-reliance, both as an amount of water used and as a percentage of water used.

Expected Outcomes for Regional Self-Reliance for the City

- Near-term (2030) – Normal water year regional self-reliance is expected to increase by 14.7 TAF from the 2010 baseline; this represents an increase of about 38.6 percent of 2030 normal water year retail demands (Table C-3).
- Long-term (2050) – Normal water year regional self-reliance is expected to increase by nearly 13.6 TAF from the 2010 baseline; this represents an increase of about 38.3 percent of 2050 normal water year retail demands (Table C-3).

C.3 Demonstration of Reduced Reliance on the Delta

The methodology used to determine the City's reduced Delta reliance and improved regional self-reliance is consistent with the approach detailed in DWR's UWMP Guidebook Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key assumptions underlying the City's demonstration of reduced reliance include:

- All data were obtained from the current 2025 UWMP or previously adopted UWMPs and represent average or normal water year conditions.
- All analyses were conducted at the service area level, and all data reflect the total contributions of the City and MWDOC in conjunction with information provided by Metropolitan.
- No projects or programs that are described in the UWMPs as "Projects Under Development" were included in the accounting of supplies.

Baseline and Expected Outcomes

In order to calculate the expected outcomes for measurable reduction in Delta reliance and improved regional self-reliance, a baseline is needed to compare against. This analysis uses a normal water year representation of 2010 as the baseline, which is consistent with the approach described in the Guidebook Appendix C. Data for the 2010 baseline were taken from MWDOC's 2005 UWMP as the UWMPs generally do not provide normal water year data for the year that they are adopted (i.e., 2005 UWMP forecasts begin in 2010, 2010 UWMP forecasts begin in 2015, and so on).

Consistent with the 2010 baseline data approach, the expected outcomes for reduced Delta reliance and improved regional self-reliance for 2015, 2020, and 2025 were taken from the City's 2010, 2015, and 2020 UWMPs, respectively. Expected outcomes for 2030-2050 are from the current 2025 UWMP. Documentation of the specific data sources and assumptions are included in the discussions below.

Service Area Demands without Water Use Efficiency

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands, rather than normal

water year supplies to calculate expected outcomes in terms of the percentage of water used. Using normal water year demands serves as a proxy for the amount of supplies that would be used in a normal water year, which helps alleviate issues associated with how supply capability is presented to fulfill requirements of the UWMP Act versus how supplies might be accounted for to demonstrate consistency with WR P1.

Because WR P1 considers water use efficiency savings as a source of water supply, water suppliers such as the City needs to explicitly calculate and report water use efficiency savings separate from service area demands to properly reflect normal water year demands in the calculation of reduced reliance. As explained in the Guidebook Appendix C, water use efficiency savings must be added back to the normal year demands to represent demands without water use efficiency savings accounted for; otherwise the effect of water use efficiency savings on regional self-reliance would be overestimated. Tables C-1 and C-2 show the results of this adjustment for the City. Supporting narratives and documentation for the data shown in Tables C-1 and C-2 are provided below.

Table C-1: Calculation of Water Use Efficiency

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	36,663	30,827	28,000	27,233	24,529	24,550	24,675	24,646	24,640
Non-Potable Water Demands	-	-	-	-	-	-	-	-	-
Potable Service Area Demands with Water Use Efficiency Accounted For	36,663	30,827	28,000	27,233	24,529	24,550	24,675	24,646	24,640

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Population	139,050	143,219	143,487	142,325	141,093	140,112	140,188	138,777	137,071

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Per Capita Water Use (GPCD)	235	192	174	171	155	156	157	159	160
Change in Per Capita Water Use from Baseline (GPCD)		(43)	(61)	(65)	(80)	(79)	(78)	(77)	(75)
Estimated Water Use Efficiency Since Baseline		6,935	9,833	10,294	12,673	12,393	12,288	11,945	11,501

Table C -2: Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	36,663	30,827	28,000	27,233	24,529	24,550	24,675	24,646	24,640
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		6,935	9,833	10,294	12,673	12,393	12,288	11,945	11,501
Service Area Water Demands without Water Use Efficiency Accounted For	36,663	37,762	37,833	37,527	37,202	36,943	36,963	36,591	36,141

Service Area Demands with Water Use Efficiency

The service area demands shown in Table C-1 represent the total retail water demands for the City's service area and may include municipal and industrial demands, agricultural demands, recycled, seawater barrier demands, and storage replenishment demands. These demand types and the modeling methodologies used to calculate them are described in Section 4.3 of the City's 2025 UWMP.

Non-Potable Water Demands

The non-potable water demands shown in Table C-1 represent demands for non-potable recycled water, replenishment water for groundwater basin recharge, and sea water barrier demands. In accordance with section C.3.6 of the UWMP Guidebook, MWDOC characterizes demands for groundwater basin recharge and seawater barrier demands as indirect uses of water. In order to avoid double counting of water use these supplies are generally excluded from demand projections, since they are already captured as part of the City's retail water demand. Additionally, non-potable supplies have a demand hardening effect due to the inability to shift non-potable supplies to meet potable water demands. When water use efficiency or conservation measures are implemented, they fall solely on the potable water users. This is consistent with the approach for water conservation reporting used by the State Water Resources Control Board.

Total Service Area Population

The City's total service area population as shown in Table C-1 comes from the Center for Demographic Research, with actuals and projections further described in Section 3.4 of the City's 2025 UWMP.

Water Use Efficiency Since Baseline

The water use efficiency numbers shown in Table C-1 and C-2 represent the formulation that the City utilized, consistent with Appendix C of the UWMP Guidebook approach.

Service area demands, excluding non-potable demands, are divided by the service area population to get per capita water use in the service area in gallons per capita per day (GPCD) for each five-year period. The change in per capita water use from the baseline is the comparative GPCD from that five-year period compared to the 2010 baseline. Changes in per capita water use over time are then applied back to the City's service area population to calculate the estimated WUE Supply. This estimated WUE Supply is considered an additional supply that may be used to show reduced reliance on Delta water supplies.

The demand and water use efficiency data shown in Table C-1 were collected from the City's following sources:

- Baseline (2010) values – 2005 UWMP
- 2015 values – 2010 UWMP
- 2020 values – 2015 UWMP
- 2025 values – 2020 UWMP
- 2030-2050 values – 2025 UWMP

It should be noted that the results of this calculation differ from what the City calculated under Chapter 5 pertaining to the Water Conservation Act of 2009 (SB X7-7) due to differing formulas.

C.4 Supplies Contributing to Regional Self-Reliance

For a covered action to demonstrate consistency with the Delta Plan, WR P1 subsection (c)(1)(C) states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Table C-3 shows expected outcomes for supplies contributing to regional self-reliance both in amount and as a percentage. The numbers shown in Table C-3 represent efforts to improve regional self-reliance for the City's entire service area and include the total contributions of the City. Supporting narratives and documentation for the data shown in Table C-3 are provided below.

The results shown in Table C-3 demonstrate that the City's service area is measurably improving its regional self-reliance. In the near-term (2030), the expected outcome for normal water year regional self-reliance increases by 14.7 TAF from the 2010 baseline; this represents an increase of about 38.6 percent of 2030 normal water year retail demands. In the long-term (2050), normal water year regional self-reliance is expected to increase by more than 13.6 TAF from the 2010 baseline; this represents an increase of about 38.3 percent of 2050 normal water year retail demands.

Table C-3: Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Use Efficiency	-	6,935	9,833	10,294	12,673	12,393	12,288	11,945	11,501
Water Recycling									
Stormwater Capture and Use									
Advanced Water Technologies									
Conjunctive Use Projects									
Local and Regional Water Supply and Storage Projects	18,871	20,369	20,750	23,148	20,849	20,868	20,974	20,949	20,944
Other Programs and Projects the Contribute to Regional Self-Reliance									
Water Supplies Contributing to Regional Self-Reliance	18,871	27,304	30,583	33,442	33,522	33,261	33,262	32,894	32,445

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	36,663	37,762	37,833	37,527	37,202	36,943	36,963	36,591	36,141

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Water Supplies Contributing to Regional Self-Reliance	18,871	27,304	30,583	33,442	33,522	33,261	33,262	32,894	32,445
Change in Water Supplies Contributing to Regional Self-Reliance		8,433	11,712	14,570	14,650	14,390	14,391	14,023	13,574

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	51.5%	72.3%	80.8%	89.1%	90.1%	90.0%	90.0%	89.9%	89.8%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		20.8%	29.4%	37.6%	38.6%	38.6%	38.5%	38.4%	38.3%

Water Use Efficiency

The water use efficiency information shown in Table C-3 is taken directly from Tables C-1 and C-2 above.

Water Recycling

The City does not have recycled water production.

Local and Regional Water Supply and Storage Projects

The values shown in Table C-3 reflect groundwater production from the Orange County Groundwater Basin (OC Basin) as described in Section 6.3 of the City's 2025 UWMP.

Advanced Water Technologies

The OC Basin is augmented by advanced treated recycled water from the Orange County Water District's Groundwater Replenishment System (GWRS). The amount of indirect potable reuse in the OC Basin has increased over time to account for about 35 percent of total OC Basin production. The City's total groundwater production is captured as "Local Water Supply Project". Supplies contributed from indirect potable reuse are not reported to avoid double-counting.

C.5 Reliance on Water Supplies from the Delta Watershed

Metropolitan's service area as a whole, reduces reliance on the Delta through investments in non-Delta water supplies, local water supplies and demand management measures. Quantifying the City's investments in self-reliance, locally, regionally, and throughout Southern California is infeasible for the reasons as noted in Section C.6. Due to the regional nature of these investments, the City is relying on Metropolitan's regional accounting of measurable reductions in supplies from the Delta Watershed.

The results shown in Table C-4 (from Metropolitan's Table A.10-3) demonstrate that Metropolitan's service area, which includes the City, is measurably reducing its Delta reliance. In the near-term (2030), the expected outcome for normal water year reliance on supplies from the Delta watershed decreased by 466 TAF or 6.5 percent from the 2010 baseline. In the long-term (2050), normal water year reliance on supplies from the Delta watershed is expected to decrease by 537 TAF or 9.4 percent from the 2010 baseline.

Table C-4: Metropolitan's Reliance on Water Supplies from the Delta Watershed

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
CVP/SWP Contract Supplies	1,472,000	1,029,000	984,000	1,133,000	949,000	924,000	901,000	877,000	877,000
Delta/Delta Tributary Diversions	-	-	-	-	-	-	-	-	-
Transfers and Exchanges of Supplies from the Delta Watershed	20,000	44,000	91,000	58,000	77,000	77,000	78,000	78,000	78,000
Other Water Supplies from the Delta Watershed	-	-	-	-	-	-	-	-	-
Total Water Supplies from the Delta Watershed	**1,492,000**	**1,073,000**	**1,075,000**	**1,191,000**	**1,026,000**	**1,001,000**	**979,000**	**955,000**	**955,000**

Service Area Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
Service Area Demands without Water Use Efficiency Accounted For	5,493,000	5,499,000	5,219,000	4,925,000	4,969,000	5,102,000	5,209,000	5,302,000	5,391,000

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045	2050
Water Supplies from the Delta Watershed	1,492,000	1,073,000	1,075,000	1,191,000	1,026,000	1,001,000	979,000	955,000	955,000
Change in Supplies from the Delta Watershed	**NA**	**(419,000)**	**(417,000)**	**(301,000)**	**(466,000)**	**(491,000)**	**(513,000)**	**(537,000)**	**(537,000)**
Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	**Baseline (2010)**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Percent of Supplies from the Delta Watershed	27.2%	19.5%	20.6%	24.2%	20.6%	19.6%	18.8%	18.0%	17.7%
Change in Percent of Supplies from the Delta Watershed	**NA**	**-7.6%**	**-6.6%**	**-3.0%**	**-6.5%**	**-7.5%**	**-8.4%**	**-9.1%**	**-9.4%**

C.6 Metropolitan Member and Sub-Member Agency Infeasibility of Accounting Supplies from the Delta Watershed

Metropolitan's member agencies and retail subagencies individually contribute to reduced reliance on the Delta in two ways. First, through the development of local projects and demand management measures in their own service areas, and second, through their investments in regional projects and programs through Metropolitan. Regional investments are funded through revenues from water purchases from Metropolitan or one or more of its member agencies. Metropolitan uses a portion of revenues from those purchases to fund projects and programs that contribute to the region's reduced reliance on Delta water supplies. Because some or all of these regional investments may not be constructed or implemented directly in a particular water supplier's service area, a water supplier's demands on Metropolitan or one or more of its member agencies will not accurately reflect that water supplier's total contributions to reduced reliance on supplies from the Delta watershed. It is infeasible for a water supplier that makes investments in regional projects and programs to quantify its individual contributions to reduced reliance and reflect them properly in its demands on Metropolitan or one or more of Metropolitan's member agencies.

The following discussions outline how regional funding is provided through Metropolitan's local resources and conservation incentive programs and how funding for those programs is collected through Metropolitan's water rates. The history and participation of Metropolitan's member agencies and the local agencies that purchase water from Metropolitan's members in local resource and demand management in the region have spanned more than four decades, and thus make accounting of these contributions at the individual agency level infeasible for those agencies to calculate.

Local Resources Programs

In 1982, Metropolitan began providing financial incentives to its member agencies to develop new local supplies to assist in meeting the region's water needs. Because of Metropolitan's regional distribution system, these programs benefit all member agencies regardless of project location because they help to increase regional water supply reliability, reduce demands for imported water supplies, decrease the burden on Metropolitan's infrastructure, reduce system costs, and free up conveyance capacity to the benefit of all the agencies that rely on water from Metropolitan. For example, the Groundwater Replenishment System (GWRS) operated by the Orange County Water District, is the world's largest water purification system for indirect potable reuse and was funded, in part, by Metropolitan's local resource program and its Member Agencies. With the latest expansion, GWRS is capable of producing approximately 130,000 acre-feet of reliable, locally controlled, drought-proof supply of high-quality water to recharge the Orange County Groundwater Basin and protect it from seawater intrusion. GWRS is a premier example of a regional project that significantly reduced the need to utilize imported water for groundwater replenishment in the Metropolitan Service area, increasing regional and local supply reliability and reducing the region's reliance on imported supplies, including supplies from the State Water Project. Today, nearly one-half of the total recycled water and groundwater recovery production in the region is developed with an LRP incentive by Metropolitan.

Metropolitan's local resource incentive programs have evolved since 1982 to encourage member agencies to develop local supplies – including recycled water, groundwater recovery, seawater desalination, and stormwater capture to reduce reliance on imported water. Over the decades, programs have evolved to meet regional water needs. Key current program elements include:

- **Local Resources Program (LRP):** Sliding scale or fixed incentives for recycled water, recovered groundwater, and seawater desalination projects.
- **On-Site Retrofit Program (ORP):** Funding for small-scale infrastructure upgrades to connect end-users to existing recycled water systems.
- **Stormwater Pilot Programs:** Financial incentives to study and develop stormwater capture projects for direct use or groundwater recharge.

Water Use Efficiency Programs

Metropolitan's Water Use Efficiency programs reflect a longstanding recognition that managing demands is as important as securing supply. By reducing retail water consumption across the service area, these programs help decrease reliance on imported water, lower infrastructure costs, and free up conveyance capacity – benefits that extend to all member agencies regardless of where savings occur.

Metropolitan's incentive-based conservation efforts operate through several complementary programs. The Conservation Credits Program provides member agencies with financial assistance for conservation projects that reduce imported water demand. The Member Agency Administered Program allows agencies to implement locally tailored rebate programs with Metropolitan funding, provided they supplement rather than duplicate regional offerings. The Water Savings Incentive Program (WSIP) targets commercial and industrial users with custom efficiency projects that fall outside the standard rebate structures.

Beyond rebates, Metropolitan also pursues non-incentive conservation efforts, including landscape training, large-scale water audits, technology research, public outreach and education, and advocacy for water-efficient building codes and legislation. Together, these programs have driven significant cumulative water savings, representing a major long-term investment in regional water supply reliability. Chapter 9 of this UWMP provides details on the array of water use efficiency programs the City has implemented in its service area, which have contributed to the region's overall success in reducing reliance on imported water.

Infeasibility of Accounting

The accounting of the regional investments that contribute to reducing Metropolitan's reliance on the Delta is straightforward to calculate and report at the regional aggregate level. However, any similar accounting is infeasible at the individual member or sub-member agency level. As described above, the region (through Metropolitan) makes significant investments in resources and programs that reduce reliance on the Delta. In fact, all of Metropolitan's investments in Colorado River supplies, groundwater and surface storage, local resources development and demand management measures that reduce reliance on the Delta are collectively funded by revenues generated from the member agencies (and their subagencies) through rates and charges. The relative contributions for a member agency may be able to be approximately quantified or estimated by proxy through relative water purchases, however making an estimate of any quantifiable savings in gallons or acre-feet is not feasible. Water purchases cannot, with any accuracy or precision, be tied to the actual projects or programs that deliver water to the collective member agencies and their subagencies. Additionally, using water purchases as a proxy for member agencies and subagencies would result in projects and programs done outside of the Metropolitan incentive programs to be omitted and discounted. Accounting at the regional level allows for the incorporation of these local supplies and water use efficiency programs implemented by member agencies and subagencies in both the regional programs and their own specific local programs. Projects and programs each have different online dates, useful lives, production, incentive rates and contributions that cannot be matched to the demands or supply production history of an individual agency, or consistently across the agencies within Metropolitan's service area. As shown above, despite that infeasibility, Metropolitan's members and their subagencies have together made substantial contributions to the region's reduced reliance.

APPENDIX D

AWWA WATER LOSS AUDITS

Complete AWWA Water Loss audit Reports can be downloaded here: WUEdata - Water Audit Plans

AWWA Free Water Audit Software v5.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:	Tuan Cao
Email Address:	tcao@cityoforange.org
Telephone (incl Ext.):	
Name of City / Utility:	City of Orange
City/Town/Municipality:	Orange
State / Province:	California (CA)
Country:	USA
Year:	2020 Calendar Year
Audit Preparation Date:	6/21/2021
Volume Reporting Units:	Acre-feet
PWSID / Other ID:	CA3010027

The following guidance will help you complete the Audit

All audit data are entered on the ***Reporting Worksheet***

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

Instructions
The current sheet. Enter contact information and basic audit details (year, units etc)

Reporting Worksheet
Enter the required data on this worksheet to calculate the water balance and data grading

Comments
Enter comments to explain how values were calculated or to document data sources

Performance Indicators
Review the performance indicators to evaluate the results of the audit

Water Balance
The values entered in the Reporting Worksheet are used to populate the Water Balance

Dashboard
A graphical summary of the water balance and Non-Revenue Water components

Grading Matrix
Presents the possible grading options for each input component of the audit

Service Connection Diagram
Diagrams depicting possible customer service connection line configurations

Definitions
Use this sheet to understand the terms used in the audit process

Loss Control Planning
Use this sheet to interpret the results of the audit validity score and performance indicators

Example Audits
Reporting Worksheet and Performance Indicators examples are shown for two validated audits

Acknowledgements
Acknowledgements for the AWWA Free Water Audit Software v5.0

If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0
American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Orange (CA3010027)
Reporting Year: 2020 | 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<----------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:	Value:	
Volume from own sources:	7	20,505.150	acre-ft/yr		88.000	acre-ft/yr
Water imported:	6	6,636.640	acre-ft/yr			acre-ft/yr
Water exported:	3	6.540	acre-ft/yr			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 27,047.250 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	9	24,359.650	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	9	504.210	acre-ft/yr			
Unbilled unmetered:	5	67.618	acre-ft/yr		67.618	acre-ft/yr

Use buttons to select percentage of water supplied OR value

AUTHORIZED CONSUMPTION: 24,931.478 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 2,115.772 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		67.618	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	682.077	acre-ft/yr	2.67%		acre-ft/yr
Systematic data handling errors:	5	60.899	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 810.594 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,305.178 acre-ft/yr

WATER LOSSES: 2,115.772 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,687.600 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	462.0	miles
Number of active AND inactive service connections:	9	36,410	
Service connection density:		79	conn./mile main
Are customer meters typically located at the curbstop or property line?		Yes	
Average length of customer service line:			(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	86.8	psi

COST DATA

Total annual cost of operating water system:	10	$37,067,541	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$2.84	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$748.64	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 74 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Variable production cost (applied to Real Losses)
3: Water imported

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0
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Water Audit Report for: City of Orange (CA3010027)
Reporting Year: 2020 | 1/2020 - 12/2020

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 74 out of 100 ***

System Attributes:

	Apparent Losses:	810.594	acre-ft/yr
+	Real Losses:	1,305.178	acre-ft/yr
=	**Water Losses:**	**2,115.772**	acre-ft/yr
	? Unavoidable Annual Real Losses (UARL):	774.03	acre-ft/yr
	Annual cost of Apparent Losses:	$1,002,789	
	Annual cost of Real Losses:	$977,109	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	9.9%	
	Non-revenue water as percent by cost of operating system:	6.5%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	19.88	gallons/connection/day
	Real Losses per service connection per day:	32.00	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.37	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	1,305.18	acre-feet/year
	? Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.69	

** This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline*

AWWA Free Water Audit Software v5.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

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The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

Please begin by providing the following information

Name of Contact Person:	Tuan Cao
Email Address:	tcao@cityoforange.org
Telephone (incl Ext.):	
Name of City / Utility:	City of Orange
City/Town/Municipality:	Orange
State / Province:	California (CA)
Country:	USA
Year:	2021 Calendar Year
Audit Preparation Date:	9/7/2022
Volume Reporting Units:	Acre-feet
PWSID / Other ID:	CA3010027

The following guidance will help you complete the Audit

All audit data are entered on the ***Reporting Worksheet***

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons: Pcnt: 0.25% Value:

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

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A graphical summary of the water balance and Non-Revenue Water components

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Presents the possible grading options for each input component of the audit

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If you have questions or comments regarding the software please contact us via email at: wlc@awwa.org

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Orange (CA3010027)
Reporting Year: 2021 1/2021 - 12/2021

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

				Pcnt:	Value:	
Volume from own sources:	7	16,338.998	acre-ft/yr	9		-107.067	acre-ft/yr
Water imported:	7	10,566.475	acre-ft/yr	9			acre-ft/yr
Water exported:	3	8.526	acre-ft/yr	3			acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 27,004.015 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option

				Pcnt:	Value:	
Billed metered:	9	24,344.412	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	9	529.350	acre-ft/yr			
Unbilled unmetered:	5	67.510	acre-ft/yr		67.510	acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 24,941.272 acre-ft/yr

WATER LOSSES (Water Supplied - Authorized Consumption) 2,062.743 acre-ft/yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		67.510	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	810.535	acre-ft/yr	3.16%		acre-ft/yr
Systematic data handling errors:	5	60.861	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 938.906 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 1,123.837 acre-ft/yr

WATER LOSSES: 2,062.743 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,659.603 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	462.0	miles
Number of active AND inactive service connections:	9	36,410	
Service connection density:		79	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 5 86.8 psi

COST DATA

Total annual cost of operating water system:	10	$38,042,611	$/Year	
Customer retail unit cost (applied to Apparent Losses):	10	$2.76	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	5	$870.59	$/acre-ft	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 75 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Water imported
3: Variable production cost (applied to Real Losses)

AWWA Free Water Audit Software:
System Attributes and Performance Indicators

WAS v5.0
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Water Audit Report for: City of Orange (CA3010027)
Reporting Year: 2021 | 1/2021 - 12/2021

*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 75 out of 100 ***

System Attributes:

	Apparent Losses:	938.906	acre-ft/yr
+	Real Losses:	1,123.837	acre-ft/yr
=	**Water Losses:**	**2,062.743**	acre-ft/yr
?	Unavoidable Annual Real Losses (UARL):	774.03	acre-ft/yr
	Annual cost of Apparent Losses:	$1,129,486	
	Annual cost of Real Losses:	$978,397	Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumpiton

Performance Indicators:

Financial:	Non-revenue water as percent by volume of Water Supplied:	9.8%	
	Non-revenue water as percent by cost of operating system:	6.9%	Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	23.02	gallons/connection/day
	Real Losses per service connection per day:	27.56	gallons/connection/day
	Real Losses per length of main per day*:	N/A	
	Real Losses per service connection per day per psi pressure:	0.32	gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	1,123.84	acre-feet/year
?	Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.45	

** This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline*

AWWA Free Water Audit Software v6.0

FWAS v6.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format and is not meant to take the place of a full-scale, comprehensive water audit format. Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels. This tool contains several separate worksheets. Sheets can be accessed using the tabs at the bottom of the screen, or by clicking the TOC links below.

Table of Contents (TOC)

Start Page	The current sheet. Enter contact information and basic audit details.
Worksheet	Enter the required data on this worksheet to calculate the water balance and data grading.
Interactive Data Grading	Answer questions about operational practices for each audit input, and the data validity grades will automatically populate.
Dashboard	Review NRW components, performance indicators and graphical outputs to evaluate the results of the audit.
Notes	Enter notes to explain how values were calculated, document data sources, and related information about data management practices.
Blank Sheet	By popular demand! A blank sheet. The world is your canvas.
Water Balance	The values entered in the Worksheet automatically populate the Water Balance.
Loss Control Planning	Use this sheet to interpret the results of the audit validity score and performance indicators.
Definitions	Use this sheet to understand the terms used in the audit process.
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https://www.awwa.org/Resources-Tools/Resource-Topics/Water-Loss-Control

Items referenced in the Free Water Audit Software v6.0 on the web:

- Data Grading Matrix v6.0
- Example Water Audit v6.0
- Water Audit Compiler v6.0
- AWWA Reports on Performance Indicators
- M36 Manual

Enter Basic Information

Name of Utility:	City of Orange	
Name of Contact Person:	Tuan Cao	
Email:	tcao@cityoforange.org	
Telephone | Ext.:	7142882475	2492
City/Town/Municipality:	Orange	
State / Province:	California (CA)	
Country:	USA	
Audit Preparation Date:	Oct 04 2023	
Audit Year:	2022	
Audit Year Label:	Calendar	(Fiscal, Calendar, etc)
Audit Period Start Date:	Jan 01 2022	
Audit Period End Date:	Dec 31 2022	
Volume Reporting Units:	Acre-feet	
Water System Structure:	Retail	
Water Type:	Potable Water	
System ID Number:	CA3010027	
Validator Name/ID:	Rachel Davis	
Validator Email:	rdavis@mwdoc.com	
Estimated Total Population Served by Water Utility:	136,178	

Key of Input Acronyms

In order of appearance in the Worksheet

VOS	Volume from Own Sources
VOSEA	VOS Error Adjustment
WI	Water Imported
WIEA	WI Error Adjustment
WE	Water Exported
WEEA	WE Error Adjustment
BMAC	Billed Metered Authorized Consumption
BUAC	Billed Unmetered Authorized Consumption
UMAC	Unbilled Metered Authorized Consumption
UUAC	Unbilled Unmetered Authorized Consumption
SDHE	Systematic Data Handling Errors
CMI	Customer Metering Inaccuracies
UC	Unauthorized Consumption
Lm	Length of mains
Nc	Number of service connections
Lp	Average length of (private) customer service line
AOP	Average Operating Pressure
CRUC	Customer Retail Unit Charge
VPC	Variable Production Cost

Color Key User input | Calculated | Optional default

Guidance for the Worksheet

Choosing to enter unit of **percent** or **volume** (applies to VOSEA, WIEA, WEEA, CMI) choose entry option:

1.00%	percent	*or*
	volume	25.000

Choosing to enter **default** or **custom input** (applies to UUAC, SDHE, UC) choose entry option:

0.25%	default	*or*
	custom	75.000

Guidance for the Interactive Data Grading

Use acronym buttons in IDG header to navigate among inputs. Acronym Key above. White = needs answers, orange = complete, clear = not required. Example below.



After clicking an acronym button, answer all visible questions in the order they're presented, choosing best-fit answer

Grade will populate when all visible questions are complete for an input **7**

The limiting criteria will be labeled along the right. If only 1 limiting criterion is shown, improving on that criterion will achieve a higher data grade. If multiple limiting criteria are shown, improving on *each* limiting criterion is necessary to achieve a higher data grade. A complete inventory of data grading criteria is available in the Data Grading Matrix v6.0 (see web resources)

Limiting

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AWWA Free Water Audit Software: Worksheet

FWAS v6.0

American Water Works Association.
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Water Audit Report for: City of Orange
Audit Year: 2022 | Jan 01 2022 - Dec 31 2022 | Calendar

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

		n	g				n	g					
VOS	Volume from Own Sources:	n	g	3	16,605.580	Acre-ft/Yr	n	g	10	volume	83.000	acre-ft/yr	under-registration VOSEA
WI	Water Imported:	n	g	3	8,660.320	Acre-ft/Yr	n	g	9	percent			WIEA
WE	Water Exported:	n	g	3	6.740	Acre-ft/Yr	n	g	3	percent			WEEA

WATER SUPPLIED: 25,342.160 Acre-ft/Yr

AUTHORIZED CONSUMPTION

choose entry option:

		n	g					
BMAC	Billed Metered:	n	g	8	23,331.900	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	7	517.780	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	58.330	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 23,908.010 Acre-ft/Yr

WATER LOSSES

1,434.150 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

choose entry option:

		n	g						
SDHE	Systematic Data Handling Errors:	n	g	3	58.330	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	7	778.242	Acre-ft/Yr	3.16%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	58.330	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 894.902 Acre-ft/Yr

Real Losses

Real Losses: 539.248 Acre-ft/Yr

WATER LOSSES: 1,434.150 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 2,010.260 Acre-ft/Yr

SYSTEM DATA

		n	g				
Lm	Length of mains:	n	g	10	462.0	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	8	36,410		(active *and* inactive)
	Service connection density:				79	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP Average Operating Pressure: n g 7 86.8 psi

COST DATA

		n	g					
CRUC	Customer Retail Unit Charge:	n	g	7	$2.66	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	8	$882.73	$/acre-ft	$34,434,896	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Water Imported (WI)
3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:	45.5	gal/conn/day
Unit Apparent Losses:	20.0	gal/conn/day
Unit Real Losses[A]:	25.5	gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

AWWA Free Water Audit Software v6.0

FWAS v6.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format and is not meant to take the place of a full-scale, comprehensive water audit format. Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels. This tool contains several separate worksheets. Sheets can be accessed using the tabs at the bottom of the screen, or by clicking the TOC links below.

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Dashboard	Review NRW components, performance indicators and graphical outputs to evaluate the results of the audit.
Notes	Enter notes to explain how values were calculated, document data sources, and related information about data management practices.
Blank Sheet	By popular demand! A blank sheet. The world is your canvas.
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- M36 Manual

Enter Basic Information

Name of Utility:	City of Orange
Name of Contact Person:	Tuan Cao
Email:	tcao@cityoforange.org
Telephone | Ext.:	714-288-2492
City/Town/Municipality:	Orange
State / Province:	California (CA)
Country:	USA
Audit Preparation Date:	Oct 31 2024
Audit Year:	2023
Audit Year Label:	Calendar (Fiscal, Calendar, etc)
Audit Period Start Date:	Jan 01 2023
Audit Period End Date:	Dec 31 2023
Volume Reporting Units:	Acre-feet
Water System Structure:	Retail
Water Type:	Potable Water
System ID Number:	CA3010027
Validator Name/ID:	Rachel Davis
Validator Email:	rdavis@mwdoc.com
Estimated Total Population Served by Water Utility:	140,058

Key of Input Acronyms

In order of appearance in the Worksheet

VOS	Volume from Own Sources
VOSEA	VOS Error Adjustment
WI	Water Imported
WIEA	WI Error Adjustment
WE	Water Exported
WEEA	WE Error Adjustment
BMAC	Billed Metered Authorized Consumption
BUAC	Billed Unmetered Authorized Consumption
UMAC	Unbilled Metered Authorized Consumption
UUAC	Unbilled Unmetered Authorized Consumption
SDHE	Systematic Data Handling Errors
CMI	Customer Metering Inaccuracies
UC	Unauthorized Consumption
Lm	Length of mains
Nc	Number of service connections
Lp	Average length of (private) customer service line
AOP	Average Operating Pressure
CRUC	Customer Retail Unit Charge
VPC	Variable Production Cost

Color Key User input | Calculated | Optional default

Guidance for the Worksheet

Choosing to enter unit of **percent** or **volume** (applies to VOSEA, WIEA, WEEA, CMI) choose entry option:

1.00%	percent	*or*
	volume	25.000

Choosing to enter **default** or **custom input** (applies to UUAC, SDHE, UC) choose entry option:

0.25%	default	*or*
	custom	75.000

Guidance for the Interactive Data Grading

Use acronym buttons in IDG header to navigate among inputs. Acronym Key above. White = needs answers, orange = complete, clear = not required. Example below.



After clicking an acronym button, answer all visible questions in the order they're presented, choosing best-fit answer

Grade will populate when all visible questions are complete for an input **7**

The limiting criteria will be labeled along the right. If only 1 limiting criterion is shown, improving on that criterion will achieve a higher data grade. If multiple limiting criteria are shown, improving on *each* limiting criterion is necessary to achieve a higher data grade. A complete inventory of data grading criteria is available in the Data Grading Matrix v6.0 (see web resources)

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Water Audit Report for: City of Orange
Audit Year: 2023 | Jan 01 2023 - Dec 31 2023 | Calendar

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

		n	g				n	g						
VOS	Volume from Own Sources:	n	g	7	20,034.950	Acre-ft/Yr	n	g	10		volume	166.000	acre-ft/yr	under-registration VOSEA
WI	Water Imported:	n	g	3	2,516.450	Acre-ft/Yr	n	g	6		percent			WIEA
WE	Water Exported:	n	g	7	3.830	Acre-ft/Yr	n	g	3		percent			WEEA

WATER SUPPLIED: 22,713.570 Acre-ft/Yr

AUTHORIZED CONSUMPTION

choose entry option:

BMAC	Billed Metered:	n	g	8	21,055.990	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	7	407.110	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	52.640	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 21,515.740 Acre-ft/Yr

WATER LOSSES

1,197.830 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

choose entry option:

SDHE	Systematic Data Handling Errors:	n	g	3	52.640	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	7	534.543	Acre-ft/Yr	2.43%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	52.640	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 639.823 Acre-ft/Yr

Real Losses

Real Losses: 558.007 Acre-ft/Yr

WATER LOSSES: 1,197.830 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1,657.580 Acre-ft/Yr

SYSTEM DATA

Lm	Length of mains:	n	g	10	462.0	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	8	36,570		(active *and* inactive)
	Service connection density:				79	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

AOP Average Operating Pressure: n g 7 86.8 psi

COST DATA

CRUC	Customer Retail Unit Charge:	n	g	10	$3.09	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	8	$845.29	$/acre-ft	$31,566,624	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier IV (71-90). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Billed Metered (BMAC)
3: Unauthorized Consumption (UC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:		gal/conn/day
Unit Real Losses[A]:		gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

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FWAS v6.0

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- M36 Manual

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Name of Contact Person:	Tuan Cao
Email:	tcao@cityoforange.org
Telephone | Ext.:	714-288-2492
City/Town/Municipality:	Orange
State / Province:	California (CA)
Country:	USA
Audit Preparation Date:	Jun 09 2025
Audit Year:	2024
Audit Year Label:	Calendar (Fiscal, Calendar, etc)
Audit Period Start Date:	Jan 01 2024
Audit Period End Date:	Dec 31 2024
Volume Reporting Units:	Acre-feet
Water System Structure:	Retail
Water Type:	Potable Water
System ID Number:	CA3010027
Validator Name/ID:	Rachel Davis
Validator Email:	rdavis@mwdoc.com
Estimated Total Population Served by Water Utility:	148,467

Key of Input Acronyms

In order of appearance in the Worksheet

VOS	Volume from Own Sources
VOSEA	VOS Error Adjustment
WI	Water Imported
WIEA	WI Error Adjustment
WE	Water Exported
WEEA	WE Error Adjustment
BMAC	Billed Metered Authorized Consumption
BUAC	Billed Unmetered Authorized Consumption
UMAC	Unbilled Metered Authorized Consumption
UUAC	Unbilled Unmetered Authorized Consumption
SDHE	Systematic Data Handling Errors
CMI	Customer Metering Inaccuracies
UC	Unauthorized Consumption
Lm	Length of mains
Nc	Number of service connections
Lp	Average length of (private) customer service line
AOP	Average Operating Pressure
CRUC	Customer Retail Unit Charge
VPC	Variable Production Cost

Color Key User input | Calculated | Optional default

Guidance for the Worksheet

Choosing to enter unit of **percent** or **volume** (applies to VOSEA, WIEA, WEEA, CMI) choose entry option:

1.00%	percent	*or*
	volume	25.000

Choosing to enter **default** or **custom input** (applies to UUAC, SDHE, UC) choose entry option:

0.25%	default	*or*
	custom	75.000

Guidance for the Interactive Data Grading

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Water Audit Report for: City of Orange
Audit Year: 2024 | Jan 01 2024 - Dec 31 2024 | Calendar

Click 'n' to add notes
Click 'g' to determine data validity grade

To edit water system info: go to start page

To access definitions, click the input name

All volumes to be entered as: ACRE-FEET PER YEAR

Water Supplied Error Adjustments

WATER SUPPLIED

choose entry option:

		n	g				n	g						
VOS	Volume from Own Sources:	n	g	7	19,597.617	Acre-ft/Yr	n	g	8		volume	125.802	acre-ft/yr	under-registration VOSEA
WI	Water Imported:	n	g	3	4,199.537	Acre-ft/Yr	n	g	6		percent			WIEA
WE	Water Exported:	n	g	3	4.173	Acre-ft/Yr	n	g	3		percent			WEEA
	WATER SUPPLIED:				23,918.782	Acre-ft/Yr								

AUTHORIZED CONSUMPTION

choose entry option:

		n	g					
BMAC	Billed Metered:	n	g	8	22,177.560	Acre-ft/Yr		
BUAC	Billed Unmetered:	n	g	n/a	0.000	Acre-ft/Yr		
UMAC	Unbilled Metered:	n	g	7	468.073	Acre-ft/Yr		
UUAC	Unbilled Unmetered:	n	g	3	55.444	Acre-ft/Yr	0.25%	default

Default option selected for Unbilled Unmetered, with automatic data grading of 3

AUTHORIZED CONSUMPTION: 22,701.077 Acre-ft/Yr

WATER LOSSES

1,217.704 Acre-ft/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

choose entry option:

		n	g						
SDHE	Systematic Data Handling Errors:	n	g	3	55.444	Acre-ft/Yr	0.25%	default	
CMI	Customer Metering Inaccuracies:	n	g	8	547.674	Acre-ft/Yr	2.36%	percent	under-registration
UC	Unauthorized Consumption:	n	g	3	55.444	Acre-ft/Yr	0.25%	default	

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 658.561 Acre-ft/Yr

Real Losses

Real Losses: 559.143 Acre-ft/Yr

WATER LOSSES: 1,217.704 Acre-ft/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 1,741.222 Acre-ft/Yr

SYSTEM DATA

		n	g				
Lm	Length of mains:	n	g	10	462.0	miles	(including fire hydrant lead lengths)
Nc	Number of service connections:	n	g	8	36,570		(active *and* inactive)
	Service connection density:				79	conn./mile main	

Are customer meters typically located at the curbstop/property line? Yes

Lp n g 10

Average length of customer service line has been set to zero and a data grading of 10 has been applied

		n	g			
AOP	Average Operating Pressure:	n	g	7	86.8	psi

COST DATA

		n	g					
CRUC	Customer Retail Unit Charge:	n	g	7	$3.28	$/100 cubic feet (ccf)	Total Annual Operating Cost	
VPC	Variable Production Cost:	n	g	8	$963.17	$/acre-ft	$43,375,679	$/yr (optional input)

WATER AUDIT DATA VALIDITY TIER:

***** The Water Audit Data Validity Score is in Tier III (51-70). See Dashboard tab for additional outputs. *****

go to dashboard

A weighted scale for the components of supply, consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION TO IMPROVE DATA VALIDITY:

Based on the information provided, audit reliability can be most improved by addressing the following components:

1: Volume from Own Sources (VOS)
2: Water Imported (WI)
3: Billed Metered (BMAC)

KEY PERFORMANCE INDICATOR TARGETS:

OPTIONAL: If targets exist for the operational performance indicators, they can be input below:

Unit Total Losses:		gal/conn/day
Unit Apparent Losses:	20.0	gal/conn/day
Unit Real Losses[A]:	25.5	gal/conn/day
Unit Real Losses[B]:		gal/mile/day

If entered above by user, targets will display on KPI gauges (see Dashboard)

APPENDIX E

2022 BASIN 8-1 ALTERNATIVE UPDATE

Basin 8-1 Alternative 2022 Update

Submitted by: Orange County Water District
City of La Habra
Irvine Ranch Water District

Submitted to: California Department of Water Resources

January 1, 2022

Table of Contents

I. Overview

II. La Habra-Brea Management Area

III. OCWD Management Area

IV. South East Management Area

V. Santa Ana Canyon Management Area

Attachment One: DWR Comments on 2017 Alternative and Responses

BASIN 8-1 ALTERNATIVE OVERVIEW

The Sustainable Groundwater Management Act (SGMA) requires all high- and medium-priority basins, as designated by the California Department of Water Resources (DWR), be sustainably managed. DWR designated the Coastal Plain of Orange County Groundwater Basin ("Basin 8-1" or "Basin") as a medium-priority basin, primarily due to heavy reliance on the Basin's groundwater as a source of water supply.

The agencies within Basin 8-1 collaborated to prepare and submit an Alternative to a Groundwater Sustainability Plan (GSP) on December 22, 2016. Within this document, this Alternative to a GSP will be referred to herein as the "Basin 8-1 Alternative" or "Alternative". In accordance with Water Code §10733.6(b)(3), the Alternative presented an analysis of basin conditions that demonstrated that Basin 8-1 had operated within its sustainable yield over a period of at least 10 years. On July 17, 2019, DWR determined that the Alternative satisfied SGMA objectives and was therefore approved.

Approved alternatives are required to submit annual reports to DWR on April 1 of each year, and to resubmit the alternative by January 1 every five years. Annual reports were submitted to DWR as follows:

- Water Year 2016-17 – March 29, 2018
- Water Year 2017-18 – March 29, 2019
- Water Year 2018-19 – March 30, 2020
- Water Year 2019-20 – March 30, 2021

This document represents the first five-year update, which is due January 1, 2022.

This update has been jointly prepared by the Orange County Water District (OCWD), Irvine Ranch Water District (IRWD); and the City of La Habra Groundwater Sustainability Agency (collectively the "Submitting Agencies"); pursuant to this Alternative, the Submitting Agencies will ensure the entire Basin 8-1 continues to be sustainably managed and data reported as required by SGMA. Pursuant to Water Code §10733.6(b)(3), the Basin 8-1 Alternative has been prepared by or under the direction of a professional geologist or professional engineer.

For purposes of this report, the Basin 8-1 Alternative approved by DWR on July 17, 2019, is referred to as the 2017 Alternative. The first five-year update will be referred to as the 2022 Update. The 2017 Alternative was a comprehensive document showing that Basin 8-1 had been managed sustainably for more than 10 years. For the 2022 Update, the focus is on documenting that the basin has continued to be operated sustainably during the five years since the 2017 Alternative was submitted and to present any new information. As such, background information, such as Basin Hydrogeology, and other sections with no new information are not repeated in the 2022 Update.

As described in the 2017 Alternative, Basin 8-1 was sub-divided into four management areas: La Habra-Brea, OCWD, South East, and Santa Ana Canyon Management Areas (Figure 1-1). The 2022 Update contains four chapters, one for each management area.

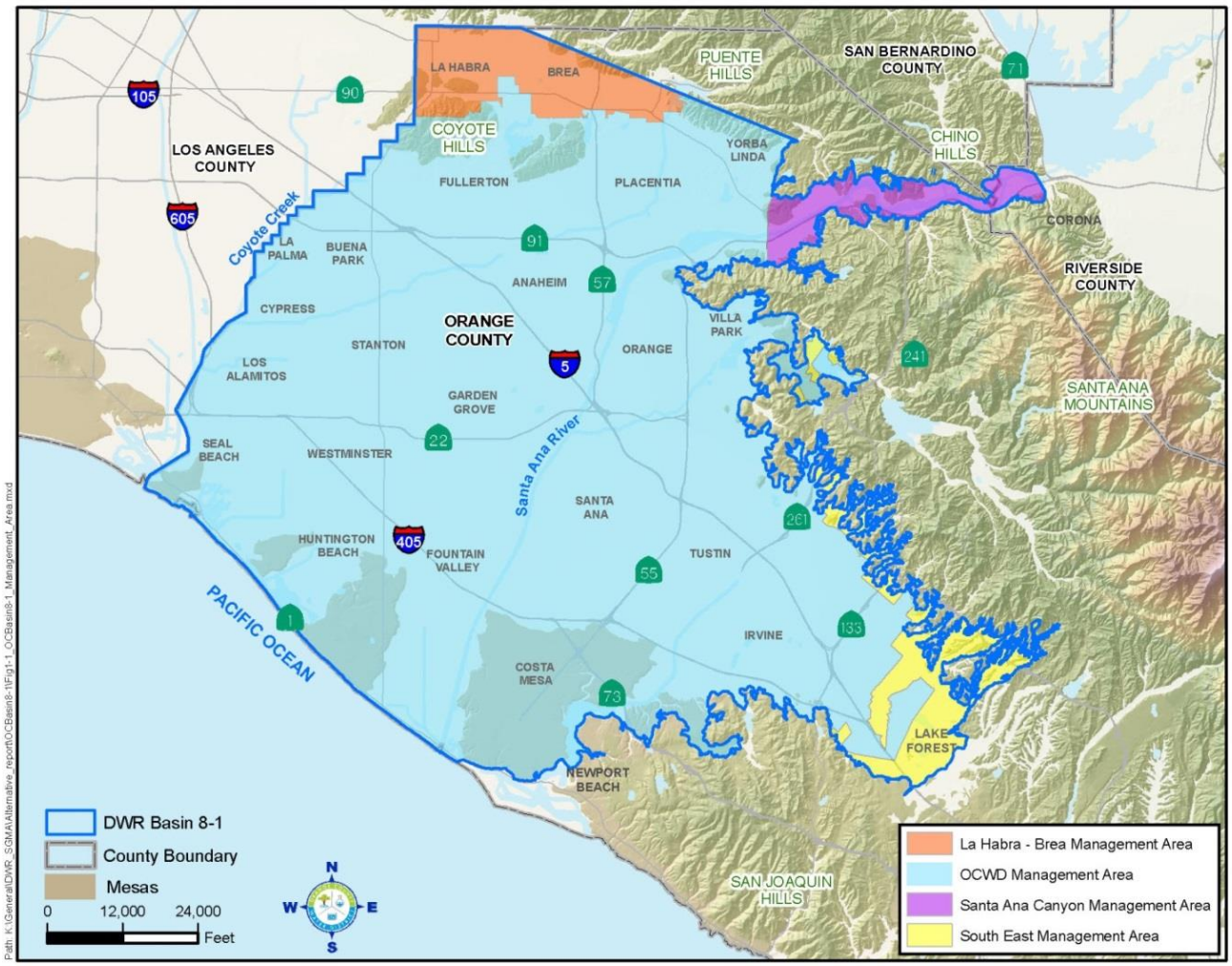


Figure 1-1: Basin 8-1 Management Area Boundaries

In its evaluation of the Basin 8-1 Alternative, DWR provided four recommendations that they encouraged “be given due consideration and suggest incorporating any resulting changes to the Alternative in future updates.” The recommendations and responses to these recommendations are in Attachment 1 and incorporated into the 2022 Update where appropriate.

ABBREVIATIONS AND ACRONYMS

afy	acre-feet per year
AWPF	Advanced Water Purification Facility
basin	Orange County groundwater basin
Basin Model	OCWD groundwater model
BEA	Basin Equity Assessment
BPP	Basin Production Percentage
CDPH	California Department of Public Health
cfs	cubic feet per second
DATS	Deep Aquifer Treatment System
DOC	dissolved organic compound
DWR	Department of Water Resources
DWSAP	Drinking Water Source Assessment and Protection
EDCs	Endocrine Disrupting Compounds
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FY	fiscal year
GAC	granular activated carbon
GIS	geographic information system
GWRS	Groundwater Replenishment System
IAP	Independent Advisory Panel
IRWD	Irvine Ranch Water District
LACPW	Los Angeles County Public Works
maf	million acre feet
MCAS	Marine Corps Air Station
MCL	maximum contaminant level
MF	microfiltration
MODFLOW	Computer modeling program developed by USGS
mgd	million gallons per day
mg/L	milligrams per liter
MTBE	methyl tertiary-butyl ether
MWD	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
NDMA	n-Nitrosodimethylamine
NF	nanofiltration
ng/L	nanograms per liter
NBGPP	North Basin Groundwater Protection Program
NO_2	nitrite
NO_3^-	nitrate
NPDES	National Pollution Discharge Elimination System
NWRI	National Water Research Institute

ABBREVIATIONS AND ACRONYMS

O&M	operations and maintenance
OCHCA	Orange County Health Care Agency
OCSD	Orange County Sanitation District
OC Survey	Orange County Survey
OCWD	Orange County Water District
PCE	perchloroethylene
PFAS	Per- and polyfluoroalkyl substances
PPCPs	pharmaceuticals and personal care products
Producers	Orange County groundwater producers
RA	replenishment assessment
RO	reverse osmosis
Regional Water Board	Regional Water Quality Control Board
SARI	Santa Ana River Interceptor
SARMON	Santa Ana River Monitoring Program
SARWQH	Santa Ana River Water Quality and Health
SAWPA	Santa Ana Watershed Project Authority
SBGPP	South Basin Groundwater Protection Program
SDWA	Safe Drinking Water Act
SOCs	synthetic organic chemicals
SWP	State Water Project
SWRCB	State Water Resources Control Board
TCE	trichloroethylene
TDS	total dissolved solids
TIN	total inorganic nitrogen
µg/L	micrograms per liter
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
UV	ultraviolet light
VOCs	volatile organic compounds
WACO	Water Advisory Committee of Orange County
WEI	Wildermuth Environmental Inc.
WF-21	Water Factory 21
WLAM	Waste Load Allocation Model
WRD	Water Replenishment District of Southern California
WRMS	Water Resources Management System

Basin 8-1 Alternative

La Habra-Brea Management Area

2022 UPDATE

Submitted by: City of La Habra

On behalf of: City of La Habra
City of Brea

January 1, 2022

Basin 8-1 Alternative

La Habra-Brea Management Area

2022 UPDATE



Jeffrey D. Helsley, P.E.

Stetson Engineers, Inc.
861 S. Village Oaks Drive, Suite 100
Covina, CA 91724

Prepared for the Department of Water Resources, pursuant to Water Code §10733.6(b)(3)

January 1, 2022

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LA HABRA-BREA MANAGEMENT AREA

SECTION 1. EXECUTIVE SUMMARY

The agencies within Basin 8-1 collaborated to prepare and submit an Alternative to a Groundwater Sustainability Plan (GSP). In accordance with Water Code §10733.6(b)(3), the Alternative presented an analysis of basin conditions that demonstrated that the Basin had operated within its sustainable yield over a period of at least 10 years. The Alternative was submitted to DWR on December 22, 2016. On July 17, 2019, DWR determined that the Alternative satisfied SGMA objectives and was therefore approved.

Approved alternatives are required to submit annual reports to DWR on April 1 of each year. Annual reports for Basin 8-1 were submitted to DWR as follows:

- Water Year 2016-17, Submitted on March 29, 2018
- Water Year 2017-18, Submitted on March 29, 2019
- Water Year 2018-19, Submitted on March 30, 2020
- Water Year 2019-20, Submitted on March 30, 2021

According to Water Code §10733.8, “At least every five years after initial submission of a plan pursuant to Section 10733.4, the department shall review any available groundwater sustainability plan or alternative submitted in accordance with Section 10733.6, and the implementation of the corresponding groundwater sustainability program for consistency with this part, including achieving the sustainability goal. The department shall issue an assessment for each basin for which a plan or alternative has been submitted in accordance with this chapter, with an emphasis on assessing progress in achieving the sustainability goal within the basin. The assessment may include recommended corrective actions to address any deficiencies identified by the department.”

The Basin 8-1 Alternative, submitted on December 22, 2016, will be referenced to as the 2017 Alternative. This document represents the first five-year update, herein referenced as the 2022 Update, which is due January 1, 2022. The 2017 Alternative was a comprehensive document showing that Basin 8-1 had been managed sustainably for more than 10 years. For the 2022 Update, the focus is on documenting that the basin has been continued to be sustainably management during the five years since the 2017 Alternative was submitted and to present any new information from the last five years. As such, the 2017 Alternative is considered a key reference document with background information that is not duplicated in the 2022 Update.

The La Habra-Brea Management Area overlies the extents of the La Habra Groundwater Basin, referenced herein. Figure 1-1 shows the extent of the La Habra Groundwater Basin and the cities (La Habra and Brea) with jurisdiction in the La Habra-Brea Management Area.

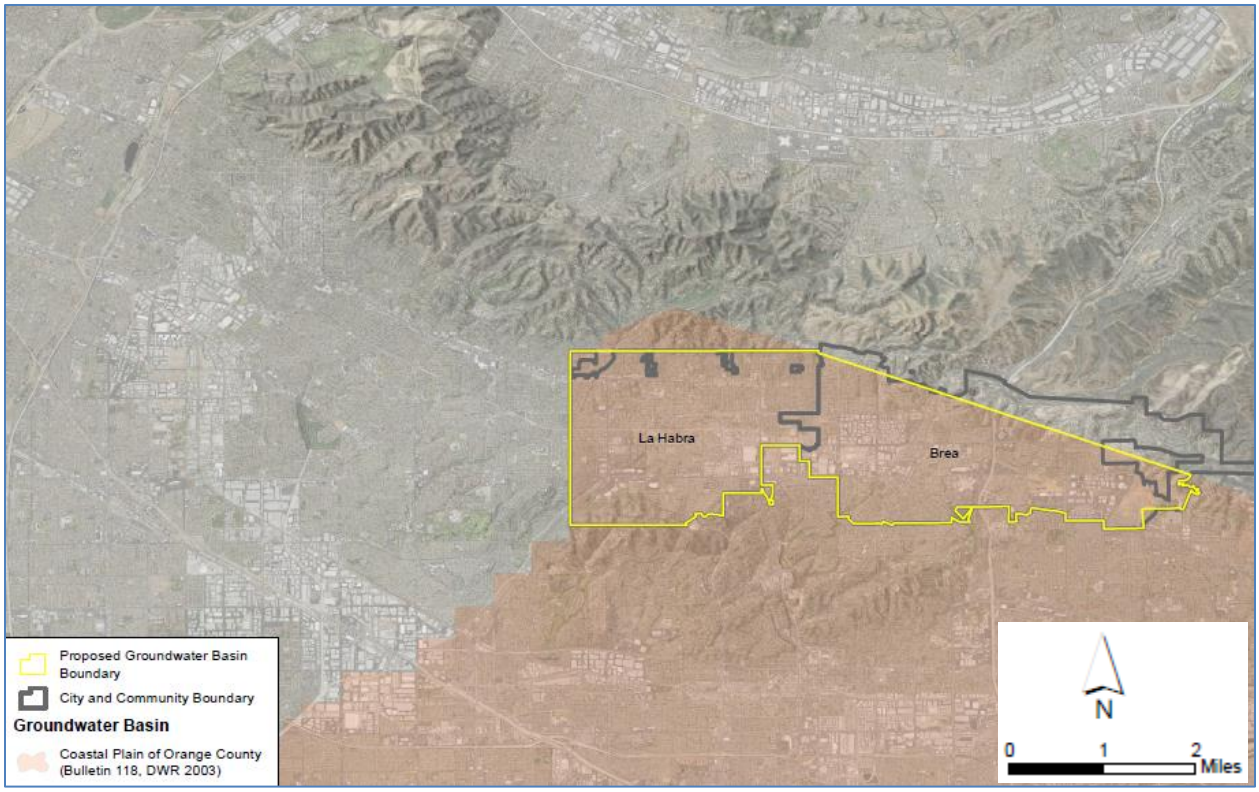


Figure 1-1. La Habra Groundwater Basin.

Groundwater resources protection is considered a critical component for safeguarding the long-term sustainability of the La Habra Groundwater Basin. The La Habra GSA has continued to sustainably manage groundwater resources within the La Habra Groundwater Basin. Groundwater production over the past five years has been within the safe yield of the basin. Accordingly, no undesirable effects have been observed within the La Habra-Brea Management Area.

As the City of La Habra (or City) currently depends on local groundwater to meet approximately 40 percent of its water consumption, preserving the sustainability of the La Habra Groundwater Basin is essential for the well-being of the City. Currently (and historically), the City of La Habra manages (and has managed) the La Habra Groundwater Basin through management plans and programs for groundwater levels, basin storage, and water quality.

SECTION 2. AGENCY INFORMATION

2.1 HISTORY OF AGENCIES IN LA HABRA GROUNDWATER BASIN

Historically, the Cities of La Habra and Brea have managed the groundwater resources in the La Habra Groundwater Basin. The history of the agencies can be found in the 2017 Alternative.

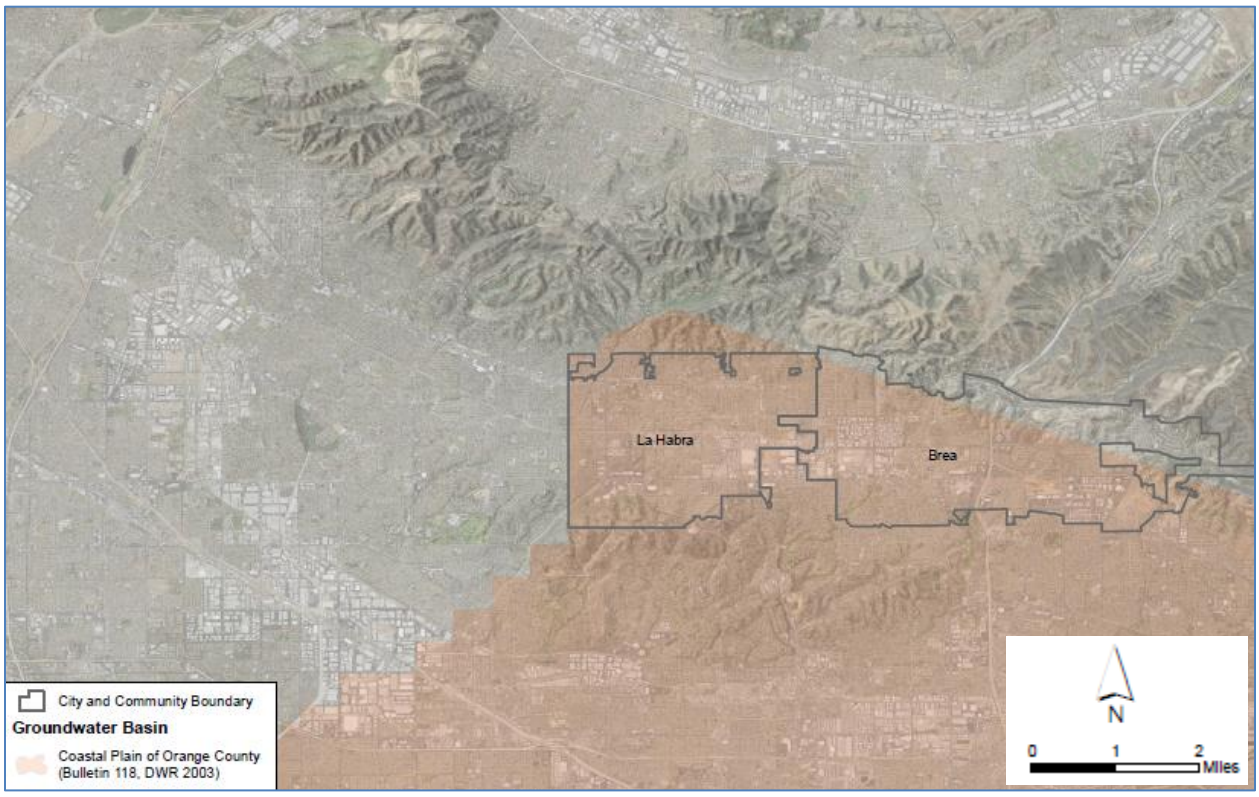


Figure 2-1: Cities of La Habra and Brea within Basin 8-1.

2.2 GOVERNANCE AND MANAGEMENT STRUCTURE

See the 2017 Alternative for a discussion on governance and management structure.

2.3 LEGAL AUTHORITY

See the 2017 Alternative for a discussion on legal authority.

2.4 BUDGET

See the 2017 Alternative for a discussion on the budget.

SECTION 3. MANAGEMENT AREA DESCRIPTION

3.1 LA HABRA GROUNDWATER BASIN SERVICE AREA

The La Habra-Brea Management Area refers to the northwestern portion of Basin 8-1, as defined by DWR Bulletin 118, overlying the La Habra Groundwater Basin. This management area is outside of the jurisdiction of OCWD. As discussed in Section 2.2, the City of La Habra adopted a resolution establishing it as a GSA, under a memorandum of agreement with the City of Brea, for management of the La Habra Groundwater Basin underlying the two cities. The City adopted a second resolution to establish the La Habra Basin as a separate basin from Basin 8-1. OCWD adopted a resolution to support the City's establishment of the La Habra Basin.

3.1.1 Jurisdictional Boundaries

The historical La Habra Groundwater Basin as described in DWR Bulletin 45 (1934) and Bulletin 53 (1947) is located in both Los Angeles (western basin) and Orange Counties (eastern basin) (see Figure 3-1). The majority of the historical La Habra Basin located in Los Angeles County is within Basin 4-11, the Coastal Plain of Los Angeles, as depicted in DWR Bulletin 118 (2003 update); the entirety of the La Habra Basin located in Los Angeles County is within the area subject to the terms of the Central Basin Adjudication. The majority of the historical La Habra Basin located in Orange County is within Basin 8-1, the Coastal Plain of Orange County as depicted in DWR Bulletin 118. Only a small portion of the historical La Habra Basin in Orange County is within the boundaries of the Orange County Water District.

The Cities of La Habra and Brea overlie a portion of the La Habra Groundwater Basin that is not within the area subject to the terms of the Central Basin Adjudication, nor within the boundaries of the Orange County Water District. The La Habra Groundwater Basin, referred to herein, includes all of the City of La Habra and the portion of the City of Brea within Basin 8-1 but not within the jurisdiction of Orange County Water District, overlying the historical La Habra Groundwater Basin (see Figure 3-2).

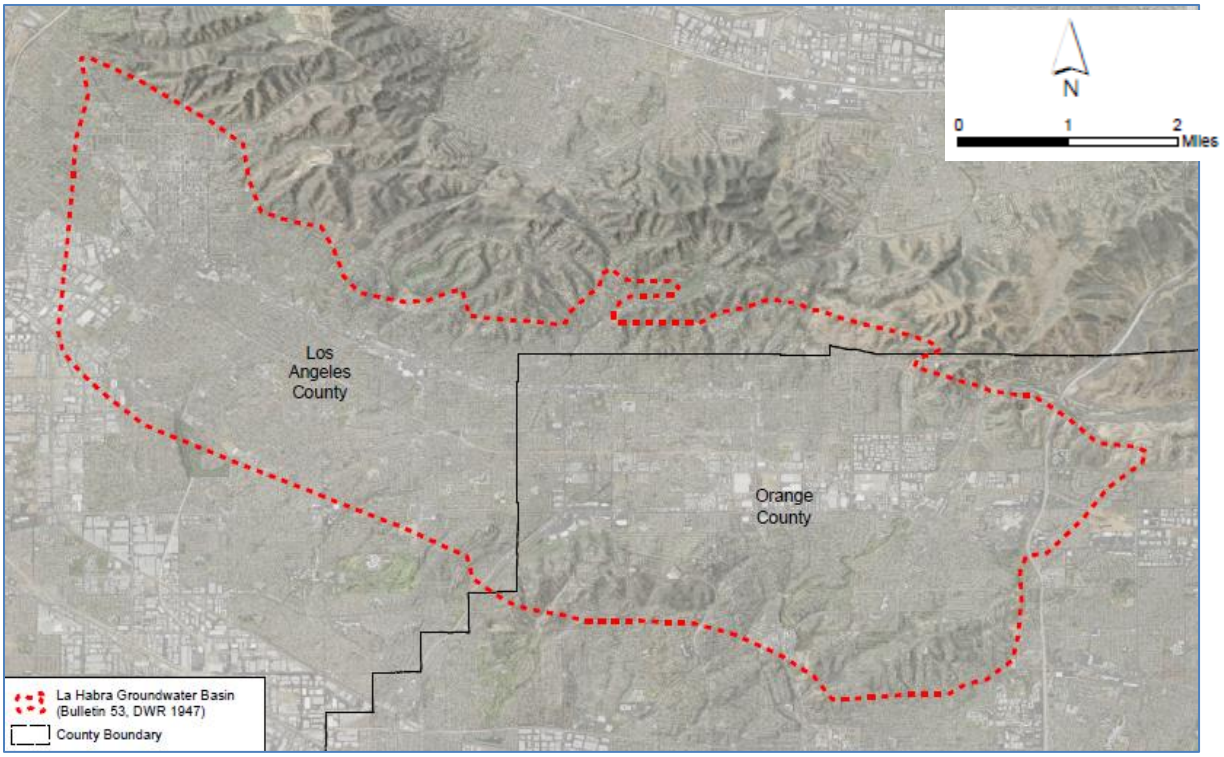


Figure 3-1: Historical La Habra Groundwater Basin (DWR, 1934. DWR, 1937).

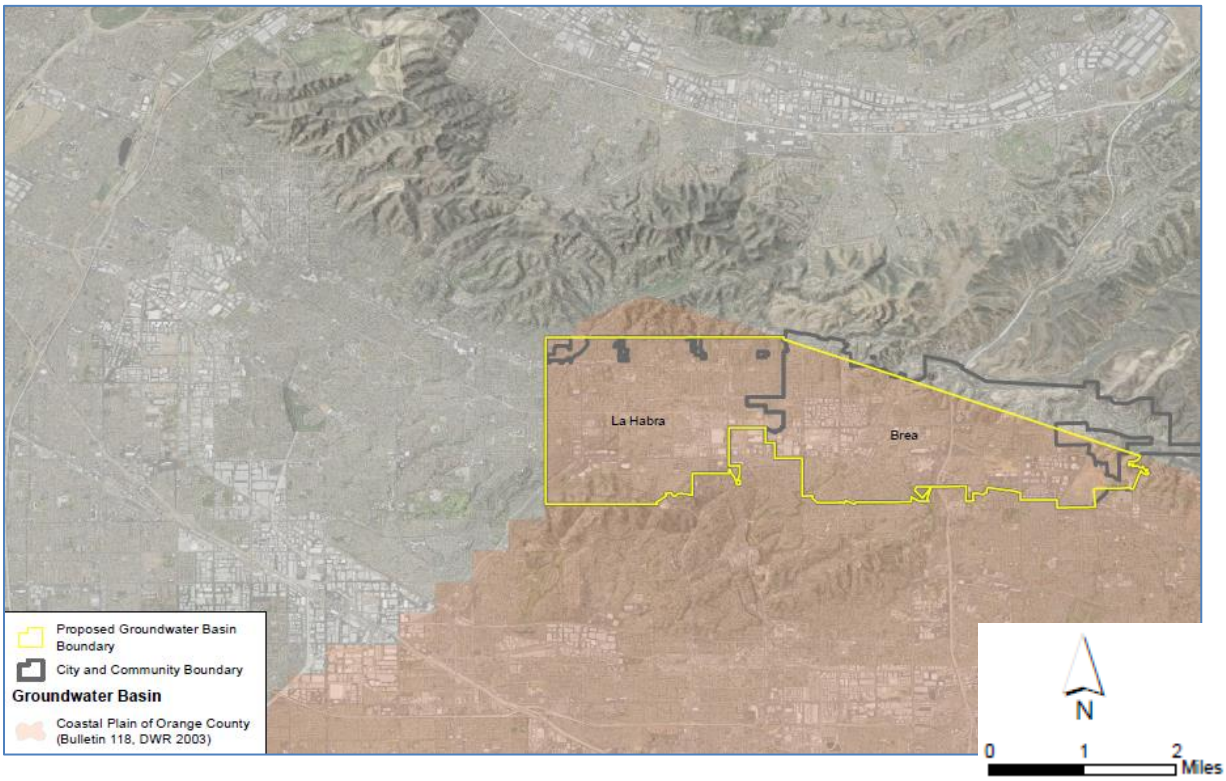


Figure 3-2. La Habra Groundwater Basin.

3.1.2 Existing Land Use Designations

The major land use within the City of La Habra is low-density residential with pockets of medium-density residential areas. Portions of La Habra consist of commercial and light industrial land uses. Likewise, land use within the City of Brea is primarily residential with sections of commercial and industrial facilities.

3.2 GROUNDWATER CONDITIONS

The geologic structure of the La Habra Groundwater Basin is dominated by the La Habra Syncline, a northwest trending, U-shaped down-fold. The syncline is deepest in the Brea area and becomes increasingly shallower to the west and is bounded by the Whittier Fault within the Puente Hills to the north and the Coyote Hills to the south (Montgomery, 1977). The La Habra Syncline produces the La Habra Valley, a naturally-occurring valley, where significant amounts of groundwater have accumulated over the past 150,000 years (Malcolm Pirnie, 2011a).

3.2.1 Groundwater Elevation

Groundwater within the La Habra Groundwater Basin generally flows from the Puente Hills in a south or southwesterly direction. Subsurface flow out of the basin occurs near Coyote and La Mirada Creeks into the Coastal Plain of Los Angeles and at the gap between the East and West Coyote Hills into the Coastal Plain of Orange County (Stetson, 2014).

A groundwater level hydrograph for a well completed in the Alluvium shows water levels declining to their lowest level in the 1950s, and recovering during the 1970s. More recent data from a nearby well shows a leveling off of water levels through the 1990s. Two other wells completed in the alluvium also show relatively flat water levels from the 1970s through the 1990s (Stetson, 2014).

Wells completed in the San Pedro Formation show rising groundwater levels. The lowest groundwater levels in this aquifer were observed during the 1930s and 1940s, with water levels recovering about 60 feet through 1972. This corresponds to DWR Bulletin No. 53 (1947) stating that the La Habra Groundwater Basin was in overdraft. More recent data show an overall rising trend of 50 to 60 feet in groundwater levels from 1970 through 2007 and a slight decline during more recent years. There were no water levels available for the La Habra Formation. See Section 3.2.3 for more information.

3.2.2 Regional Pumping Patterns

The transmissivity of a groundwater basin is the rate at which groundwater flows horizontally through the aquifer. Based on Montgomery (1977), the following are the estimated transmissivities in gallons per day per foot (gpd/ft) for each of the water-bearing zones of the La Habra Groundwater Basin.

- Alluvium: 200 gpd/ft to 10,000 gpd/ft
- La Habra Formation: 25,000 gpd/ft
- San Pedro Formation: 60,000 gpd/ft

Historically, all three water-bearing zones of the La Habra Groundwater Basin were developed for domestic and irrigation purposes, with most wells drilled between 1916 and 1940. The City of La Habra originally drilled three production wells in the deeper aquifers. Groundwater production in these wells ceased in 1968 (Montgomery, 1977). Based on Montgomery (1979), the Alluvium and La Habra Formations are not considered to have groundwater development potential for the following reasons: the Alluvium is limited in thickness and extent, has low permeability characteristics, and is of poor water quality while the La Habra Formation's permeable sand and gravel zones are thin and discontinuous. Groundwater production in the San Pedro Formation continues to this day. Based on Montgomery (1977), the following are expected well yields for each of the water-bearing zones of the La Habra Groundwater Basin.

- Alluvium: 200 gpm
- La Habra Formation: 100 gpm to 400 gpm
- San Pedro Formation: 300 gpm to 800 gpm

The City of La Habra pumps local groundwater from the La Habra Groundwater Basin from three production wells: the Idaho Street Well, the La Bonita Well, and the Portola Well. The Idaho Street Well has a capacity of 2,000 gpm but is regulated at 1,500 gpm. Water pumped from the Idaho Street Well requires treatment before entering the distribution system. This treatment consists of chlorination, air-stripping to remove ammonia and hydrogen sulfide, and the addition of sodium hexametaphosphate to sequester iron and manganese (Malcolm Pirnie, 2011a). The capacities of the La Bonita Well and the Portola Well are 850 gpm and 1,200 gpm, respectively.

The City of Brea owns and operates one non-potable groundwater well used for irrigation at the Brea Creek Golf Course (Brea, Water Master Plan Update, November 2009). The maximum capacity of this well is 450 gpm.

Table 3-1: Groundwater Production in La Habra Groundwater Basin. Acre-Feet per Year.

Year	City of La Habra	City of Brea[1]	Total
2011	1,849	76	1,925
2012	1,865	86	1,951
2013	3,073	82	3,155
2014	4,094	121	4,215
2015	3,630	50	3,680
2016	3,547	86	3,633

Year	City of La Habra	City of Brea[1]	Total
2017	3,200	96	3,295
2018	2,653	111	2,763
2019	2,158	88	2,245
2020	2,493	108	2,600
AVERAGE	2,856	90	2,946

1 Does not include small additional pumping within the City of Brea by a privately owned groundwater production well.

Sources: 2015 Urban Water Management Plans (Arcadis, 2016). City of La Habra. City of Brea.

Table 3-2: La Habra Groundwater Basin Wells

Well Owner	Well Name	Well Use	Well Depth (ft)	Well Capacity (gpm)
City of La Habra	Idaho Street	Potable	970	2,000
City of La Habra	La Bonita	Potable	890	850
City of La Habra	Portola	Potable	1,010	1,200
City of Brea	Irrigation Well	Irrigation	Unknown	450
Memory Garden Memorial Park	--	Irrigation	Unknown	Unknown

3.2.3 Long-Term Groundwater Elevation Hydrograph

Groundwater level data were compiled from DWR's Water Data Library for eight wells with sufficient data to analyze trends within the La Habra Groundwater Basin. The DWR groundwater data were available for 1970 through 2010. Montgomery's hydrographs from 1922 through 1975 are also included to capture earlier groundwater trends when there was more agricultural groundwater pumping for crop irrigation. Five of the ten monitoring wells had accompanying well logs to determine which aquifer was represented by the data. Figure 3-3 shows the location of these wells and the inferred direction of groundwater flow based on the groundwater level data (Stetson, 2014).

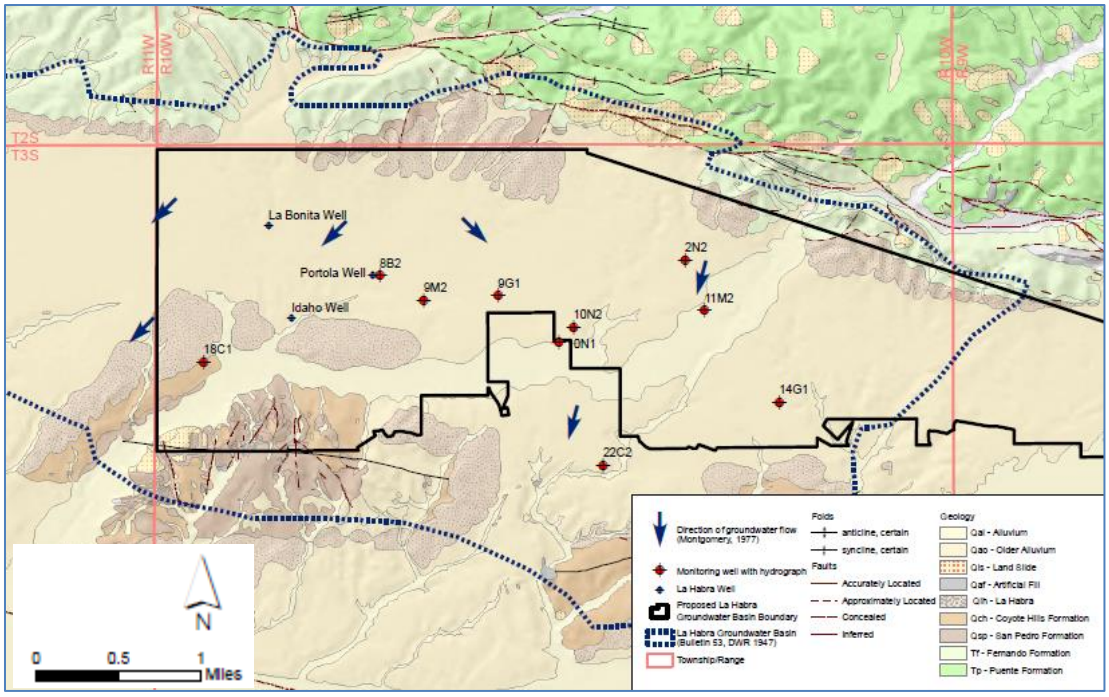


Figure 3-3: Groundwater Elevation Monitoring Wells.

The groundwater level hydrograph for a well completed in the alluvial aquifer (Figure 3-4; T3/R10-10N1) shows water levels declining to their lowest level in the 1950s, and recovering during the 1970s. More recent data from a nearby well (Figure 3-5; T3/R10-10N2) shows a leveling off of water levels through the 1990s. Two other wells completed in the alluvium (T3/R10-2N2 and -9M2) also show relatively flat water levels from the 1970s through the 1990s, (Stetson, 2014).

Wells completed in the San Pedro aquifer show rising groundwater levels. The lowest groundwater levels in this aquifer were observed during the 1930s and 1940s. This corresponds to DWR Bulletin No. 53 (1947) stating that the La Habra Groundwater Basin was in overdraft. Groundwater levels recovered about 60 feet from the 1940s through 1972 at well T3/R10-14G1. More recent data from well T3/R10-18C1 show an overall rising trend of 50 to 60 feet in groundwater levels from 1970 through 2007 and a slight decline during the last three years of data. There were no water levels available for the La Habra aquifer (Stetson, 2014).

Recent data showing the depth to groundwater are presented in Figure 3-6. Wells T3/R10-9G1 and -8B2 show a similar pattern of rising groundwater levels through 2007 as seen at well T3/R10-18C1 completed in the San Pedro aquifer. The alluvial aquifer well data present a relatively flat groundwater level from 10 to 40 feet below land surface. The depth to groundwater graph shows groundwater levels in the San Pedro Aquifer recovering to levels observed in the alluvial aquifer (Stetson, 2014).

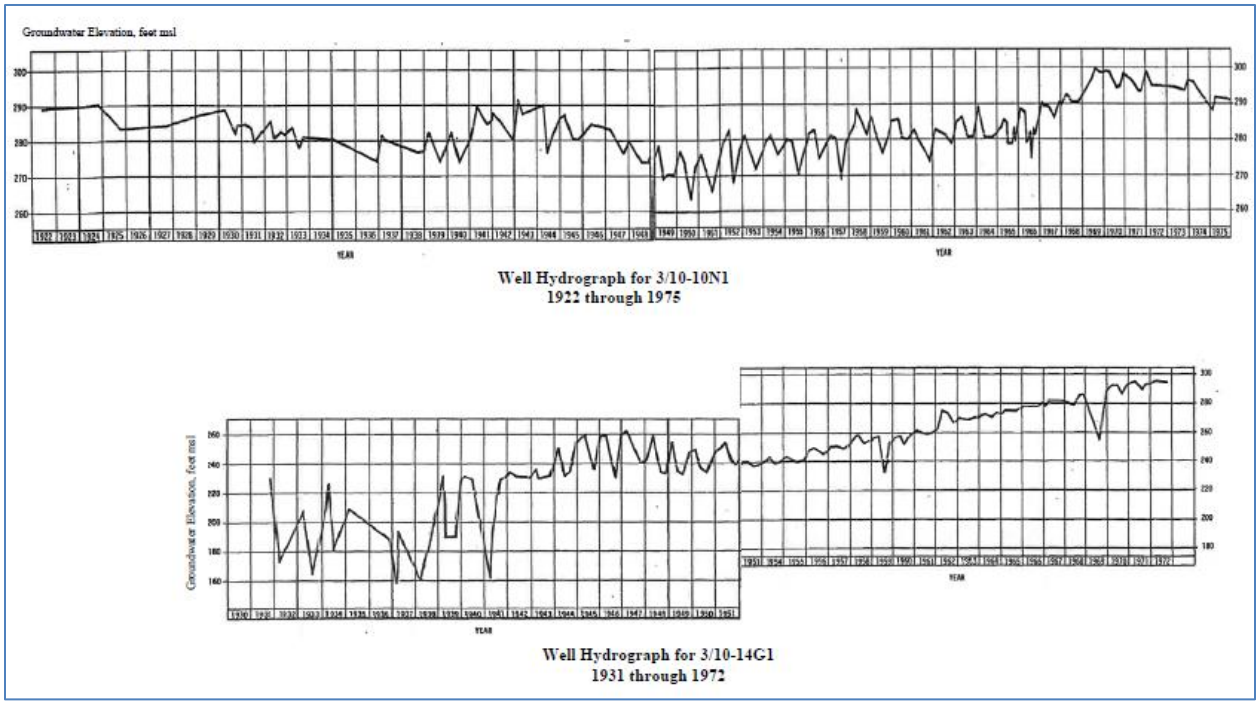


Figure 3-4: Early Well Hydrograph. 1922 Through 1975.

Source: Montgomery, 1977.

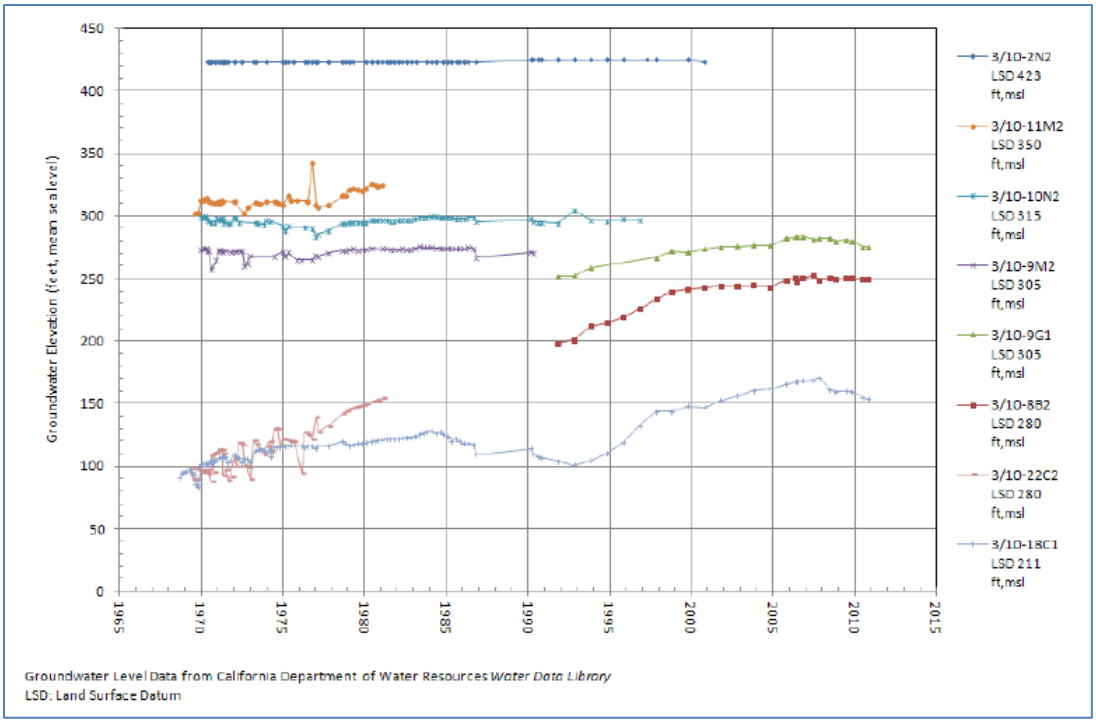


Figure 3-5: Groundwater Level Hydrographs.

Source: Stetson, 2014.

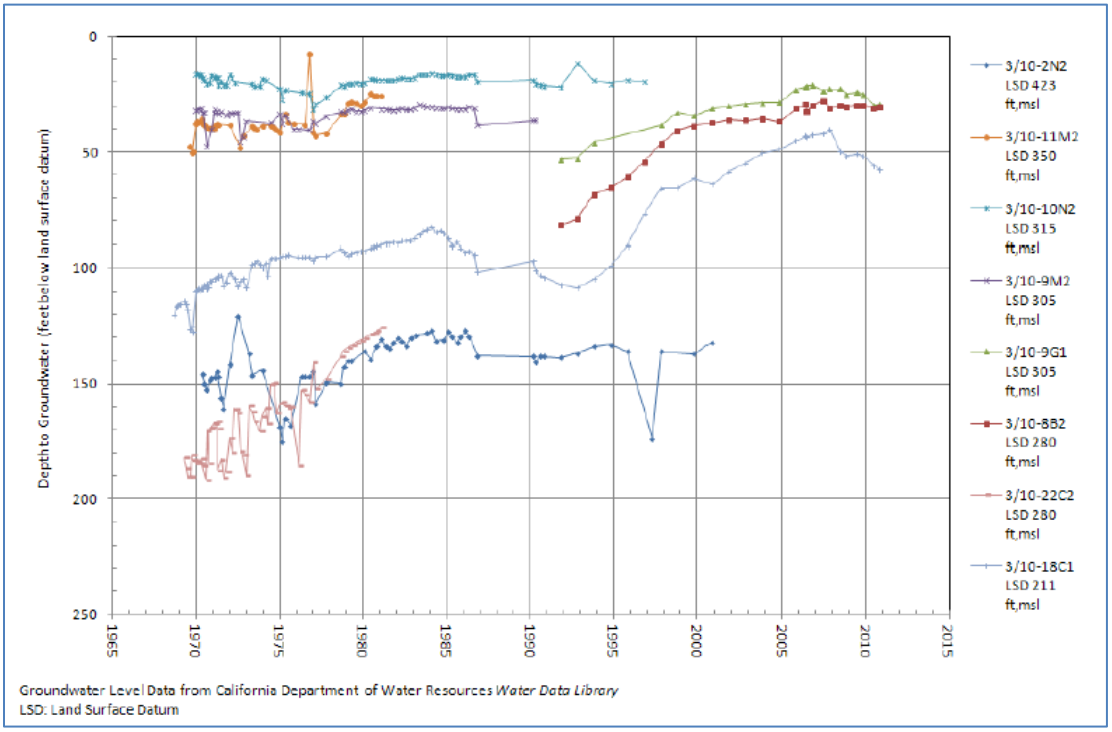


Figure 3-6: Depth to Groundwater.

Source: Stetson, 2014.

The hydrograph for the monitoring well with both recent data and a long period of record is shown in the figure below. Recent groundwater level data suggest that groundwater levels are stable and the basin is in balance.

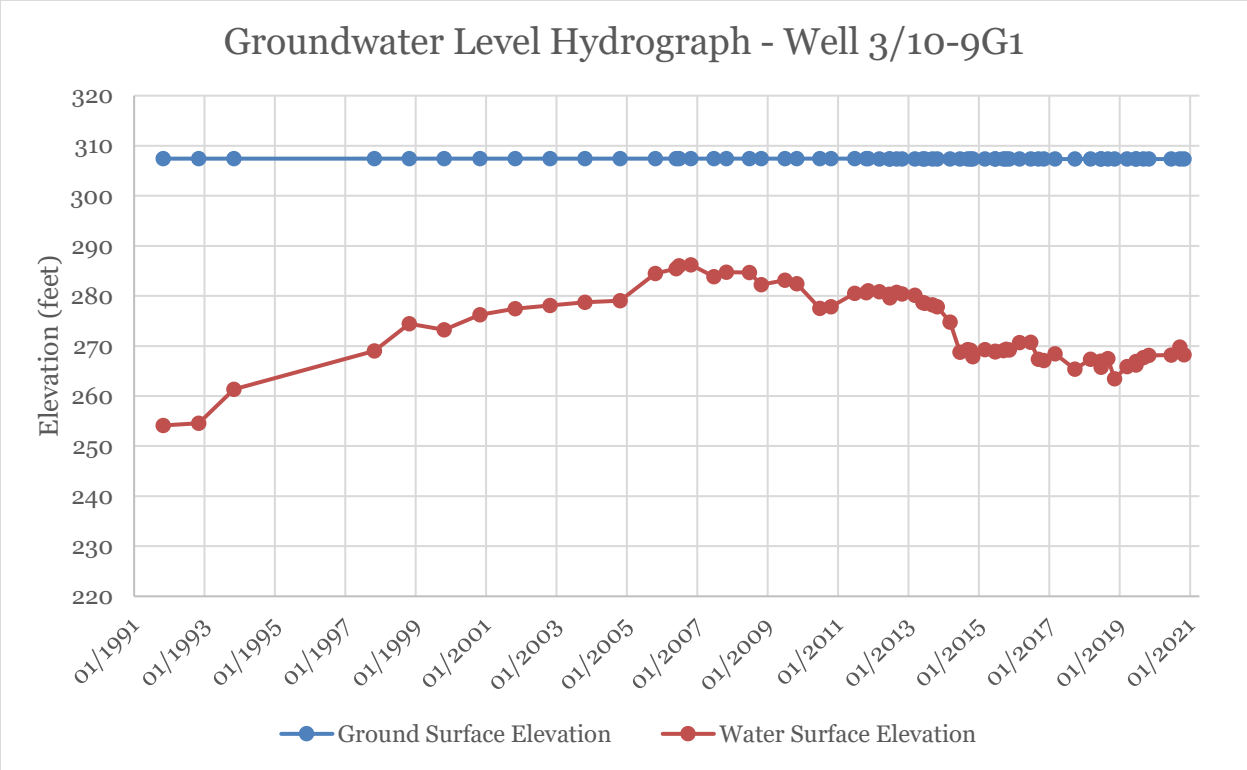


Figure 3-7: Recent Groundwater Level Hydrograph.

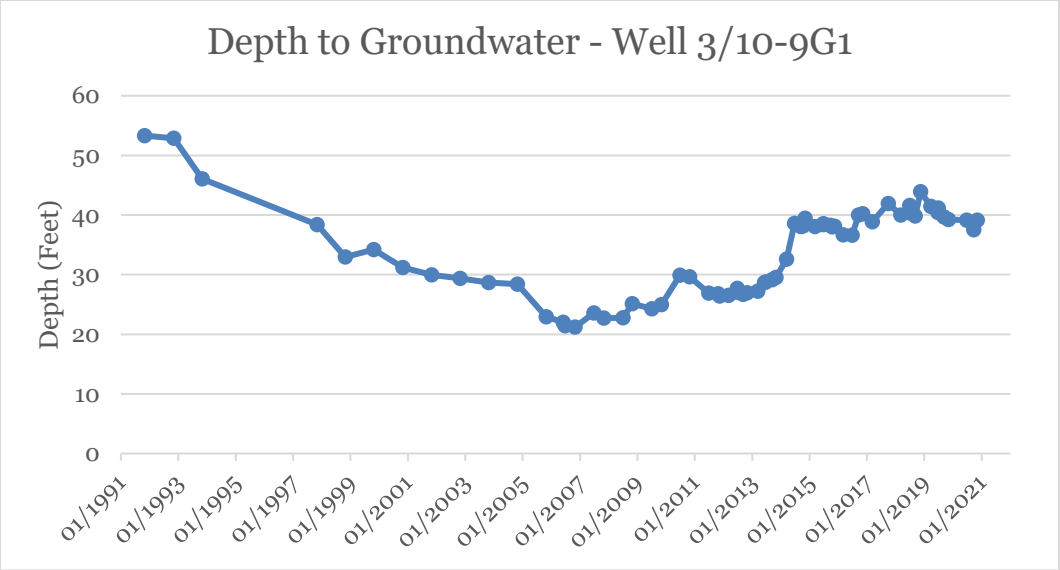


Figure 3-8: Recent Depth to Groundwater.

3.2.4 Groundwater Storage Data

According to the DWR Bulletin 45 (1934), the storage capacity of the historical La Habra Groundwater Basin is approximately 153,000 acre-feet. Approximately 57 percent of the historical La Habra Groundwater Basin is in the eastern portion of the basin which is now designated within Basin 8-1. The Cities of La Habra and Brea overlie approximately 60 percent of the eastern portion of the historical La Habra Groundwater Basin (Stetson, 2014). Accordingly, the storage capacity of the current La Habra Groundwater Basin is approximately 55,000 acre-feet.

3.2.5 Groundwater Quality Conditions

Previous investigations of water quality within the La Habra Basin determined that the quality is extremely variable. It was shown that shallow regions within the central portion of the basin as well as areas recharged by surface water along the basin boundary are of a bicarbonate and chloride character. Sulfate concentration increased with depth in the La Habra and San Pedro water-bearing zones. The historical data also shows that total dissolved solids (TDS) concentrations have remained relatively stable (Montgomery, 1977). The most recent 10-year average TDS concentrations in the La Bonita, Portola, and Idaho wells are 1,052 mg/l, 750 mg/l, and 802 mg/l, respectively.

Overall, groundwater from the San Pedro Aquifer is considered to be of fair to good quality (Montgomery, 1979). However, groundwater produced from the La Habra Groundwater Basin is not currently used directly for potable purposes due to water quality concerns that predate SGMA legislation. Water from the La Bonita and Portola Wells is chlorinated and then blended

with water purchased from the California Domestic Water Company in a 250,000-gallon forebay to reduce the concentration of minerals prior to entering the City of La Habra's distribution system (La Habra, 2014).

Groundwater production wells in Brea are strictly used for irrigation purposes as the groundwater beneath the city has poor water quality and would require extensive treatment and blending with higher quality water to meet public health standards (Malcolm Pirnie, 2011).

Table 3-3 below shows historical water quality for select constituents. Recent State database water quality results indicate reported exceedances in raw groundwater for nitrate, perchlorate, volatile organic compounds (VOCs), and radioactivity, with the most recent violation occurring in 2014 (Safe Drinking Water Information System).

Table 3-3: Historical Constituent Concentrations (1927-1977)

Constituent	Minimum	Maximum	Average
Specific Conductance	255	2,235	1,324
Total Dissolved Solids	269	1,696	943
Sulfate	0	672	174
Chloride	18	460	161
Nitrate	0	185	44
Fluoride	0	1.6	0.44
Total Hardness	75	931	489

Source: Montgomery, 1977.

3.2.6 Land Subsidence

Based on Orange County Water District's 2015 Update to its Groundwater Management Plan, there is no evidence that the observed minimal land surface changes in portions of Orange County has caused, or are likely to cause, any structural damage within the area (OCWD, 2015). As long as groundwater elevations and storage within the basin are maintained within their historical operating ranges, the potential for problematic land subsidence is reduced.

Additionally, the United States Geological Survey (USGS) does not show the La Habra Groundwater Basin as an area where there have been historical or current subsidence recorded due to either groundwater pumping, loss of peat, or oil extraction (USGS, 2021). There is also no evidence of land subsidence within the La Habra Groundwater Basin according to the Department of Water Resources' SGMA Data Viewer. Vertical displacement estimates are

derived from Interferometric Synthetic Aperture Radar (InSAR) data and show only a minimal positive vertical displacement within the area (DWR, 2021a). Accordingly, there are no known land subsidence undesirable results caused by depletion of groundwater resources.

3.2.7 Groundwater and Surface Water Interactions and Groundwater Dependent Ecosystems

The La Habra Groundwater Basin lies entirely within the Coyote Creek Watershed (see Figure 3-7). The Coyote Creek Watershed drains approximately 165 square miles of densely populated areas of residential, commercial, and industrial areas as well as areas of open space (Atkins, 2012). Coyote Creek is a tributary to the San Gabriel River. Major Creeks within the watershed are: Coyote Creek, Brea Creek, Fullerton Creek, Carbon Creek, Moody Creek, and Los Alamitos Channel, some of which are concrete lined.

Coyote Creek, Brea Creek, and La Mirada Creek (a non-major creek) all flow into and drain out of the La Habra Valley. The total drainage area of these three creeks within the valley is approximately 12,950 acres (Stetson, 2013). Coyote Creek and La Mirada Creek are surface waters flowing through the boundaries of the City of La Habra. Montgomery (1977) determined that about 30% of the runoff available in an average rainfall year percolates to the aquifers underlying the La Habra Valley.

The San Pedro Formation is naturally recharged directly through aquifer outcrops (exposed formation sediments) in the Los Coyote Hills (south of the intersection of Beach Boulevard and Imperial Highway) and in the Puente Hills (along the foothills north of Whittier Boulevard) [Montgomery, 1977]. The San Pedro Formation could also be indirectly recharged through the uplifted and exposed San Pedro beds that lie just below a thin layer of alluvium along the Coyote Creek valley (Montgomery, 1977). Within the La Habra Valley, an estimated 15% of precipitation contributes to aquifer recharge as direct percolation of precipitation. The 40-year average rainfall (14 inches) results in a water supply from precipitation within the 10,160-acre drainage area of approximately 1,780 AFY (Stetson, 2013).

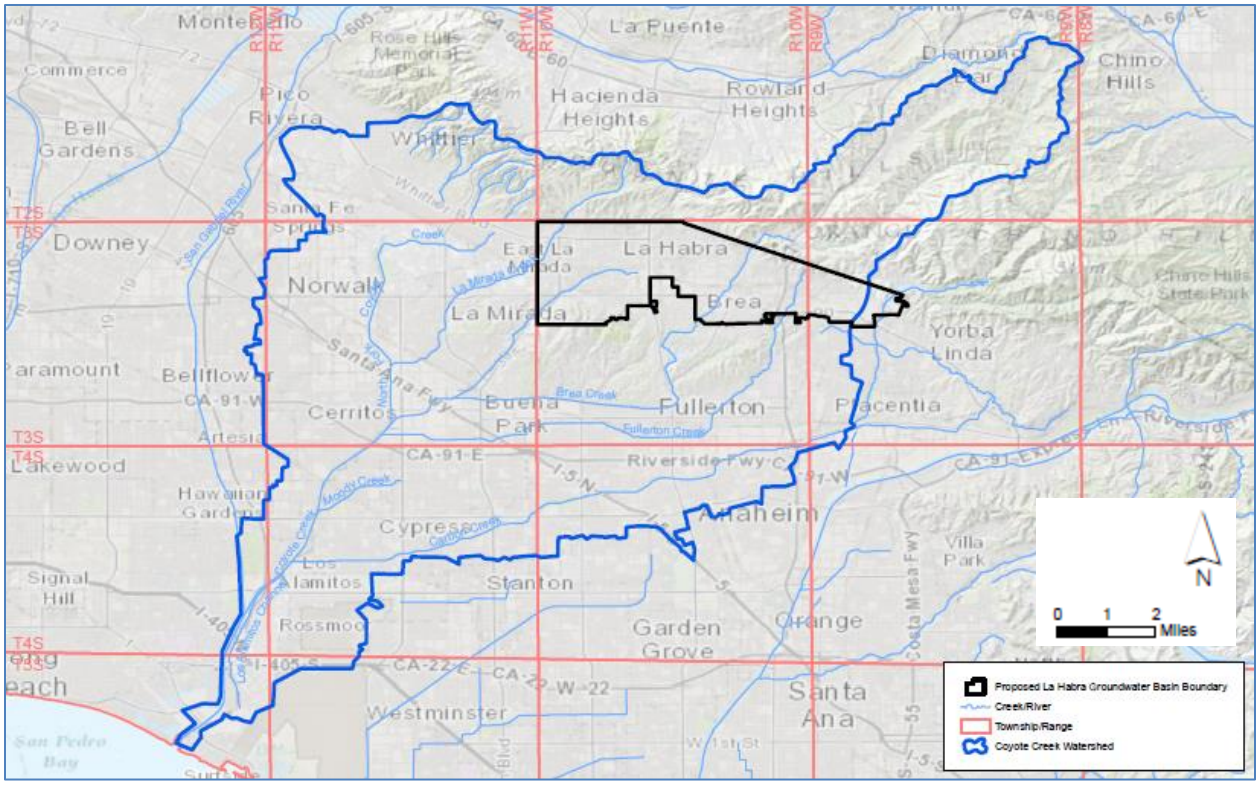


Figure 3-9: Coyote Creek Watershed.

A review of available references was conducted to identify any potential presence of Groundwater Dependent Ecosystems (GDEs) in the La Habra-Brea Management Area and to review potential impacts groundwater extraction may have on the ecosystems. DWR's Natural Communities (NC) dataset includes two habitat classes which are associated with groundwater: wetland features and vegetation types. Small areas of GDEs such as Palustrine, scrub-shrub, seasonally flooded wetlands, have been found on the western portion of the La Habra Groundwater Basin. Groundwater dependent vegetation, such as Coast Live Oak, Willow, and Riparian Mixed Hardwood have been found in small areas within the central and eastern portions of the La Habra Groundwater Basin (DWR, 2021b). As shown in Figure 3-10 below, groundwater extraction does not occur near groundwater dependent vegetation or wetlands. Likewise, potential groundwater recharge locations are not located near groundwater dependent vegetation; therefore, any future recharge project would not alter the current natural ecosystem. La Habra's groundwater production wells extract groundwater from the San Pedro formation, the deepest aquifer unit that forms the La Habra Groundwater basin, which is significantly deeper than the than the perched alluvial (Yerkes, 1972). The areas of vegetation identified as groundwater dependent ecosystems are along the base of the surrounding hills at the limits of the basin and are also supported by surface water runoff and rainfall. Cross sections in the region indicate shallow groundwater in those areas.

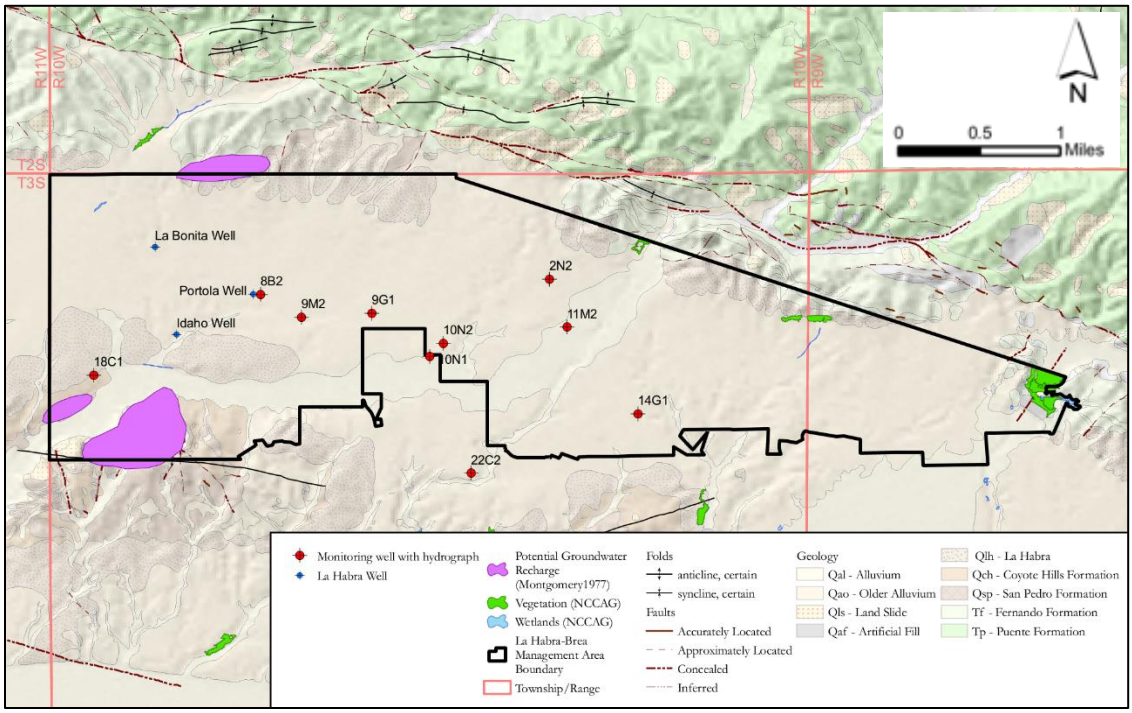


Figure 3-10: Groundwater Dependent Ecosystems.

SECTION 4. WATER BUDGET

4.1 BUDGET COMPONENTS

The components of the water budget generally include recharge from precipitation and runoff, recharge from subsurface inflow, subsurface outflow, and groundwater production.

Recharge components of the water budget consist of mountain front and streamflow recharge and deep percolation of precipitation. Various hydrogeologic studies show that annual natural recharge ranges from 3,300 AFY to 3,900 AFY. No measurable subsurface inflow occurs into the La Habra- Brea Management Area. Additionally, no artificial recharge occurs in the La Habra-Brea Management Area at this time.

Outflow components of the water budget consist of groundwater production and subsurface outflow. Groundwater production in La Habra-Brea Management Area has ranged from approximately 2,000 AFY to 4,200 AFY in recent years (See Table 3-1). Subsurface flow out of the groundwater basin occurs westerly near Coyote and La Mirada Creeks into the Coastal Plain of Los Angeles (Central Basin), and southerly at the gap between the East and West Coyote Hills into the main Coastal Plain of Orange County (Stetson, 2014). Subsurface outflow ranges from 2,200 to 5,500 AFY (OCWD 2015).

4.2 CHANGES IN GROUNDWATER STORAGE

Based on water level measurements the water budget appears to be in balance over the past ten years. Changes in groundwater storage are monitored through the monitoring of groundwater elevations which have shown rising trends since the 1970s. Available groundwater level data indicate groundwater levels have generally increased or remained stable over the last five years. See Section 3.2.3. These conditions indicate groundwater storage changes in the La Habra Groundwater Basin are within an acceptable range and undesirable results are not present.

4.3 WATER YEAR TYPE

The estimated water budget is based on normal/average water year type. However, historical hydrographs indicate stable or rising groundwater levels, even during dry and prolonged drought years, indicating that the water year type has little impact on the water budget.

4.4 ESTIMATE OF SUSTAINABLE YIELD

Groundwater production within the La Habra-Brea Management Area is managed by the establishment of a safe yield so that the groundwater levels and storage capacity in the La Habra Groundwater Basin will be maintained.

In 1977, Montgomery Engineers completed a groundwater study for the City of La Habra and estimated the "probable long-term groundwater basin yield" of the La Habra Groundwater Basin based on the natural recharge and natural discharge methods. Stetson conducted a re-evaluation of Montgomery's 1977 safe yield analysis in 2013 to re-determine the estimated safe yield based on the natural recharge method. The average of these two methods (natural discharge and natural recharge) results in an approximate safe yield of 4,500 AFY.

The City of La Habra has been producing groundwater since the late 1990s and monitoring static and pumping groundwater elevations since 2008. Previous investigations into groundwater levels and the safe yield have been used to manage the La Habra Groundwater Basin for over 10 years.

4.5 ESTIMATED WATER BUDGET

The estimated water budget is shown in Table 4-1 below. There is currently insufficient data to determine precise estimates of the water budget components; accordingly, the water budget is presented as ranges.

Table 4-1: Estimated Water Budget

Budget Component	Estimated Range [1]
Inflows	
Precipitation	1,600 - 1,800
Mountain Front Recharge	1,700 - 2,100
Incidental/Other Recharge	Unknown
Outflows	
Subsurface Outflow	2,200 – 5,500
Groundwater Extraction	2,000 – 4,000
BALANCE[1]	**0**

1 This water budget is based on previous historically estimated inflows and outflows in the La Habra Groundwater Basin. Available water level data show rising or stable groundwater levels indicating the Basin is in balance. Therefore, the historical estimates may not account for all of the recharge occurring in the Basin.

Sources: Montgomery, 1977. OCWD, 2015. Stetson, 2013.

SECTION 5. WATER RESOURCE MONITORING PROGRAMS

5.1 OVERVIEW

The La Habra Groundwater Basin is currently monitored for groundwater elevations and for groundwater quality through productions wells and monitoring wells within the City of La Habra. Surface water is currently not monitored in the Cities of La Habra and Brea overlying the La Habra Groundwater Basin. Recycled water is not used within the La Habra-Brea Management Area. Imported surface water and groundwater is used within the La Habra-Brea Management Area for potable supply. These potable water sources are monitored prior to delivery and not directly monitored by the Cities of La Habra and Brea.

5.2 GROUNDWATER MONITORING PROGRAMS

Groundwater Elevations

Since 2008, the City of La Habra has measured non-pumping and pumping groundwater elevations at its production wells to review general trends in groundwater elevations in the Basin.

The City of La Habra will supplement its existing groundwater elevation monitoring program by including water level measurements reported by DWR for three monitoring wells in the La Habra Basin. Groundwater elevations have previously been reported by DWR for wells 3/10-9G1, 3/10-8B2, and 3/10-18C1; however, only well 3/10-9G1 is currently being reported. Currently, La Habra is working to expand its monitoring network. See Section 9.2 for additional information.

Groundwater Quality

Currently, the City samples for constituents at its production wells pursuant to Title 22 of the California Code of Regulations (Title 22). Under Title 22, the City monitors and reports groundwater quality for constituents that are regulated by the State Water Resources Control Board Division of Drinking Water pertaining to maximum contaminant levels (MCLs). The City of La Habra also monitors areas of contamination, as described in its Drinking Water Source Assessments provided to the Division of Drinking Water for its production wells. The City of La Habra plans to continue to review and comment on documents regarding these areas within the City limits as well as be aware of any areas outside of its jurisdiction that may affect the water quality of the Basin through surface or subsurface flow.

The City of La Habra plans to continue its existing groundwater water quality monitoring program and will evaluate the need for additional monitoring above its current program in accordance with DWR GSP regulations.

5.3 OTHER MONITORING PROGRAMS

Currently the City of La Habra does not perform any surface water quality monitoring; however, the City of La Habra will investigate any existing programs for the Coyote Creek Watershed including monitoring programs being developed in response to regulations set forth for the watershed by the local Regional Water Quality Control Board (Coyote Creek is shown on the Clean Water Act's 303(d) list of impaired waters). The City of La Habra will consider developing and implementing its own surface and subsurface inflow quality monitoring programs for the local watershed in accordance with DWR GSP regulations.

Likewise, the City of La Habra does not monitor land subsidence within the La Habra-Brea Management Area. However, the City may develop a program to monitor and measure the rate of land surface subsidence in accordance with DWR GSP regulations in the future if a land subsidence is determined to be likely to cause undesirable results.

SECTION 6. WATER RESOURCE MANAGEMENT PROGRAMS

Groundwater resources protection is considered a critical component for safeguarding the long-term sustainability of the La Habra Groundwater Basin. Groundwater resources protection includes water resources planning and an ordinance to prohibit the extraction and exportation of groundwater underlying the City for use outside the City as well as groundwater protection programs including well construction, abandonment, and destruction policies, wellhead protection, and the control of the migration and remediation of contaminated, poor quality, or saline water.

6.1 LAND USE ELEMENTS RELATED TO BASIN MANAGEMENT

The Cities of Brea and La Habra participate in two water resources management planning documents: the Integrated Regional Water Management Plan, and the Urban Water Management Plan.

Integrated Regional Water Management Plan

Integrated Regional Water Management (IRWM) is a collaborative approach of implementing water management solutions on a regional scale in order to address water resources needs. The Greater Los County Region has been designated as an IRWM region and is comprised of the following subregions: North Santa Monica Bay, South Bay, Upper Los Angeles River, Upper San Gabriel and Rio Hondo Rivers, and Lower San Gabriel and Los Angeles Rivers. The Coyote Creek watershed, which overlies the La Habra Groundwater Basin, is within the Lower San Gabriel and Los Angeles Rivers IRWM subregion. The La Habra Groundwater Basin contributes a small portion of the groundwater produced within the subregion.

Urban Water Management Plan

Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act require every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually to prepare, adopt, and file an Urban Water Management Plan (UWMP) with the California Department of Water Resources (DWR). The Cities of Brea and La Habra both are required to file an UWMP every five years with DWR. The UWMP is a management tool that provides water planning and identifies water supplies needed to meet existing and future water demands.

6.2 GROUNDWATER WATER QUALITY PROTECTION AND MANAGEMENT

Well Construction, Abandonment, and Destruction Policies

The policies that govern well construction, abandonment, and destruction are designed specifically to protect groundwater quality. The administration of these policies has been delegated to individual counties by California legislature. As stated in Orange County Ordnance No. 2607, all well activity within Orange County will comply with the standards set in DWR Bulletin 74, Chapter 2. These standards are enforced by the Orange County Health Care Agency. The Cities of La Habra and Brea properly construct and abandon wells pursuant to Orange County Ordnance No. 2607.

Wellhead Protection Measures

Wellhead protection is a way to prevent drinking water from being contaminated by managing sources of potential contamination within the vicinity of a production well. Surface contaminants can enter a well through the outside edge of the well casing or directly through opening in the well head. These contaminants can travel in two directions: to the groundwater aquifer or to the distribution system. As defined in the Safe Drinking Water Act Amendments of 1986, a wellhead protection area is “the surface and subsurface area surrounding a water well or well field supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field.”

The Cities of La Habra and Brea design and construct wells in accordance with the measures described in DWR Bulletin 74 so that the wellhead is protected from contamination. Important wellhead protection measures described in Bulletin 74 include: methods for sealing the well from intrusion from surface contaminants, site grading to assure drainage is away from the wellhead, and set-back requirements from known pollution sources.

Control of Migration and Remediation of Contaminated Groundwater

Groundwater can become contaminated naturally or through human activity. Based on a 2010 drinking water assessment performed by the City of La Habra, sources of potential groundwater contamination to the La Habra Basin include: car repair and bodywork shops, gas stations, machine and metalwork shops, and sewer collection systems (La Habra, 2013).

The City of La Habra has previously taken the position that oil and gas mining operations in or up gradient of the basin have the potential to release chemicals that could contaminate groundwater, particularly during fracking activities.

The Cities of La Habra and Brea will monitor the migration of contaminants through its water quality monitoring program and will also monitor nearby oil and gas mining operations. This will allow the point and non-point pollution sources to be identified. If contamination becomes a concern in the future, an approach to address the problem will be developed.

Control of Saline Water Intrusion

Raised salinity is a significant water quality problem in many parts of the southwestern United States and southern California, including Orange County. Elevated salinity is of concern as it can limit the implementation of recycling water projects and potentially require water purveyors to perform additional treatment on their water supplies.

The level of salinity is sometimes measured based on Total Dissolved Solids (TDS) concentrations. The TDS concentrations in the La Habra Basin are naturally occurring and it is not believed that current activities in the basin significantly contribute to the TDS loading in the basin. The TDS concentrations are not a result of saline water intrusion. The TDS concentrations in the City of La Habra's wells are below the secondary Maximum Contaminant Level (MCL) of 1,000 mg/L. TDS is listed as a secondary constituent as it does not directly cause harm to consumers but can affect the aesthetic quality of the water, including taste.

Stormwater Pollution Prevention

The City of La Habra is under the Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System (NPDES) permit, Order R8-2009-0030. The current adopted permit requires mandates for the implementation of water quality control programs including adopting development standards for existing and new development. Although the NPDES permitting program is intended to protect surface water quality by preventing unauthorized stormwater discharges and discharges to navigable water, groundwater quality is also protected through the NPDES program incidental percolation of surface water into the groundwater occurs.

The City of La Habra implements additional best management practices to prevent pollutant discharges. To assist developers and owners with implementation of NPDES requirements and best management practices for construction projects, the City of La Habra has created a Construction Runoff Guidance Manual. Likewise, the Model Water Quality Management Plan has been developed to address urban runoff and pollution. A water quality ordinance has been adopted (La Habra Municipal Code Chapter 13.24) to locally enforce California stormwater regulations. Additionally, the City of La Habra conducts investigations, inspections, trainings, maintenance, and public education to reduce pollution and contamination. These management practices

Blending Program

As discussed in Section 3.2.5, groundwater contamination exists in portions of the La Habra Groundwater Basin. To manage groundwater quality concerns, the City of La Habra blends groundwater from the La Habra Groundwater Basin with imported water (both groundwater and surface water) in order to reduce contaminant levels prior to distribution. See also Section 11.4 discussion on management programs.

6.3 GROUNDWATER EXPORT PROHIBITION

The protection of the health, welfare, and safety of the residents and economy of the City of La Habra require that the groundwater resources of the City be protected for present and future municipal, industrial, and domestic beneficial uses within the City. The sustainable yield of the portion of the La Habra Basin underlying the City is not sufficient to serve beneficial uses in addition to the beneficial municipal, industrial and domestic uses currently served through the City municipal water system. The best interest of the present and future inhabitants of the City is served by the prohibition against the extraction and exportation of groundwater produced from within the City's jurisdictional boundaries. Accordingly, on December 21, 2015, the City of La Habra adopted Ordinance No. 1767 to prohibit the extraction and exportation of groundwater underlying the City for use outside of the City.

SECTION 7. NOTICE AND COMMUNICATION

7.1 INTRODUCTION

The Cities of La Habra and Brea overlie the La Habra Groundwater Basin and are the only producers of groundwater within the basin. Potential agencies that may additionally have a stake in the successful management of the basin include:

- Central Basin Watermaster (DWR): adjudicated Central Basin (Los Angeles)
- OCWD: actively manages Orange County portion
- City of Fullerton: included in OCWD's service area

7.2 GROUNDWATER PRODUCERS

As the City of Brea is a direct stakeholder in the Orange County portion of the La Habra Basin outside of OCWD's service area, Brea was included in the preparation of this plan.

While the Central Basin Watermaster, OCWD, and the City of Fullerton do not have a direct stake in the Orange County portion of the La Habra Basin outside of OCWD's service area that is the focus of this Plan, the portions of the historical La Habra Basin underlying these entities are hydrologically connected to the portion of the basin that is the subject of this Plan. As such these entities were informed that OCWD was preparing this Plan and the planned management of the basin was discussed with them.

7.3 PUBLIC PARTICIPATION

The City of La Habra has invited the public to participate in City Council meetings where management of the La Habra Basin and future actions have been discussed and presented. See the 2017 Alternative for additional information.

The La Habra GSA will strive to involve the public in groundwater management decisions regarding the La Habra-Brea Management Area. In the future, the La Habra GSA plans to provide copies of the periodic groundwater reports that will be prepared to the public at their request and publish information on groundwater management accomplishments on the City's website. The La Habra GSA will also comply with the public participation requirements under SGMA.

7.4 COMMUNICATION PLAN

The La Habra GSA plans to prepare a summary report of the current conditions of the La Habra Groundwater Basin ideally every two to five years using the results from the monitoring program (see Section 5.0). These informative reports will be used to plan future groundwater projects, develop new groundwater policies, and identify any new concerns with the basin.

SECTION 8. SUSTAINABLE MANAGEMENT APPROACH

As the City of La Habra currently depends on local groundwater to meet approximately 40 percent of its water consumption and the City of Brea uses groundwater to meet irrigation needs, preserving the sustainability of the La Habra Groundwater Basin is essential for the well-being of the two cities. Currently (and historically), the City of La Habra manages (and has managed) the La Habra Groundwater Basin through management plans and programs for groundwater levels, basin storage, and water quality, discussed below in Sections 9, 10, and 11, respectively. Seawater intrusion and land subsidence are not occurring in the La Habra-Brea Management Area, and are not anticipated to occur; therefore, they are not actively managed at this time. Likewise, groundwater-surface water interactions are not actively managed at this time. No undesirable results have been observed in the La Habra Groundwater Basin.

As a key component of sustainable management, the Cities of La Habra and Brea strongly promote conservation as a means to preserve water supplies. Both cities have sections on their websites dedicated to water conservation in addition to including conservation guidance in their annual Consumer Confidence Reports distributed to residents.

SECTION 9. MANAGING GROUNDWATER LEVELS

A solid understanding of groundwater elevations, seasonal fluctuations and response to pumping, existing basin yield, and how groundwater is stored and transmitted through the basin is critical for sustainably managing the La Habra-Brea Management Area.

9.1 HISTORY OF BASIN CONDITIONS AND MANAGEMENT ACTIONS

As shown on Figures 3-4, 3-5, and 3-6, groundwater levels in the La Habra-Brea Management Area have recovered from lows in the 1930 to 1950s and have experienced a general rising trend and leveling off since the 1970s. Given consistent groundwater production within the estimated safe yield of the basin, groundwater levels are expected to remain steady in the future.

9.2 MONITORING OF GROUNDWATER LEVELS

The City of La Habra recognizes the great importance of monitoring groundwater levels and acknowledges the current data gaps in the monitoring network. Monitoring groundwater levels is critical to basin management because water levels impact other potential undesirable results: loss of groundwater in storage, degraded water quality, land subsidence, and depletion of interconnected surface water. Groundwater levels can serve as a proxy for identifying potential impacts related to other groundwater conditions.

As discussed in Section 5.2, the City has measured non-pumping and pumping groundwater elevations at its production wells since 2008. At the time the Alternative was first being developed, there were several additional wells actively being monitored in the La Habra Basin by other agencies. These wells with water level data included wells 3/10-9G1, 3/10-8B2, and 3/10-18C1. Many of these wells are no longer being monitored which is causing data gaps. Accordingly, La Habra is currently evaluating potential groundwater wells for inclusion into an expanded monitoring program as part of compliance under SGMA. The need for standard and multi-level monitoring wells to monitor the three aquifers of the basin is being investigated. The La Habra GSA may potentially request State assistance through the Technical Services Support program to install additional monitoring wells. The proposed monitoring program will include wells located within the vicinity of the La Habra Basin. La Habra has been in coordination with the Department of Water Resources regarding wells located in the La Habra Basin that have previously been included in bulletins/reports published by the Department of Water Resources (DWR) in order to acquire pertinent well information that is not publicly available. These wells and other existing monitoring wells are currently being screened and evaluated for available data and suitability for inclusion in the monitoring network for the La Habra Groundwater Basin. Updates and modifications to the monitoring network will be discussed in the next Annual Report.

Characterization of the conditions of the basin using the City's existing groundwater elevation data from its production wells may not reflect steady state conditions because the wells pump frequently and groundwater levels within the wells do not have enough time to fully recover to obtain a static elevation before the well is put into production once more. Static elevations may be recorded through the use of monitoring wells where no pumping is performed and the well is constantly in a static condition.

9.3 DEFINITION OF SIGNIFICANT AND UNREASONABLE LOWERING OF GROUNDWATER LEVELS

The definition of significant and unreasonable lowering of groundwater levels in the La Habra-Brea Management Area is a lowering of groundwater levels such that a significant loss of well production capacity or a significant degradation of water quality occurs which would impact the intended and current beneficial uses of the groundwater. Currently, the Santa Ana Regional Water Quality Control Board has designated the beneficial uses of groundwater in the La Habra-Brea Management Area to be Municipal and Domestic Supply and Agriculture.

The La Habra Groundwater Basin is currently managed within the safe yield, and groundwater levels have shown rising or stable trends in recent years, as shown by the available groundwater level hydrographs (see Section 3.2). Likewise, no other potential impacts are occurring such as loss of capacity at groundwater production wells, water quality degradation, or land subsidence. Accordingly, there are currently no undesirable results occurring related to the chronic lowering of groundwater levels.

9.4 DETERMINATION OF MINIMUM THRESHOLDS

There are no minimum thresholds established for groundwater levels in the La Habra Groundwater Basin because the basin is currently not in overdraft and is managed within the safe yield of the basin. Accordingly, no undesirable results are occurring. General water levels trends have shown rising and recovering groundwater levels over the past several decades with water levels being relatively stable for the past several years. Additionally, the prolonged and significant regional drought between 2011-2017 did not cause water levels to lower significantly or unreasonably. See Section 3.2.

Recognizing that historical water levels have been significantly lower in previous decades, the La Habra GSA will continue to monitor groundwater levels to determine if chronic or significant lowering of groundwater levels are observed. If declines are observed, the La Habra GSA will evaluate its groundwater management operations, re-evaluate the safe yield, and establish minimum thresholds, where appropriate, and in accordance with SGMA.

SECTION 10. MANAGING BASIN STORAGE

10.1 HISTORY

As discussed in Section 9.1, groundwater levels in the La Habra Groundwater Basin have recovered from lows in the 1930 to 1950s and have experienced a general rising trend and leveling off since the 1970s. Given steady groundwater production within the estimated safe yield of the basin, groundwater levels are expected to remain steady in the future; consequently, water in storage is similarly anticipated to remain steady.

10.2 MONITORING STORAGE LEVELS

The monitoring of storage levels is indirectly monitored through the groundwater level monitoring program described in Section 9.2.

10.3 MANAGEMENT PROGRAMS

10.3.1 Establishment of Safe Yield

A “safe yield” is used for ongoing management and future planning of a groundwater basin for sustained beneficial use. It is generally defined as the volume of groundwater that can be pumped annually without depleting the aquifer beyond its ability to recover through natural recharge over a reasonable hydrologic period. As discussed in Section 4.4, the approximate safe yield of the basin is 4,500 AFY, determined by taking the average of two methods to determine the natural discharge and natural recharge of the basin.

Based on a review of groundwater elevations performed in January 2014, groundwater elevations in the San Pedro aquifer of the La Habra Basin appear to have risen about 100 feet from the 1940s to the present with an overall rising trend of 50 to 60 feet between 1970 and 2007 (Stetson, 2014). Therefore, it appears that the basin is not currently in an overdraft condition. More recently, groundwater levels appear to be stable indicating no unreasonable loss of groundwater in storage.

The City of La Habra maintains sustainable groundwater production by maintaining and coordinating groundwater production within the estimated safe yield of the La Habra Groundwater Basin. This results in no undesirable results caused by depletion of groundwater in storage.

10.3.2 Review and Evaluation of Groundwater Levels

The condition of the basin can be verified through a periodic review of groundwater elevations within the basin. The City can utilize and supplement its existing groundwater elevation monitoring program to review general trends in groundwater elevations in the Basin.

As discussed in Section 9.2, the City has evaluated the current monitoring network and has determined additional monitoring of groundwater elevations is required in the La Habra Groundwater Basin. Additional monitoring wells are currently being evaluated for inclusion into the monitoring program. When the City of La Habra chooses to expand its groundwater monitoring program in the future, the City will prepare basin management reports on a periodic basis (every two to five years) using the results of the monitoring program. These informative reports will be used to review whether groundwater production is within the safe yield of the basin, plan future groundwater projects, develop new groundwater policies, and identify any new concerns within the La Habra-Brea Management Area.

10.3.3 Groundwater Recharge or Storage Projects

The City of La Habra currently does not operate any groundwater recharge or storage projects. In the future, the City may perform a basin replenishment study that identifies potential recharge areas and measures to protect these areas. Two areas where a groundwater recharge project could be studied for implementation are shown in Figure 10-1. The San Pedro Formation is naturally recharged directly through aquifer outcrops (exposed formation sediments) in the Los Coyote Hills (south of the intersection of Beach Boulevard and Imperial Highway) and in the Puente Hills (along the foothills north of Whittier Boulevard) [Montgomery, 1977]. The San Pedro Formation could also be indirectly recharged through the uplifted and exposed San Pedro beds that lie just below a thin layer of alluvium along the Coyote Creek valley (Montgomery, 1977).

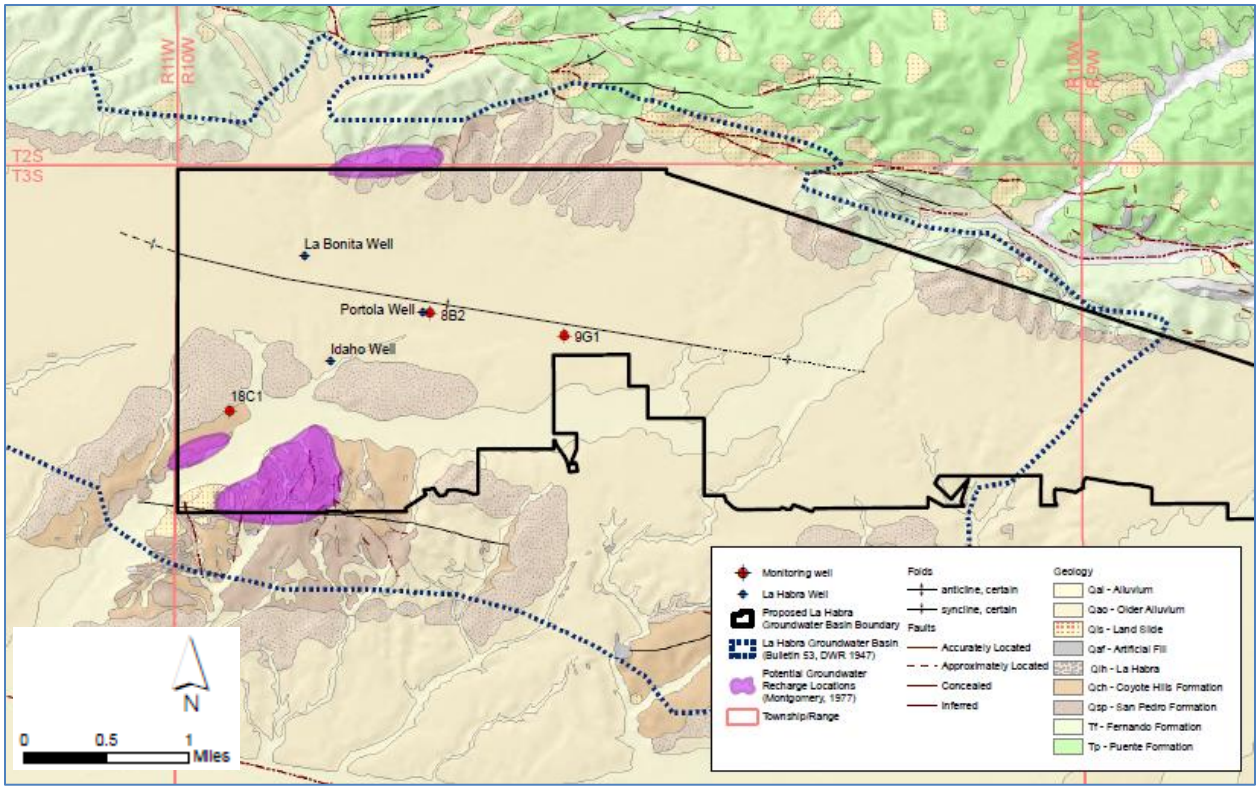


Figure 10-1: Potential Groundwater Recharge Locations.

As discussed in Section 2.2, the City of La Habra is located in the Coyote Creek Watershed. The Coyote Creek Watershed is included in the Municipal Separate Storm Sewer System (MS4) Permit for the Orange County Santa Ana Region. The City implements stormwater control practices as required by the NPDES permit. Stormwater recharge activities in compliance with the NPDES permit program may occur in the future.

The City of La Habra currently does not operate any conjunctive use projects. The City may study the feasibility of conjunctive use projects in the future.

10.3.4 Potential Management Programs

No known desktop flow model exists for the La Habra Basin. As such, the La Habra GSA will consider developing a desktop flow model for the La Habra-Brea Management Area in the future once a sufficient amount of data are collected (as additional monitoring wells are constructed and monitored, for example). Groundwater models are used to represent natural flow conditions of an aquifer and can predict the effects of hydrological changes (such as pumping and replenishment) on the behavior of the aquifer.

10.4 DEFINITION OF SIGNIFICANT AND UNREASONABLE REDUCTION IN STORAGE

As with groundwater levels, the definition of significant and unreasonable reduction in groundwater storage in the La Habra-Brea Management Area is a lowering of groundwater levels such that a significant loss of well production capacity or a significant degradation of water quality occurs which would impact the intended use of the groundwater. Currently, there are no observed undesirable results observed related to the chronic loss of groundwater in storage. Since the Basin is managed within the safe yield, no chronic loss of groundwater in storage is anticipated.

10.5 DETERMINATION OF MINIMUM THRESHOLDS

As with groundwater levels, minimum thresholds have not been established for changes in groundwater storage. If chronic or significant lowering of groundwater levels is observed through groundwater level monitoring, the La Habra GSA will evaluate its groundwater management operations, re-evaluate the safe yield, and establish minimum thresholds, where appropriate, and in accordance with SGMA. Groundwater levels would be used as a proxy to set thresholds for groundwater in storage.

SECTION 11. MANAGING BASIN WATER QUALITY

It is the intent of the La Habra GSA to protect and enhance the groundwater quality in the La Habra-Brea Management Area. This can be achieved through groundwater quality programs, understanding the quality of surface waters and subsurface water that naturally recharge the basin, and implementing measures to protect potential recharge areas.

11.1 HISTORY

Previous investigations of water quality within the La Habra Groundwater Basin determined that the quality is extremely variable. Overall, groundwater from the San Pedro Aquifer is considered to be of fair to good quality (Montgomery, 1979). However, groundwater produced from the La Habra Groundwater Basin is currently blended with imported water prior to distribution in order to reduce certain contaminant levels.

11.2 SUMMARY OF GROUNDWATER QUALITY ISSUES

As discussed in Section 3.2.5, water from the La Bonita and Portola Wells is chlorinated and then blended with water purchased from the California Domestic Water Company in a 250,000-gallon forebay to reduce the concentration of minerals prior to entering the City of La Habra's distribution system (La Habra, 2014).

The City of Brea's non-potable well is strictly used for irrigation purposes as the groundwater beneath the city has poor water quality and would require extensive treatment and blending with higher quality water to meet public health standards (Malcolm Pirnie, 2011).

11.3 MONITORING OF GROUNDWATER QUALITY

The La Habra GSA will continue the City of La Habra's existing water quality monitoring program, described in Section 5.2, and supplement the program as required by SGMA. If the La Habra GSA were to choose to construct monitoring wells for groundwater elevations, these wells can also be sampled for water quality.

The La Habra Basin is recharged through surface runoff and streamflow recharge as well as mountain front recharge (Stetson, 2013). Understanding the quality of the surface and subsurface water that recharges the La Habra Basin is important in protecting and enhancing the water quality of the groundwater basin as the groundwater within the basin originates from these waters. Although the City currently does not have a surface water quality monitoring program for the Coyote Creek Watershed, the La Habra GSA will investigate any existing programs for the watershed including regulations set forth for the watershed by the local Regional Water Quality Control Board (Coyote Creek is shown on the Clean Water Act's 303(d) list of impaired waters). The La Habra GSA will consider developing and implementing its own surface and subsurface inflow quality monitoring programs for the local watershed in the future.

To protect the water quality of the Basin, the La Habra GSA will continue to monitor and review areas of contamination within the La Habra-Brea Management Area, as described in its Drinking Water Source Assessments provided to State Water Resources Control Board Division of Drinking Water (DDW) for its production wells. The La Habra GSA will continue to review and comment on documents within the La Habra-Brea Management Area as well as be aware of any areas outside of its jurisdiction that may affect the water quality of the La Habra-Brea Management Area through surface or subsurface flow.

11.4 DESCRIPTION OF MANAGEMENT PROGRAMS

The management programs intended to protect the groundwater quality of the La Habra-Brea Management Area and prevent groundwater quality degradation include well construction, abandonment, and destruction policies, wellhead protection measures, control of migration and remediation of contaminated water, and control of saline water. Indirectly, the City of La Habra's Stormwater contamination protection programs help prevent groundwater quality degradation as well. See Section 6.

As discussed in Section 3.2.5, groundwater contamination exists in portions of the La Habra Groundwater Basin. The contaminants in the local groundwater are primarily naturally occurring and are not caused by excess groundwater production. Consequently, the only effective management action to address groundwater with existing poor water quality is treatment. As discussed previously, the City of La Habra blends groundwater from the La Habra Groundwater Basin with imported water (both groundwater and surface water) in order to reduce contaminant levels prior to distribution.

11.5 DEFINITION OF SIGNIFICANT AND UNREASONABLE DEGRADATION OF WATER QUALITY

The definition of significant and unreasonable degradation of water quality is a reduction of water quality in the La Habra-Brea Management Area such that the groundwater can no longer be used for the intended purposes even with the implementation of reasonable mitigation measures or management actions. Currently, the City of Brea only uses groundwater produced from the La Habra Groundwater Basin for irrigation; however, the City of La Habra uses groundwater for its potable supply, thus requiring a higher level of quality. Currently, groundwater produced from the La Habra Groundwater Basin is able to be put to beneficial use as a potable water supply. Historically, groundwater quality in the La Habra Groundwater Basin has been variable with areas with poor water quality; however, these historical water quality issues are not caused by groundwater management actions or current groundwater production (see Section 3.2.5). Thus, no undesirable results related to degraded water supply are occurring. See Section 11.6 below for further discussion.

11.6 DETERMINATION OF MINIMUM THREHOLDS

Because groundwater from the La Habra Groundwater Basin is used as a potable source, the minimum thresholds for groundwater quality are exceedances of Maximum Contaminant Levels (MCLs) or other applicable regulatory limits that are directly attributable to groundwater management actions in the La Habra-Brea Management Area that prevents the use of groundwater for its intended purpose. As discussed previously, the current water quality concerns in the La Habra Groundwater Basin are naturally occurring and are not caused by over-production or other groundwater management actions. These concerns pre-date SGMA legislation and are currently being managed through a blending program. Drinking water distributed to residents in the cities of Brea and La Habra currently meet all regulatory requirements. Accordingly, undesirable results as defined above in Section 11.5 by the definition of “significant and unreasonable” are not occurring and are not anticipated to occur due to groundwater production being managed within the Basin sustainable yield. If groundwater water quality trends indicate declining water quality, additional management actions will be established.

SECTION 12. MANAGING SEAWATER INTRUSION

The La Habra Groundwater Basin is not located near the ocean. Accordingly, there is no need to manage or consider the potential impact of seawater intrusion in the La Habra-Brea Management Area.

SECTION 13. MANAGING LAND SUBSIDENCE

As discussed in Section 3.2.6, there is no evidence that land subsidence is, or will likely become, problematic within the La Habra-Brea Management Area. Accordingly, sustainable management criteria or active monitoring are not required at this time. However, the City of La Habra may develop a program to monitor and measure the rate of land surface subsidence within the La Habra-Brea Management Area in accordance with DWR GSP regulations if it is determined that there is a potential for significant or unreasonable land subsidence to occur. The need for land surface subsidence monitoring will be considered on an annual basis.

SECTION 14. MANAGING GROUNDWATER DEPLETIONS IMPACTING SURFACE WATER

As discussed in Section 3.2.7, the La Habra Groundwater Basin lies within the Coyote Creek Watershed with the major creeks in the watershed being Coyote Creek, Brea Creek, Fullerton Creek, Carbon Creek, Moody Creek, and Los Alamitos Channel. The watershed is highly urbanized with densely populated areas of residential, commercial, and industrial areas, as well as open space. Montgomery (1977) determined that about 30% of the runoff available in an average rainfall year percolates to the aquifers underlying the La Habra Valley.

In recent years, the depth to groundwater from the ground surface is approximately 30 feet (see Figure 3-6. However, groundwater production occurs within the confined San Pedro aquifer which is significantly deeper than the perched alluvial aquifer with a depth to groundwater of approximately 140 feet in the year 2000 (see Figure 3-6). As discussed previously in Section 3.2.7, there are small areas overlying the La Habra Groundwater Basin identified as GDEs. The areas of vegetation identified as groundwater dependent ecosystems are along the base of the surrounding hills at the limits of the basin where groundwater is shallow. The vegetation is also supported by surface water runoff and rainfall. Additionally, these areas are not located near the groundwater production wells which produce from the confined San Pedro aquifer. Accordingly, groundwater production is not anticipated impact surface waters and local habitats Thus, there is no evidence that groundwater depletions will impact surface water or groundwater dependent ecosystems within the La Habra-Brea Management Area.

SECTION 15. PROTOCOLS FOR MODIFYING MONITORING PROGRAMS

Available data and groundwater management programs are reviewed annually. Additionally, data gaps are identified and evaluated. This plan will be amended to reflect any new policies or practices relevant to the management of the La Habra-Brea Management Area. It will also be updated to reflect changes in groundwater conditions as necessary.

Monitoring protocols are necessary to ensure consistency and accuracy in monitoring efforts and are required for monitoring assessments to be valid. Consistency should be reflected in factors such as the locations of the sampling points, frequency and seasonality of measurements, sampling procedures, and testing procedures. Accordingly, the La Habra GSA will undertake uniform data gathering procedures to ensure comparable measurements of groundwater are taken.

15.1 ESTABLISHMENT OF PROTOCOLS FOR WATER QUALITY

The protocols for water quality sampling are discussed in the 2017 Alternative.

15.2 ESTABLISHMENT OF PROTOCOLS FOR GROUNDWATER ELEVATION/STORAGE

The protocols for groundwater level measurements are discussed in the 2017 Alternative.

SECTION 16. PROCESS TO EVALUATE NEW PROJECTS

The La Habra GSA will evaluate any proposed actions for the La Habra-Brea Management Area pursuant to this Basin 8-1 Alternative in cooperation with the City of Brea. Additionally, new projects would be evaluated through the CEQA process (i.e. by reviewing and commenting on draft CEQA documents). Likewise, OCWD would have an opportunity to comment on projects proposed within the La Habra-Brea Management Area, but OCWD has no authority under this Plan to obstruct any action taken by the La Habra GSA regarding the La Habra-Brea Management Area.

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Basin 8-1 Alternative

OCWD Management Area

2022 UPDATE

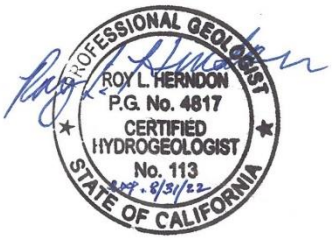
Prepared by: Orange County Water District

January 1, 2022

Basin 8-1 Alternative

OCWD Management Area

2022 UPDATE



Roy Herndon, P.G., C.Hg.

Chief Hydrogeologist
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Prepared for the Department of Water Resources, pursuant to Water Code §10733.6(b)(3), (c) and §10733.6

January 1, 2022

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SECTION 1 EXECUTIVE SUMMARY

The Orange County Water District (OCWD) is a special district formed in 1933 by an act of the California Legislature, the "OCWD Act". OCWD manages the groundwater basin that underlies north and central Orange County pursuant to the OCWD Act. Water produced from the basin is the primary water supply for approximately 2.5 million residents living within the service area boundaries. The mission of OCWD includes sustainably managing the Orange County Groundwater Basin, Basin 8-1, over the long-term. Additionally, as a special act district listed in Water Code § 10723 (c)(1), OCWD is the exclusive local agency within its jurisdictional boundaries with powers to comply with the Sustainable Groundwater management Act (SGMA) via a groundwater sustainability plan ("GSP") or via an Alternative prepared in accordance with Water Code § 10733.6.

The OCWD Management Area includes 89 percent of the area designated by the Department of Water Resources (DWR) as Basin 8-1, the "Coastal Plain of Orange County Groundwater Basin" in Bulletin 118 (DWR, 2003). The OCWD Management Area includes the same land area as the OCWD service area within Basin 8-1 except for a small 6.7-square mile area in the northeast corner of the basin that is part of the Santa Ana Canyon Management Area. The boundaries of Basin 8-1, the OCWD service area and the OCWD Management Area are shown in Figure 1-1.

The agencies within Basin 8-1 collaborated to prepare and submit an Alternative to a Groundwater Sustainability Plan (GSP). In accordance with Water Code §10733.6(b)(3)(c), the Basin 8-1 Alternative presented an analysis of basin conditions that demonstrated that Basin 8-1 had operated within its sustainable yield over a period of at least 10 years. The Alternative was submitted to DWR on December 22, 2016. On July 17, 2019, DWR determined that the Alternative satisfied SGMA objectives and was therefore approved.

Approved alternatives are required to submit annual reports to DWR on April 1 of each year. Annual reports for Basin 8-1 were submitted to DWR as follows:

- Water Year 2016-17, submitted on March 29, 2018
- Water Year 2017-18, submitted on March 29, 2019
- Water Year 2018-19, submitted on March 30, 2020
- Water Year 2019-20, submitted on March 30, 2021

*Note, the DWR Water Year extends from Oct. 1 to Sept. 30.

According to Water Code §10733.8, "At least every five years after initial submission of a plan pursuant to Section 10733.4, the department shall review any available groundwater sustainability plan or alternative submitted in accordance with Section 10733.6, and the implementation of the corresponding groundwater sustainability program for consistency with this part, including achieving the sustainability goal. The department shall issue an assessment for each basin for which a plan or alternative has been submitted in accordance with this chapter, with an emphasis on assessing progress in achieving the sustainability goal within the

basin. The assessment may include recommended corrective actions to address any deficiencies identified by the department."

This document, called the 2022 Update, represents the first five-year update, which is due January 1, 2022.

For purposes of this report, the Basin 8-1 Alternative submitted on December 22, 2016, will be referred to as the 2017 Alternative. The first five-year update will be referred to as the 2022 Update for ease of reference. The 2017 Alternative was a comprehensive document showing that Basin 8-1 had been managed sustainably for more than 10 years. For the 2022 Update, the focus is on documenting that the basin has been sustainably managed during the five years since the 2017 Alternative was submitted and to present relevant new information from the last five years. As such, the 2017 Alternative is considered a key reference document with background information that is not duplicated in the 2022 Update.

1.1 GROUNDWATER BASIN CONDITIONS

GROUNDWATER ELEVATIONS

OCWD prepares groundwater elevation contour maps for each of the three major aquifer systems (Shallow, Principal, and Deep) annually. In addition to illustrating regional groundwater gradients, the maps are used to prepare water level change maps and to calculate the amount of groundwater in storage and the annual storage change. OCWD's basin-wide network of monitoring wells is used to monitor groundwater levels and quality, assess effects of pumping and recharge, estimate groundwater storage, characterize basin hydrogeology, and develop and calibrate a numerical flow model of the basin. Groundwater elevation contours for the Principal Aquifer as of June 2021 are shown in Figure 1-2.

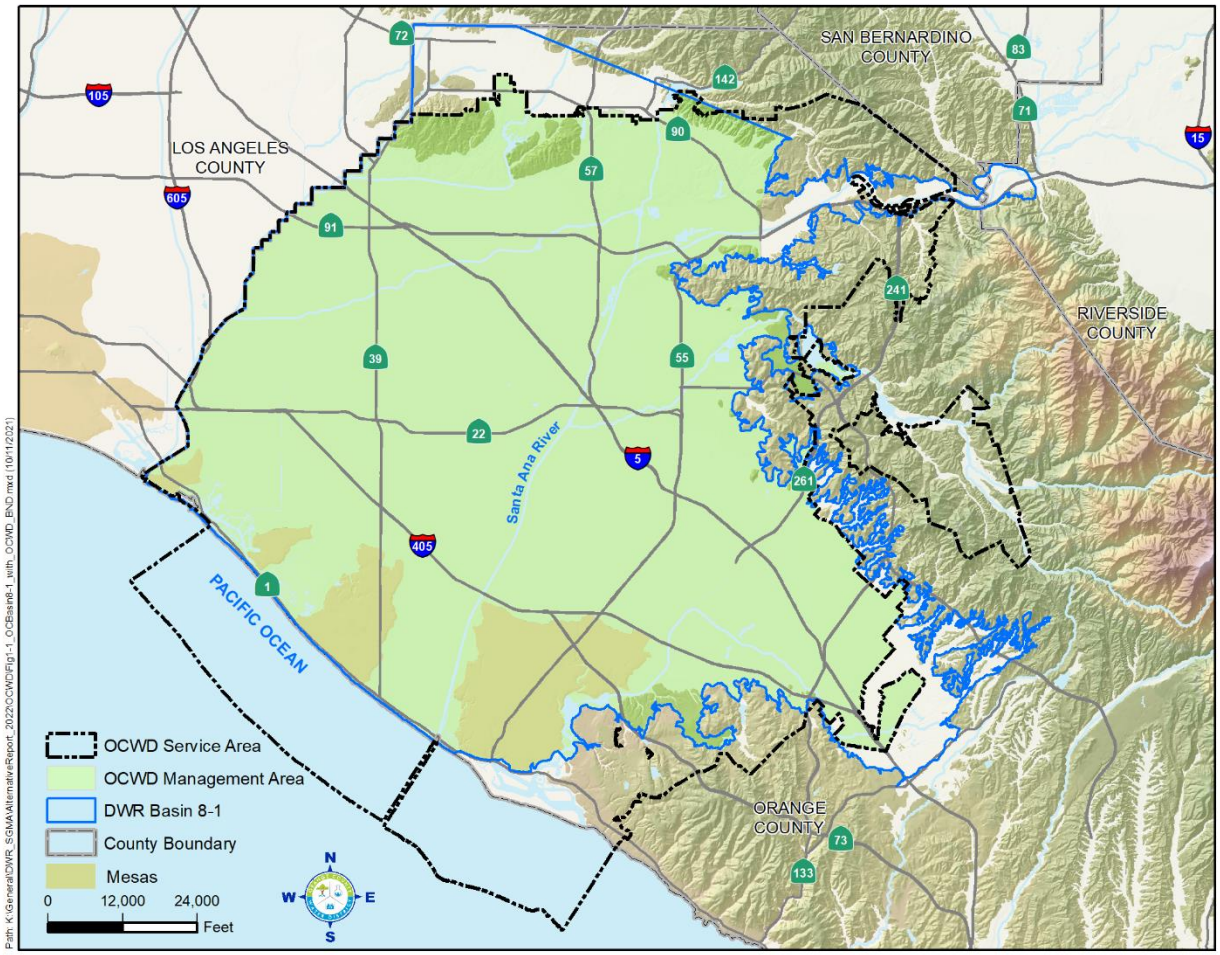


Figure 1-1: Basin 8-1, OCWD Service Area and OCWD Management Area

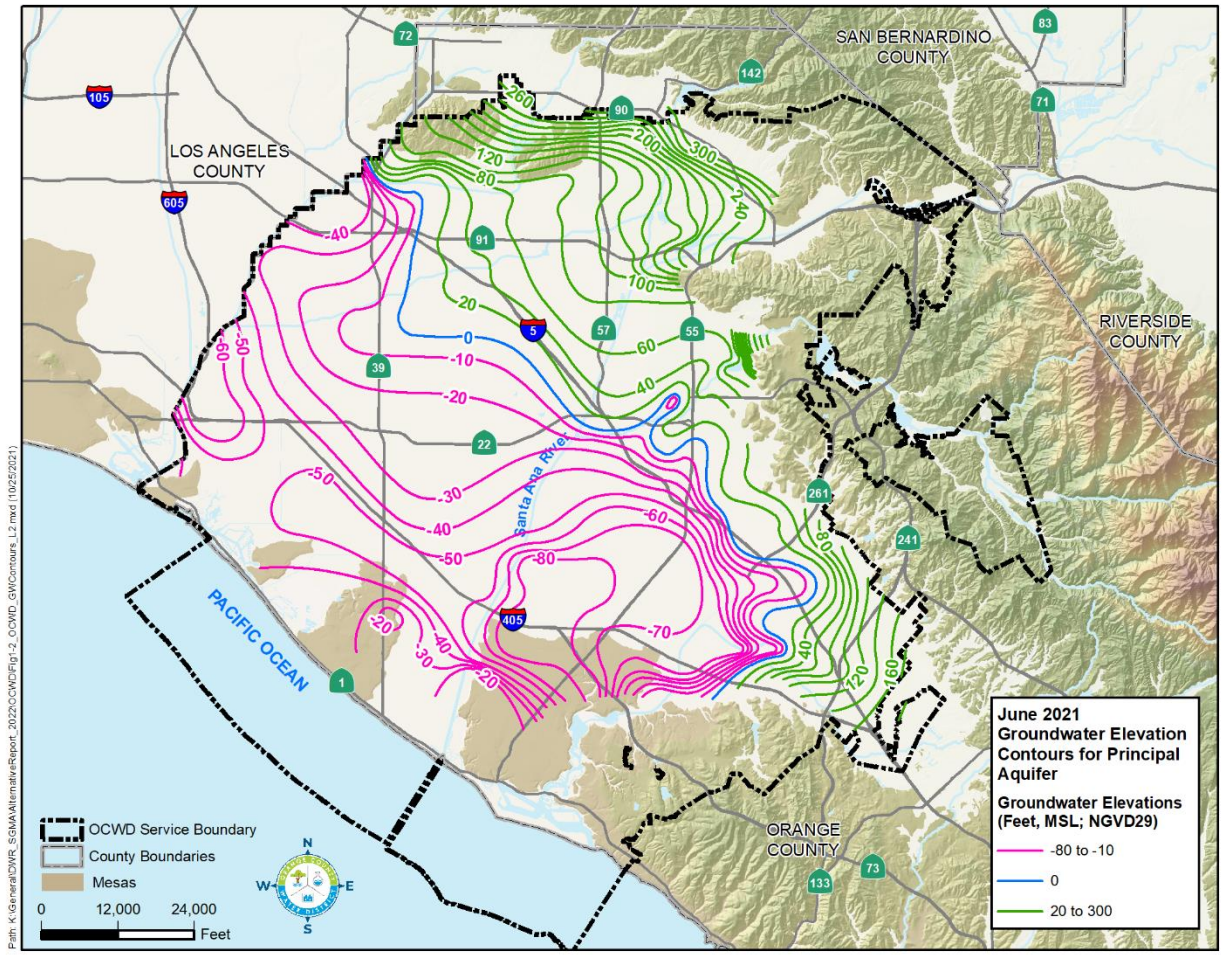


Figure 1-2: Groundwater Elevation Contours for the Principal Aquifer, June 2021

GROUNDWATER STORAGE

The groundwater basin contains an estimated 66 million acre-feet when full. However, OCWD manages the basin within an established operating range of up to 500,000 acre-feet below full condition. This operating range was established to designate the levels of groundwater storage within which the basin that can be maintained without causing adverse impacts. In order to manage the basin within this operating range, OCWD calculates the amount of groundwater in storage on an annual basis. Long-term groundwater storage levels based on OCWD's water year (July 1 to June 30) are shown in Figure 1-3.

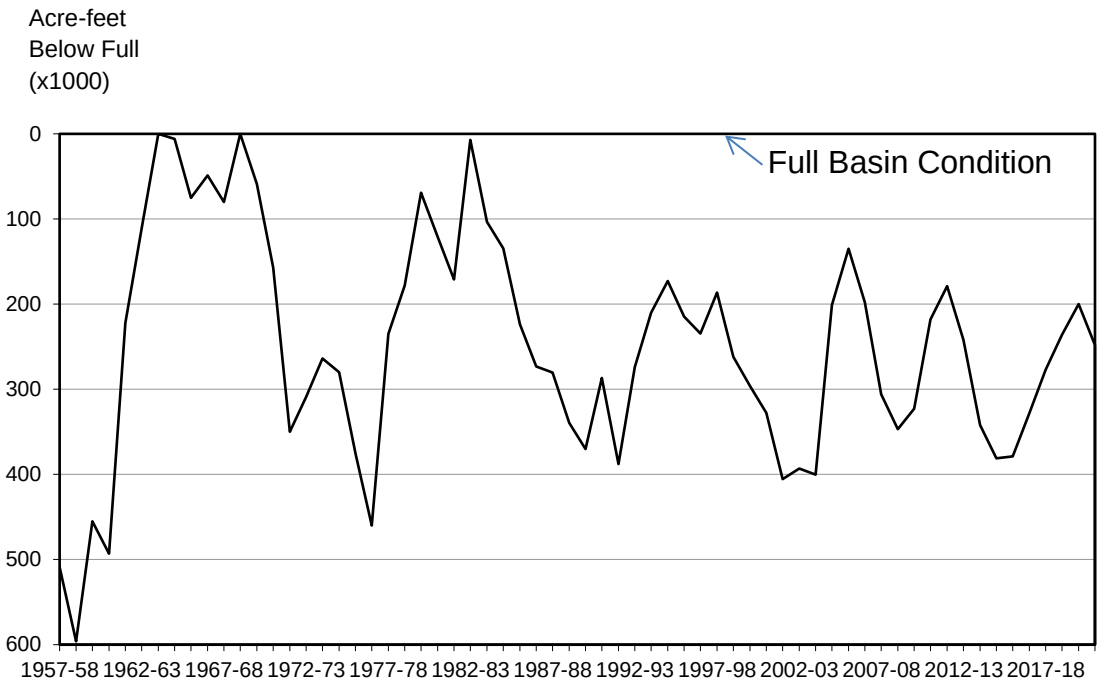


Figure 1-3: Available Basin Storage WY1957-58 to 2020-21

WATER QUALITY

The California Regional Water Quality Control Board, Santa Ana Region (Regional Water Board) is responsible for protection and enhancement of the quality of waters in the watershed, which includes surface water and groundwater in the OCWD Management Area. The watershed's salinity management program, overseen by the Regional Water Board, is managed by the Basin Monitoring Program Task Force. Water quality objectives for total dissolved solids (TDS) and nitrate-nitrogen in groundwater management zones were adopted by the Regional Water Board based on historical water quality data. Every three years the Task Force calculates the current ambient water quality for each groundwater management zone. The most recent recalculation for the groundwater basin was completed in 2020 (OCWD, 2020).

There are several regional groundwater contamination plumes within the OCWD Management Area, all of which are under active remediation, and some are being evaluated for additional remediation. The U.S. Environmental Protection Agency (EPA) is the lead agency in overseeing a remedial investigation/feasibility study (RI/FS) to develop an interim remedy for the VOC plume in the North Basin area. OCWD is conducting an RI/FS to develop an interim remedy for the plume in the South Basin area. Investigations and remediation for individual contaminant source sites within the North Basin and South Basin areas are within the jurisdiction of either the California Department of Toxic Substances Control or the Regional Water Board. The U.S. Navy is taking the lead in remediation of plumes from the former El Toro and Tustin Marine Corps Air Stations and the Naval Weapons Station Seal Beach.

Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds have been commonly used in many products including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams. Beginning in the summer of 2019, the California Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

As a result of required testing, as of September 2021, approximately 60 wells in the OCWD service area have been temporarily turned off until treatment systems can be constructed. As additional wells are tested, this figure may increase.

In April 2020, OCWD as the groundwater basin manager, executed a multi-party agreement with the impacted groundwater producers to fund and construct the necessary treatment systems for production wells impacted by PFAS compounds. OCWD expects the treatment systems to be constructed for the approximately 60 impacted wells within the next 2 to 3 years.

LAND SUBSIDENCE

Ground surface elevations rise and fall due to groundwater conditions in the OCWD Management Area and do not show a pattern of widespread, permanent lowering of the ground surface. There is no evidence of permanent, inelastic land subsidence within the OCWD Management Area.

1.2 WATER BUDGET

OCWD developed a hydrologic budget for the purpose of constructing a basin-wide numerical groundwater flow model and for evaluating basin production capacity and recharge requirements. The key components of the budget include measured and unmeasured (estimated) recharge, groundwater production and subsurface outflows.

The groundwater basin is not operated on an annual safe-yield basis. The net change in storage in any given year may be positive or negative; however, over a period of several years, the basin is maintained in an approximate balance. Amounts of total basin production and total water recharged from OCWD water years (WY)1999-2000 to 2020-21 are shown in Figure 1-4. The OCWD water year extends from July 1 to June 30.

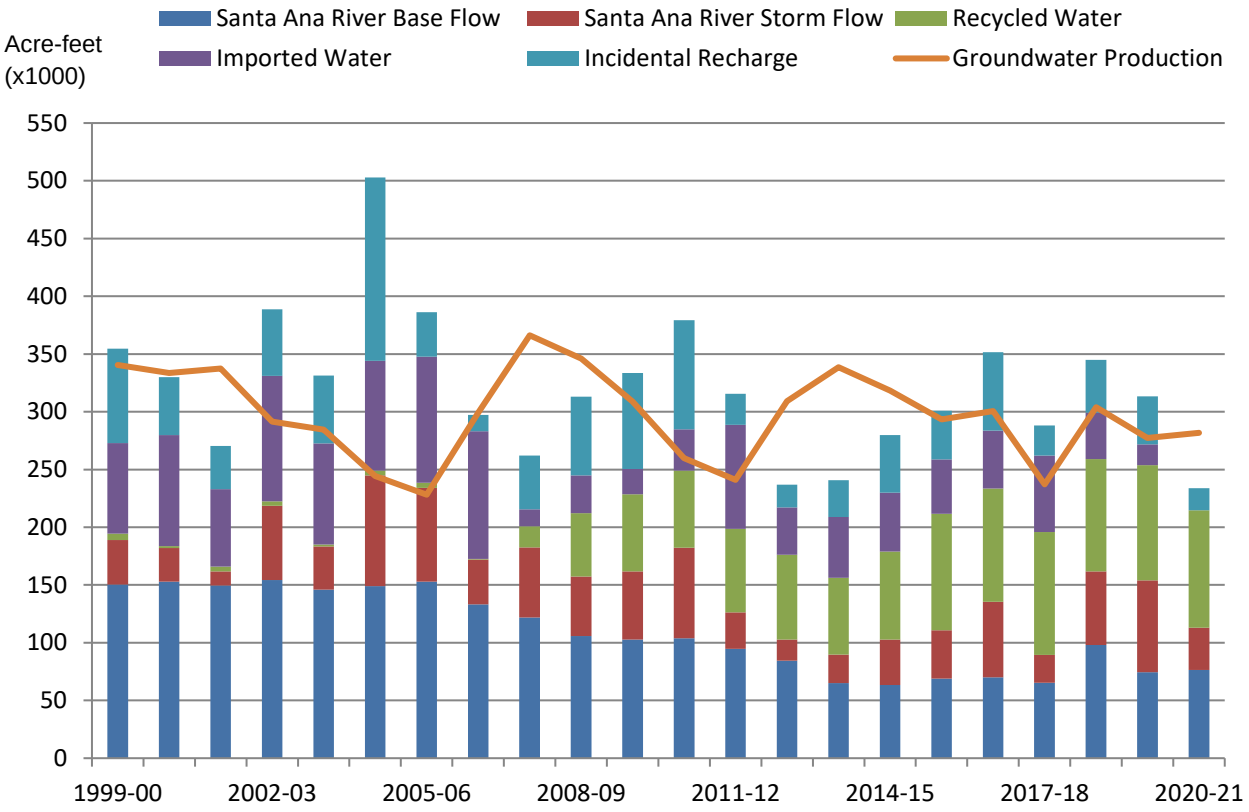


Figure 1-4: Basin Production and Recharge Sources, WY1999-20 to 2020-21

1.3 WATER RESOURCE MONITORING PROGRAMS

Water resource monitoring programs for groundwater, surface water, recycled water, and imported water remain unchanged (see 2017 Alternative for list). The only slight modification is the replacement of the CA Statewide Groundwater Elevation Monitoring (CASGEM) Program with annual data reports required for SGMA compliance.

1.4 GROUNDWATER MANAGEMENT PROGRAMS

LAND USE

The OCWD Management Area is highly urbanized. As such, OCWD monitors, reviews and comments on local land use plans, environmental documents, and proposed regulatory agency permits to provide input to land use planning agencies regarding proposed projects and programs that could cause short- or long-term water quality impacts to the groundwater basin.

DEMAND MANAGEMENT

The average annual water demand within the OCWD Management Area for the most recent five water years, WY2016-17 to 2020-21 is approximately 400,000 acre-feet. Total water demands

in the management area are met by a combination of groundwater, imported water, and recycled water. From WY1996-97 to present, water demands have ranged between 367,000 and 526,000 acre-feet per year but have generally decreased, as shown in Figure 1-5. It is noted that water demands in WY2015-16 reflect mandatory demand reductions imposed by the State Water Board in response to an extended drought. OCWD strives to sustainably maximize both production from the basin and recharge of the groundwater basin.

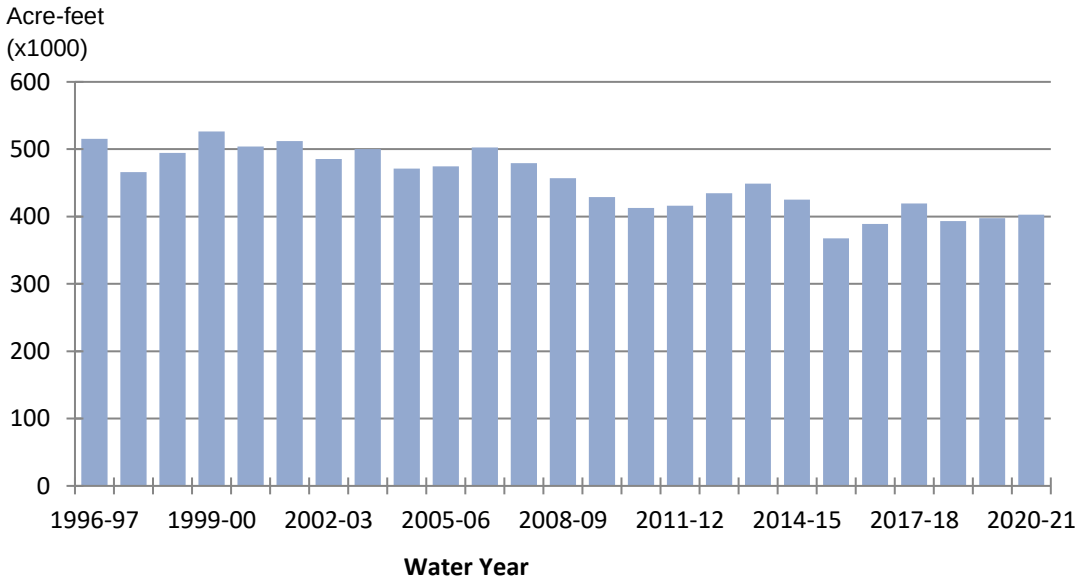


Figure 1-5: Total Water Demands within OCWD, WY1997-98 to 2020-21

GROUNDWATER QUALITY PROTECTION AND MANAGEMENT

OCWD adopted a Groundwater Quality Protection Policy in 1987 and updated it in 2014. This policy guides the actions of OCWD to maintain groundwater quality suitable for all existing and potential beneficial uses; prevent degradation of groundwater quality and protect groundwater from contamination; maintain surface water and groundwater quality monitoring programs, a monitoring well network and data management system; and assist regulatory agencies in remediating contaminated sites.

In January 2020, in preparation for the impacts of PFAS to groundwater supply, OCWD adopted a Per- and Polyfluoroalkyl Substances (PFAS) Policy. Central to this policy is OCWD's desire to maintain a groundwater supply of suitable quality for all existing and potential beneficial uses. Among other items, the policy states that OCWD will fund the lowest reasonable and efficient treatment system design and construction costs to remove PFAS compounds for groundwater producers. Additionally, the policy states that OCWD will fund 50 percent of operation and maintenance expenses up to $75 per acre-foot plus potential adjustments.

As of September 2021, approximately 60 production wells operated by 11 groundwater producers have been temporary shut down until treatment systems can be constructed. OCWD expects these treatment systems to be constructed within the next 2 to 3 years.

RECYCLED WATER PRODUCTION

OCWD's Groundwater Replenishment System (GWRS) produces up to 100 million gallons per day (mgd) of highly treated recycled water. The GWRS Final Expansion is under construction and will be on-line in early 2023. The final expansion will increase plant capacity to 130 mgd. GWRS water is recharged into the groundwater basin and is the primary source of water for the Talbert Seawater Barrier. OCWD also operates the Green Acres Project, a non-potable recycled water supply for irrigation and industrial water users.

CONJUNCTIVE USE PROGRAMS

Recharge water sources include the Santa Ana River and tributaries, imported water, and recycled water supplied by the GWRS as well as incidental recharge from precipitation and subsurface inflow. OCWD's conjunctive use program includes over 1,500 acres of land on which there are 1,067 wetted acres of recharge facilities.

MANAGEMENT OF SEAWATER INTRUSION

The Alamitos and Talbert Seawater Intrusion Barriers control seawater intrusion through the Alamitos and Talbert Gaps by injecting fresh water into susceptible aquifers through a series of injection wells to create a hydraulic barrier.

Work is underway to characterize intrusion in the Sunset Gap, including installation of monitoring wells, development of a groundwater flow model, and feasibility studies. This information is needed to guide design of a potential new seawater barrier in the Sunset Gap.

1.5 NOTICE AND COMMUNICATION

The local agencies that produce the majority of the groundwater from the basin include 19 cities, water districts, and a private water company. OCWD staff holds monthly meetings with this group to provide information and seek input on issues related to groundwater management. OCWD has a proactive community outreach program that includes conducting an annual Children's Water Education Festival attended by over 7,000 elementary school students and a monthly electronic newsletter with approximately 5,700 subscribers.

1.6 SUSTAINABLE BASIN MANAGEMENT

The sustainability goal for the OCWD Management Area is to:

> Continue to manage the groundwater basin to prevent basin conditions that would lead to significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, (4) seawater intrusion, (5) land subsidence and (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Existing monitoring and management programs in place today enable OCWD to sustainably manage the groundwater basin. Since its founding in 1933, OCWD has developed a managed aquifer recharge program, constructed hundreds of monitoring wells, developed an extensive water quality monitoring program, installed seawater intrusion barriers, and doubled the volume of groundwater production while protecting the long-term sustainability of the groundwater resource. OCWD's management of the OCWD Management Area will continue to provide long-term sustainable basin management that is able to adapt to changing conditions affecting the groundwater basin.

1.6.1 Sustainable Management: Water Levels

OCWD manages the basin for long-term sustainability by maximizing groundwater recharge and managing basin production within sustainable levels. Long-term groundwater level trends demonstrate the undesirable result of "chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply" is not present. Hydrographs representative of long-term water levels in the basin are shown in Figure 1-6. These hydrographs demonstrate that groundwater levels in the OCWD Management Area are being managed at long-term sustainable levels. Chronic lowering of groundwater levels is not anticipated to occur in the future in the OCWD Management Area due to OCWD's management programs.

1.6.2 Sustainable Management: Basin Storage

OCWD manages basin storage within an established operating range of up to 500,000 acre-feet below full condition. Maintaining basin storage within this range protects the basin from detrimental impacts such as land subsidence, chronic lowering of groundwater levels and chronic reduction in storage. OCWD manages groundwater pumping such that it is sustainable over the long-term; however, in any given year pumping may exceed recharge or vice versa. Thus, the amount of groundwater stored in or withdrawn from the basin varies from year to year and often goes through multi-year cycles of emptying and filling, which typically correlates with state-wide and/or local precipitation patterns and other factors.

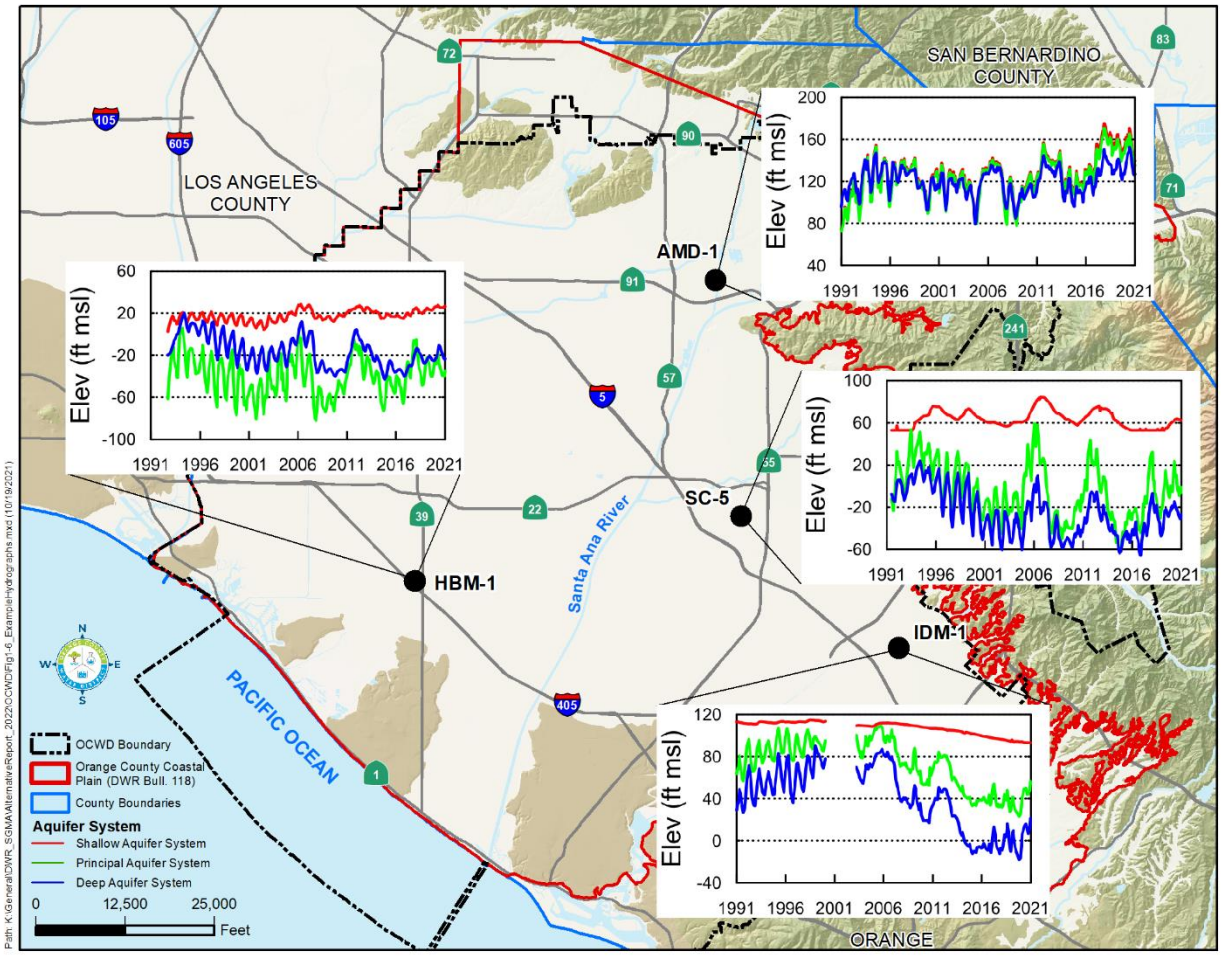


Figure 1-6: Example Hydrographs

Each year OCWD calculates the volume of groundwater storage change from a theoretical "full" benchmark condition based on a calculation using changes in groundwater elevations in each of the three major aquifer systems and aquifer storage properties. This calculation is checked against an annual water budget that accounts for all production, measured recharge and estimated unmeasured recharge (also referred to as "incidental recharge"). The amount of available or unfilled storage from the theoretical full condition is shown on Figure 1-3. Maintaining the basin storage condition on a long-term basis within the established operating range allows for long-term sustainable management of the basin without experiencing undesirable effects. Therefore, the undesirable result of "significant and unreasonable reduction of groundwater storage" is not present and is not anticipated to occur in the OCWD Management Area in the future due to OCWD's management programs.

1.6.3 Sustainable Management: Water Quality

OCWD has extensive monitoring and management programs in place to monitor and protect groundwater quality. OCWD's network of approximately 400 monitoring wells is distributed throughout the basin. Water quality in these wells is tested on a regular basis for a large number of parameters. OCWD also conducts groundwater quality sampling of approximately 200 production wells on behalf of the groundwater producers to comply with Title 22 requirements. An additional approximately 120 private, domestic, and irrigation production wells area also sampled periodically.

OCWD has a sampling protocol in place that includes standards for increased monitoring of individual wells. In cases where there is a detection of an organic compound for the first time, for example, OCWD will resample that well and if the detection is confirmed will increase the sampling frequency of that well. Another example is an increased frequency for monitoring when there is a detection of nitrate at 50% of the Maximum Contaminant Level (MCL). These sampling protocols are designed to detect water quality problems at the earliest possible stage.

The recent detections of per- and polyfluoroalkyl substances (PFAS) in groundwater have affected the use of groundwater by 11 groundwater producers. As described in detail later in this report, OCWD is taking steps to restore the beneficial uses of impacted groundwater by installing treatment systems to remove PFAS.

The undesirable result of "significant and unreasonable degradation of water quality that impair water supplies" is not present and is not anticipated to occur in the future in the OCWD Management Area due to OCWD's management programs.

1.6.4 Sustainable Management: Seawater Intrusion

OCWD's management of seawater intrusion is implemented through a comprehensive program that includes operating two seawater intrusion barriers, monitoring and evaluating barrier performance, monitoring and evaluating susceptible coastal areas, and coastal groundwater management.

The Alamitos Seawater Intrusion Barrier manages seawater intrusion in the Alamitos Gap. The Talbert Seawater Intrusion Barrier manages seawater intrusion in the Talbert Gap. Work is underway to further characterize intrusion in the Sunset Gap, including construction of additional monitoring wells, further development of the Alamitos Barrier groundwater model to evaluate seawater intrusion in the area of the Sunset Gap, and feasibility studies to evaluate potential future barrier design.

Monitoring and evaluating barrier performance and potential seawater intrusion consists of sampling monitoring wells semi-annually, measuring water levels at least quarterly, installing monitoring wells when needed to fill data gaps, and conducting other management activities to reduce potential for seawater intrusion, such as construction of additional injection wells and the Coastal Pumping Transfer Program.

The undesirable result of “significant and unreasonable seawater intrusion” is not present and is not anticipated to occur in the future in the OCWD Management Area due to OCWD’s management programs.

1.6.5 Sustainable Management: Land Subsidence

Management of the groundwater basin by maintaining storage levels within the established operating range has prevented the undesirable result of significant and unreasonable land subsidence that substantially interferes with surface uses. Within the OCWD Management Area ground surface movements rise and fall as basin storage levels rise and fall. There is no evidence of long-term inelastic land subsidence, nor any land subsidence that has interfered with surface uses. Therefore, the undesirable result of “significant and unreasonable land subsidence that substantially interferes with surface uses” is not present and is not anticipated to occur in the OCWD Management Area in the future due to OCWD’s management programs.

1.6.6 Sustainable Management: Depletion of Interconnected Surface Waters

There are no surface water bodies within the OCWD Management Area that are interconnected with groundwater in which the groundwater connection to the surface water provides surface water flow to sustain beneficial uses in a surface water body. Therefore, the undesirable result of “depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water due to groundwater conditions occurring throughout the basin” is not present and is not anticipated to occur in the OCWD Management Area due to OCWD’s management programs.

1.7 PROTOCOLS FOR MODIFYING MONITORING PROGRAMS

Protocols that trigger a change in a monitoring program include a change in regulations, a first-time detection of a constituent in a water sample, an increase in a constituent in a water sample that approaches or exceeds a regulatory limit or MCL, an indication of an adverse water quality trend or water level, a special study, or a recommendation from OCWD’s Independent Expert Panel.

1.8 EVALUATION OF POTENTIAL PROJECTS

OCWD regularly evaluates potential projects and conducts studies to improve existing operations. This may include:

- Increasing the capacity of existing recharge basins
- Constructing new recharge facilities
- Constructing new production wells
- Improving seawater intrusion barriers

- Constructing a new seawater barrier in the Sunset Gap
- Constructing water quality improvement projects

1.9 CONCLUSION

OCWD has been managing the OCWD Management Area since its formation by the State Legislature in 1933. Monitoring and management programs described in the 2017 Alternative, submitted in compliance with CA Code of Regulations (Title 23, Division 2, Chapter 1.5, Subchapter 2) demonstrated that the groundwater basin has been and will continue to be sustainably managed. The Alternative submitted in 2017 and approved by DWR in 2019 demonstrated that the OCWD Management Area operated within its sustainable yield over a period of at least 10 years, as required by CCR Title 23, Division 2, Chapter 1.5, Subchapter 2, Article 9, Section 358.2 (c)(3). The 2022 Update, prepared to satisfy Water Code §10733.8, shows that the OCWD Management area continues to be managed sustainably.

Please note that for consistency, the same chapter headings used in the 2017 Alternative are used in the 2022 Update. The goal of the update is to present new relevant information that has become available over the last five years. Where there is no new relevant information, the reader is directed to the 2017 Alternative by reference.

SECTION 2 AGENCY INFORMATION

2.1 HISTORY OF OCWD

The Orange County Water District (OCWD) is a special district formed in 1933 by an act of the California Legislature, the OCWD Act. Additionally, as a special act district listed in Water Code § 10723 (c)(1), OCWD is the exclusive local agency within its jurisdictional boundaries with powers to comply with the Sustainable Groundwater Management Act (SGMA) via a groundwater sustainability plan ("GSP") or via an Alternative prepared in accordance with Water Code § 10733.6.

OCWD manages the groundwater basin that underlies north and central Orange County. Water produced from the basin is the primary water supply for approximately 2.5 million residents living within OCWD's boundaries. With passage of SGMA (Water Code §10723(c)) in 2014, OCWD was designated the exclusive local agency within its jurisdictional boundaries with powers to comply with SGMA.

Nineteen major groundwater producers, including cities, water districts, and a private water company, pump groundwater from approximately 200 large-capacity wells for retail water use. There are also approximately 120 small-capacity wells that pump water from the basin. OCWD protects and manages the groundwater resource for long-term sustainability, while meeting approximately 75 percent of the water demand within its service area.

Since its founding, OCWD has grown in area from 162,676 to 243,968 acres and has experienced an increase in population from approximately 120,000 to 2.5 million people. OCWD has employed groundwater management techniques to increase the annual yield from the basin including operating over 1,500 acres of recharge basins in the cities of Anaheim, Orange, and unincorporated areas of Orange County. Annual groundwater production increased from approximately 150,000 acre-feet per year in the mid-1950s to a high of over 366,000 acre-feet per year in WY2007-08.

OCWD has managed the basin to provide a reliable supply of relatively low-cost water, accommodating rapid population growth while at the same time avoiding the costly and time-consuming adjudication of water rights experienced in many other major groundwater basins in Southern California. Facing the challenge of increasing demand for water has fostered a history of innovation and creativity that has enabled OCWD to increase available groundwater supply while ensuring the long-term sustainability of the groundwater basin.

A brief history of OCWD from 1933 to 2015 is provided in the 2017 Alternative. Significant events that have occurred during the last five years are as follows:

2018: GWRS sets the Guinness World Record for most wastewater recycled in 24 hours. The official amount was 100,008,000 gallons.

2019: OCWD's Philip L. Anthony Water Quality Laboratory was the first public agency laboratory in California to achieve state certification to analyze for PFAS in drinking water. OCWD launched the nation's largest pilot program to test various treatment options for PFAS.

2019: Construction of the GWRS Final Expansion began. Construction is anticipated to be completed in early 2023. Once complete the plant will produce up to 130 mgd and recycle 100 percent of reclaimable sources from the Orange County Sanitation District.

2021: U.S. Army Corps of Engineers approves Prado Conservation Pool increase up to elevation 505 feet mean sea level (approx. 20,000 acre-feet of storage) based on the Prado Basin Ecosystem Restoration and Water Conservation Feasibility Study.

2021: The first PFAS treatment system, at Fullerton's KIM-1A production well, is completed and the well returned to service.

2.2 GOVERNANCE AND MANAGEMENT STRUCTURE

The Orange County Water District was created by the OCWD Act for the purpose of:

> "providing for the importation of water into said district and preventing waste of water in or exportation of water from said district and providing for reclamation of drainage, storm, flood and other water for beneficial use in said district and for the conservation and control of storm and flood water flowing into said district; providing for the organization and management of said district and establishing the boundaries and divisions thereof and defining the powers of the district, including the right of the district to sue and be sued, and the powers and duties of the officers thereof; providing for the construction of works and acquisition of property by the district to carry out the purposes of this act; authorizing the incurring of indebtedness and the voting, issuing and selling of bonds and the levying and collecting of assessments by said district; and providing for the inclusion of additional lands therein and exclusion of lands therefrom." (Stats.1933, c. 924, p. 2400)

Further details on OCWD governance and management are described in the 2017 Alternative. The nineteen major groundwater producers meet on a monthly basis with OCWD staff to consult with and provide advice on basin management issues. This group is described in more detail in Section 7.1.

2.3 LEGAL AUTHORITY

A description of OCWD's legal authority is described in the 2017 Alternative.

A copy of the OCWD Act, which has been the basis for OCWD's sustainable management of its portion of Basin 8-1 over many years, can be found at:
http://www.ocwd.com/media/2681/ocwddistrictact_201501.pdf

2.4 BUDGET

The mission of OCWD is to provide a reliable, high quality water supply in a cost-effective and environmentally responsible manner and to manage the Orange County groundwater basin in a sustainable manner over the long-term.

For a summary description of OCWD's budget structure, see the 2017 Alternative. For more recent information, see OCWD's website at www.ocwd.com where detailed budget reports are published annually.

SECTION 3 MANAGEMENT AREA DESCRIPTION

3.1 OCWD MANAGEMENT AREA

OCWD's service area covers approximately 430 square miles and is co-extensive with the OCWD Management Area for purposes of the Alternative, except as identified below. The OCWD service area includes 90 percent of the area designated by the Department of Water Resources (DWR) as Basin 8-1, the "Coastal Plain of Orange County Groundwater Basin" in Bulletin 118 (DWR, 2003). For the purposes of this Alternative, the OCWD Management Area contains the same geographical area as the portion of the OCWD service area within Basin 8-1 except for a small 6.7-square mile area in the northeast corner of the basin that is part of the Santa Ana Canyon Management Area. The boundaries of Basin 8-1, the OCWD service area and the OCWD Management Area are shown in Figure 3-1.

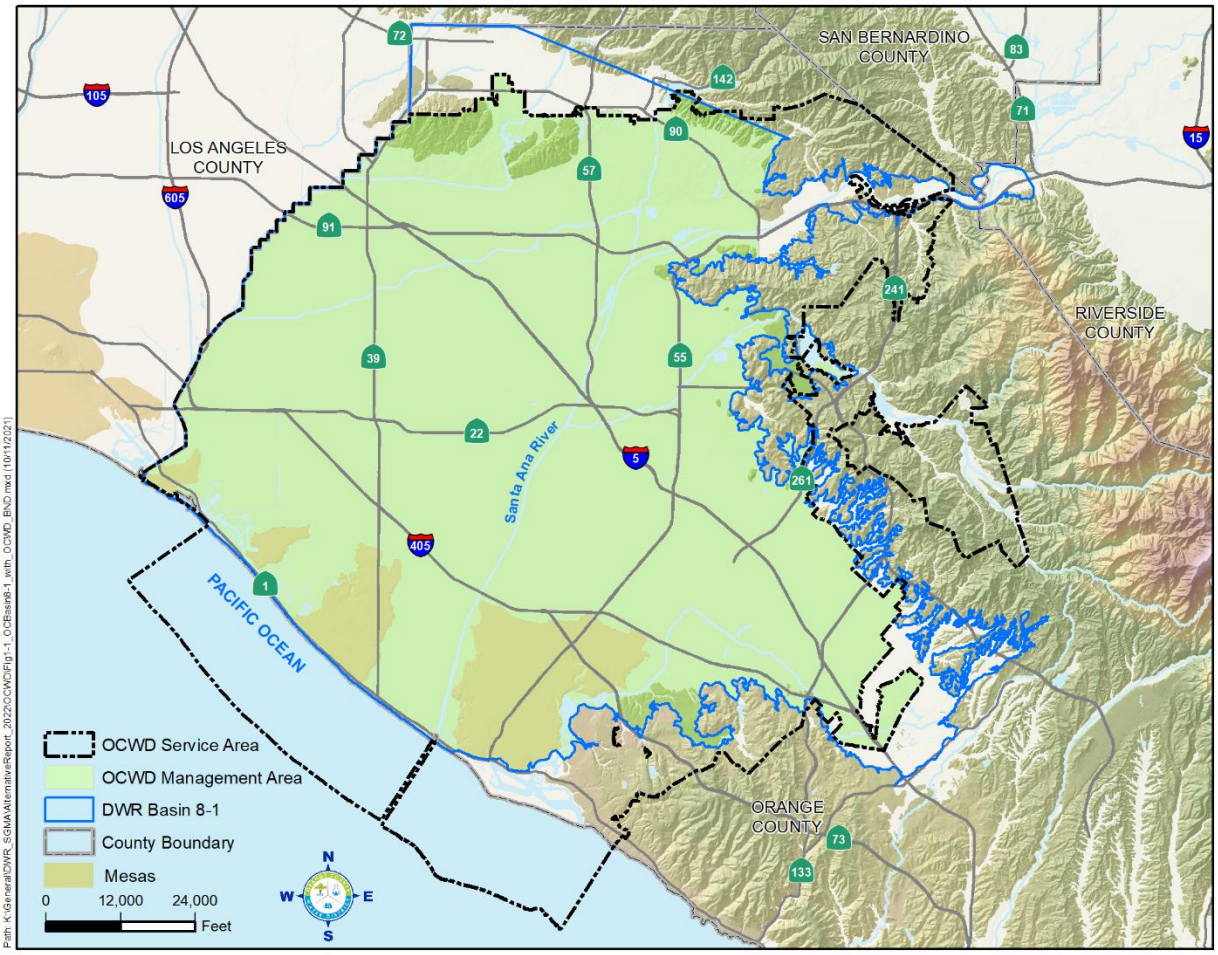


Figure 3-1: Basin 8-1, OCWD Service Area and OCWD Management Area

Jurisdictional Areas within OCWD Management Area

Federal and state lands within the OCWD Management Area as well as city boundaries are shown in Figure 3-2 and have not changed since the 2017 Alternative. Retail water providers within OCWD's service area are shown in Figure 3-3. The OCWD Management Area with a population of approximately 2.5 million is highly urbanized, as shown in Figure 3-4. Each of the 22 cities within OCWD's jurisdiction has an adopted general plan. There are no federally recognized tribes with land and there are no adjudicated groundwater areas within the OCWD Management Area. The unincorporated areas are managed by the County of Orange. Groundwater supplies are managed as a single, shared resource with no separate water use sectors.

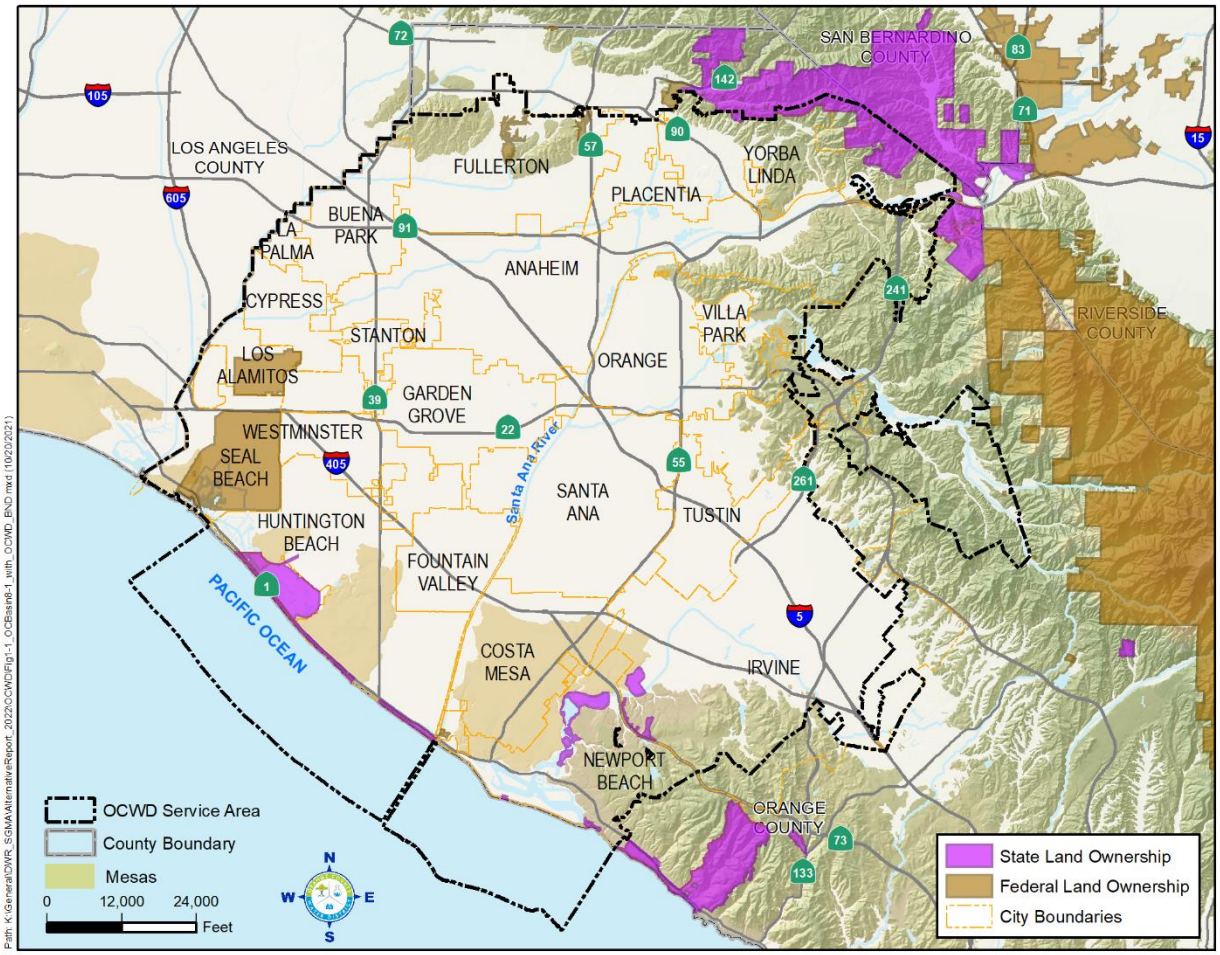


Figure 3-2: Federal and State Lands

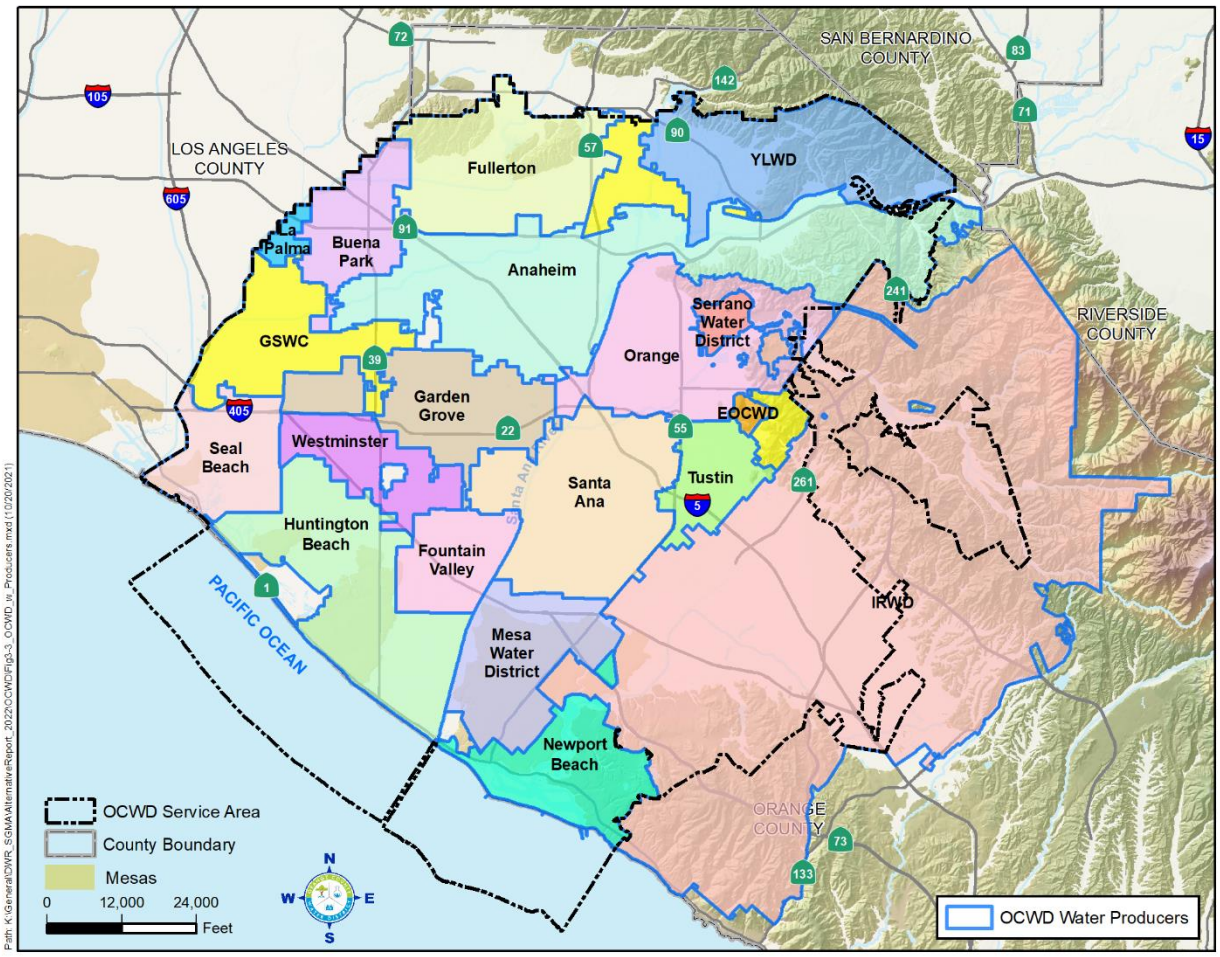


Figure 3-3: Retail Water Supply Agencies

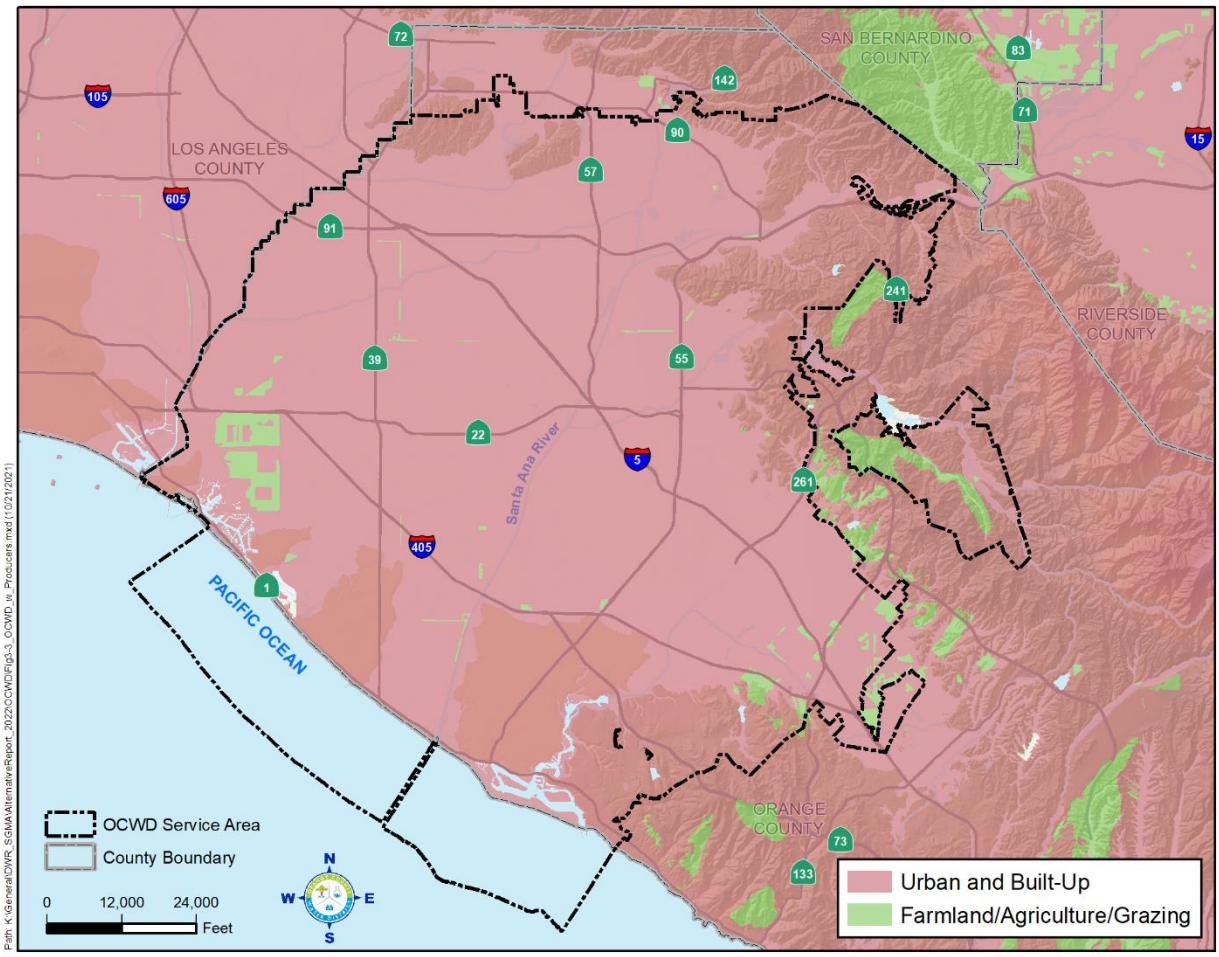


Figure 3-4: Land Uses

3.2 GROUNDWATER CONDITIONS

This section describes the groundwater conditions within the OCWD Management Area. The focus is on data from the last five years. For some historical data, please see the 2017 Alternative. The description includes groundwater elevation, pumping patterns, storage levels, groundwater quality, information concerning land subsidence, seawater intrusion, and interactions between surface water and groundwater. All elevations in this report are in units of feet above mean sea level referenced to vertical datum NGVD29, which can be converted to NAVD88. Geographic locations are reported in GPS State Plane coordinates referenced to NAD83.

3.2.1 Groundwater Elevation Contours

Figures 3-5, 3-6 and 3-7 show the contoured water levels for the Shallow, Principal and Deep Aquifers in June 2021. The contour maps for each of the three aquifer systems are prepared annually. The contour maps are used to prepare water level change maps for the three major

aquifer systems and to calculate the amount of groundwater in storage and the annual storage change.

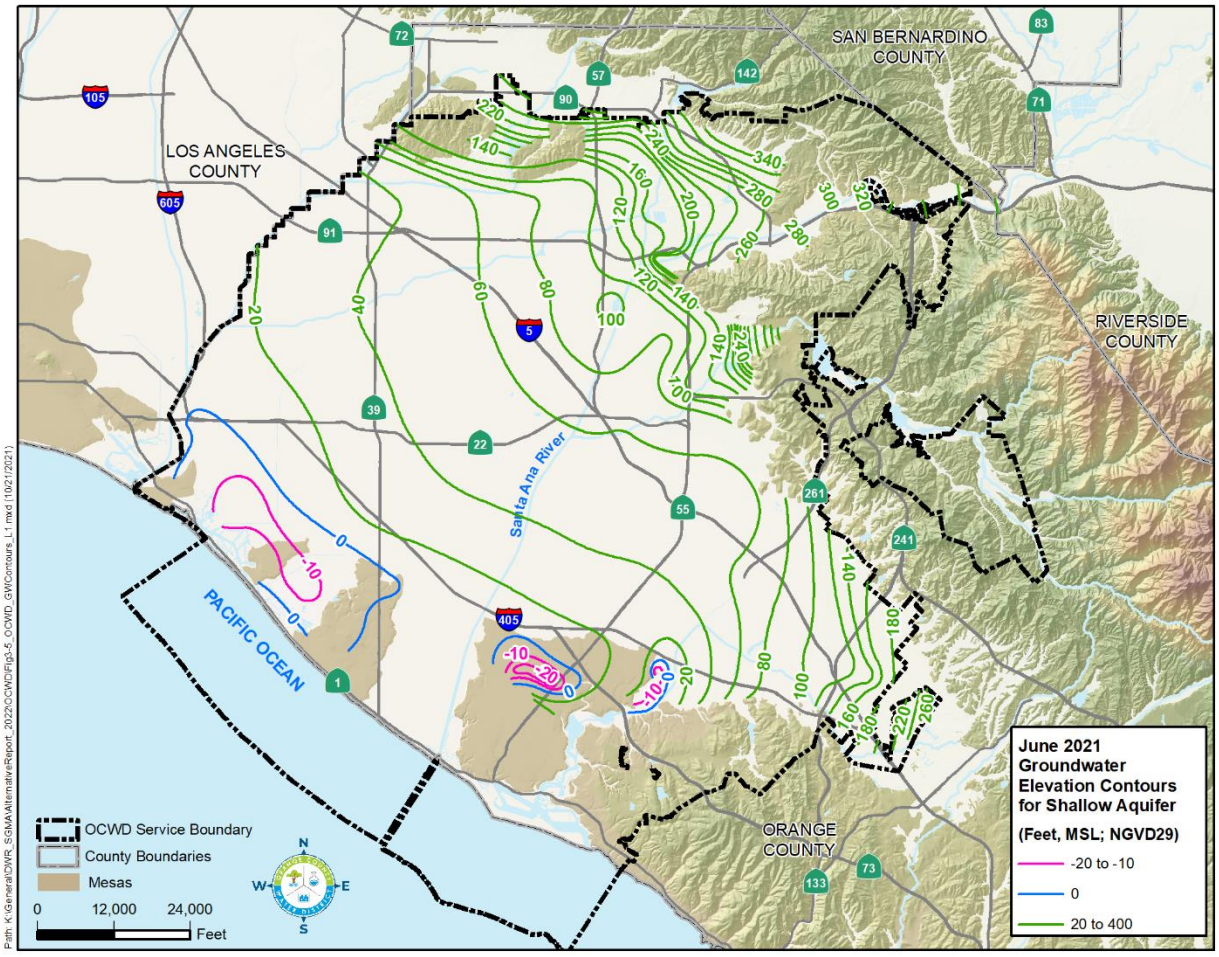


Figure 3-5: Groundwater Elevation Contours for the Shallow Aquifer, June 2021

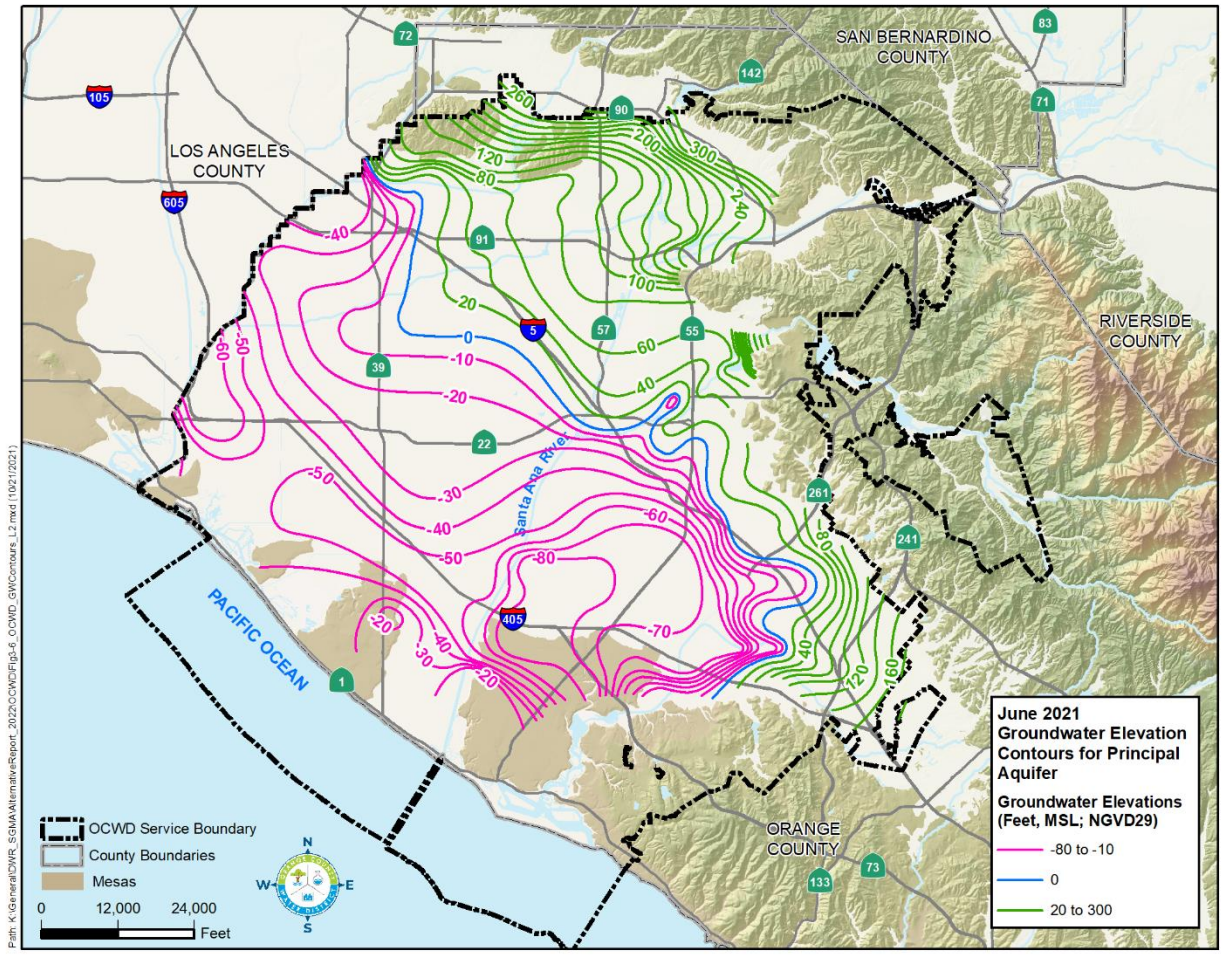


Figure 3-6: Groundwater Elevation Contours for the Principal Aquifer, June 2021

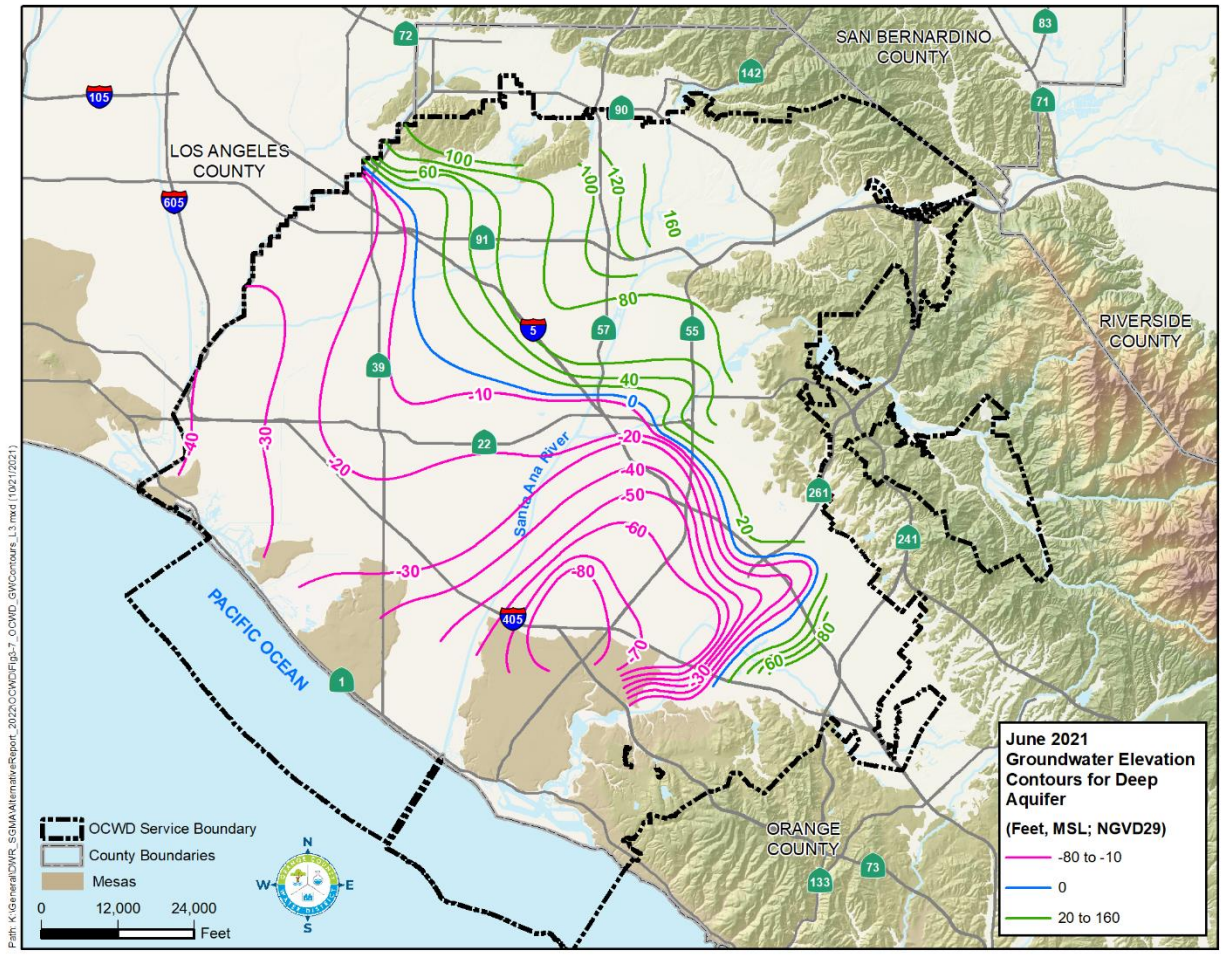
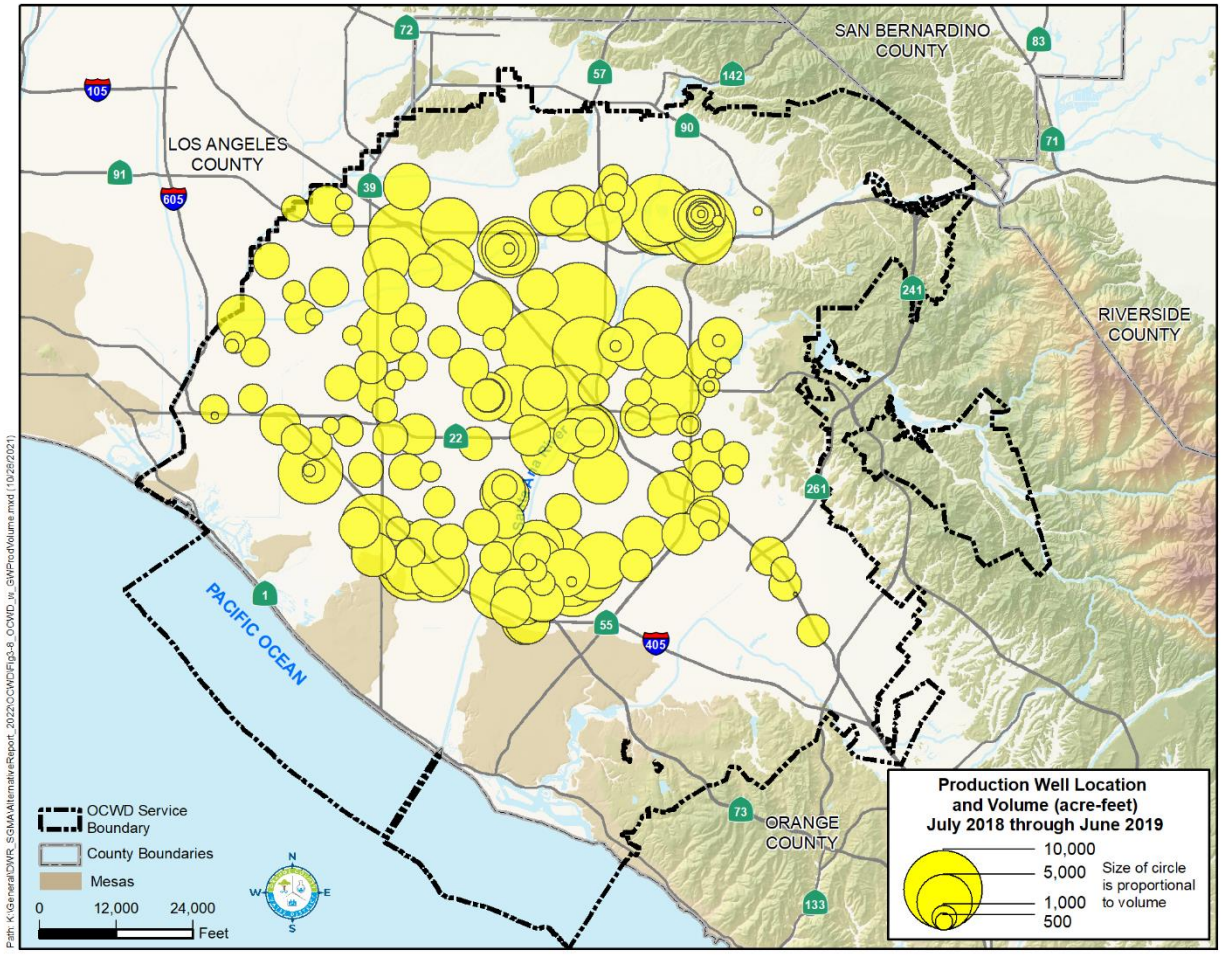


Figure 3-7: Groundwater Elevation Contours for the Deep Aquifer, June 2021

3.2.2 Regional Pumping Patterns

Active wells pumping water from the basin are shown in Figure 3-8. The approximately 200large-system wells account for an estimated 97 percent of the total basin production. The remaining three percent of total basin production includes agricultural and industrial producers, small mutual water companies, domestic well producers, and production from privately-owned wells. As can be seen in Figure 3-8, groundwater production is distributed throughout the basin. Please note that due to the recent impacts of COVID and PFAS, data from WY2018-19 is presented to show the typical average distribution of pumping in the basin.



* Due to impacts from COVID-19 FY 2018-19 groundwater production was chosen to be representative of typical pumping patterns.

Figure 3-8: Groundwater Production, WY2018-19

3.2.3 Long-Term Groundwater Elevation Hydrographs

Groundwater elevation trends exhibit both short-term (seasonal) and long-term fluctuations. Seasonal elevation changes reflect short-term variations in pumping and recharge, while multi-year trends reflect the effects of extended periods of above- or below-average precipitation and/or availability of imported water.

OCWD measures elevations in three principal aquifer systems. In general, groundwater elevations in the Shallow Aquifer system show less amplitude than those in the underlying Principal and Deep Aquifer systems due to the higher degree of pumping and confinement of the Principal and Deep Aquifer systems. Because approximately 95 percent of all production occurs from wells screened within the Principal Aquifer system, groundwater elevations within this system are typically lower than those in the overlying Shallow Aquifer system and, in some areas, the underlying Deep Aquifer system. As a result, vertical gradients created by pumping

and recharge drive groundwater into the Principal Aquifer system from the overlying Shallow Aquifer system and, to a lesser extent, from the Deep Aquifer system.

Groundwater elevation trends can be examined using seven wells with long-term groundwater level data, the locations of which are shown in Figure 3-9. Figures 3-10 and 3-11 show water level hydrographs for wells SA-21 and GG-16 representing historical conditions in the Pressure Area and well A-27 representing historical conditions in the Forebay. Water level data for well A-27 near Anaheim Lake dates back to 1932 and indicate that the historic low water level in this area occurred in 1951-52. The subsequent replenishment of Colorado River water essentially refilled the basin by 1965. Water levels in this well reached a historic high in 1994 and have generally remained high as recharge has been nearly continuous at Anaheim Lake since the late 1950s. Well A-27 was destroyed in May 2012. To continue this hydrograph, water levels from nearby OCWD monitoring well, AMD-9/1 is used. A comparison of water levels when the two wells were in operation show they are nearly identical.

The hydrograph for well SA-21 indicates that water levels in this area have decreased since 1970. Also noteworthy is the large range of water level fluctuations from the early 1990s to early 2000s. The increased water level fluctuations during this period were due to a combination seasonal water demand-driven pumping and participation in the Metropolitan Water District of Southern California's (MWD) Short-Term Seasonal Storage Program by local groundwater producers (Boyle Engineering and OCWD, 1997), which encouraged increased pumping from the groundwater basin during summer months when MWD was experiencing high demand for imported water. Although this program did not increase the amount of pumping from the basin on an annual basis, it did result in greater water level declines during the summer during the period of 1989 to 2002 when the program was active.

Figure 3-12 presents water level hydrographs of two OCWD multi-depth monitoring wells, SAR-1 and OCWD-CTG1, showing the relationship between water level elevations in aquifer zones at different depths. The hydrograph of well SAR-1 in the Forebay exhibits a similarity in water levels between shallow and deep aquifers, which indicates the high degree of hydraulic interconnection between aquifers characteristic of much of the Forebay.

The hydrograph of well OCWD-CTG1 is typical of the Pressure Area in that there are large differences in water levels in different aquifers, indicating a reduced level of hydraulic interconnectivity between shallow and deep aquifers caused by fine-grained layers that restrict vertical groundwater flow. Water levels in the deepest aquifer zone at well OCWD-CTG1 are higher than overlying aquifers, in part, because few wells directly produce water from these zones. The lack of production from the deepest aquifers is due to the presences of amber-colored water, the cost to construct very deep wells, and the fact that sufficient high-quality groundwater is readily available within the overlying Principal aquifer.

Two additional hydrographs for wells HBM-1 and IDM-1 show multi-depth water levels representative of the coastal area and the southwestern portion of the management area. The downward trend in water levels at well IDM-1 shows the effects of a water quality improvement project known as the Irvine Desalter Project. This joint project between OCWD and IRWD, in collaboration with the U.S. Department of Navy, went on line in 2006 and consists of production

wells, pipelines, and treatment facilities to remove, treat, and put to beneficial use groundwater that contains elevated TDS, nitrate, and/or trichloroethylene. To provide the intended hydraulic containment of this impacted groundwater, lowered groundwater levels in the Irvine area were necessary and expected based on model projections.

For additional information and background information on groundwater level measurements, see the 2017 Alternative.

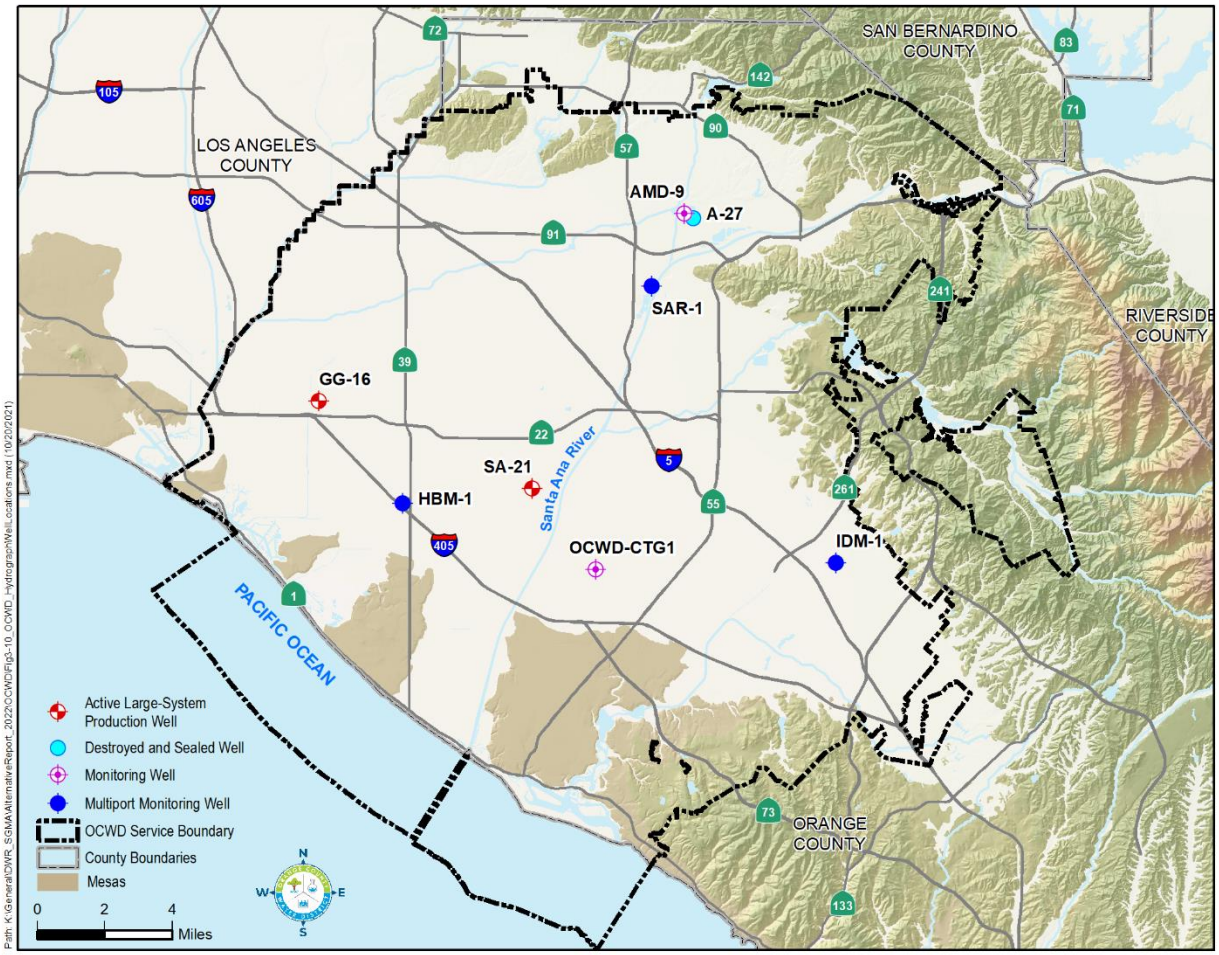


Figure 3-9: Location of Long-Term Groundwater Elevation Hydrographs

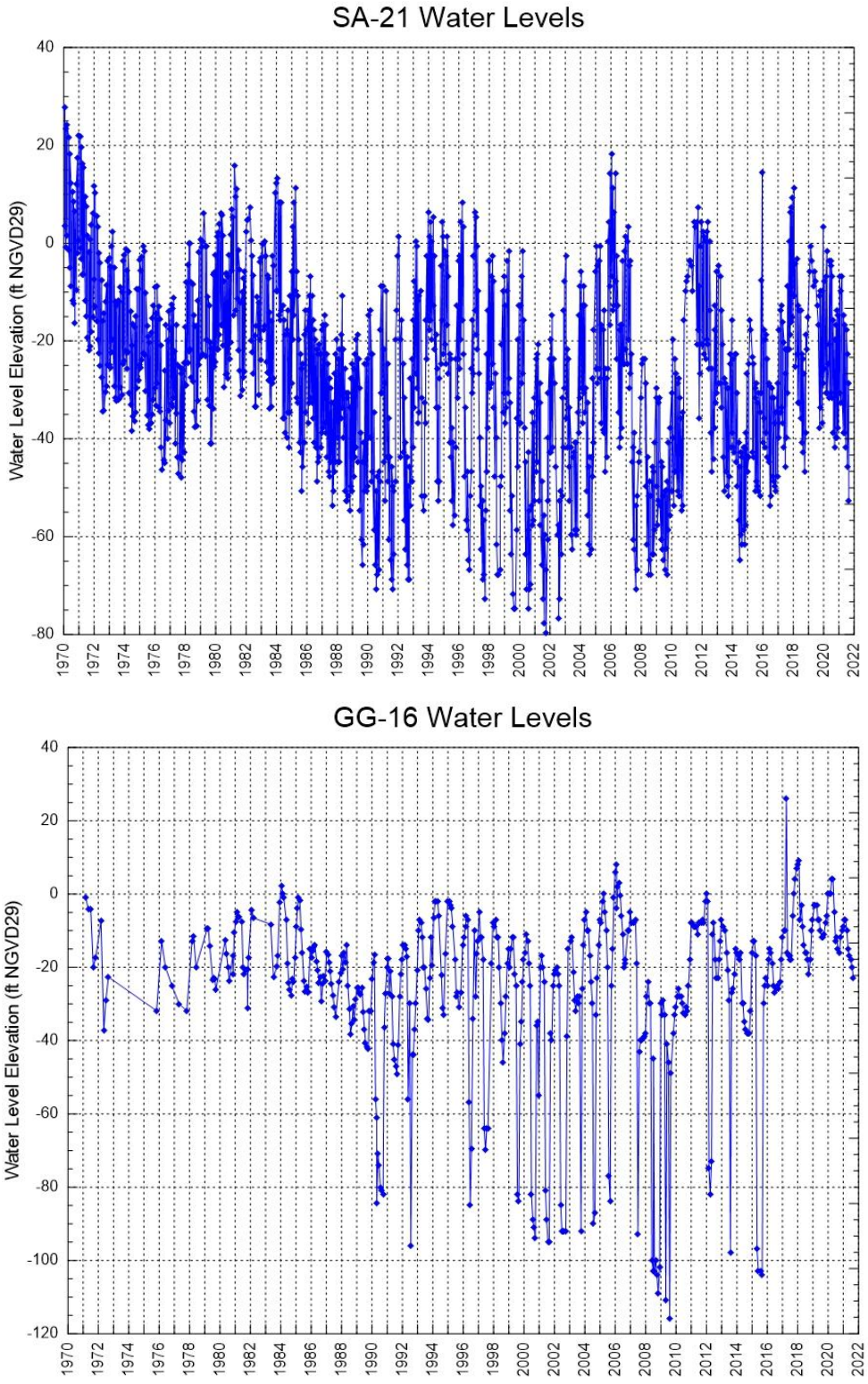


Figure 3-10: Water Level Hydrographs of Wells SA-21 and GG-16 in Pressure Area

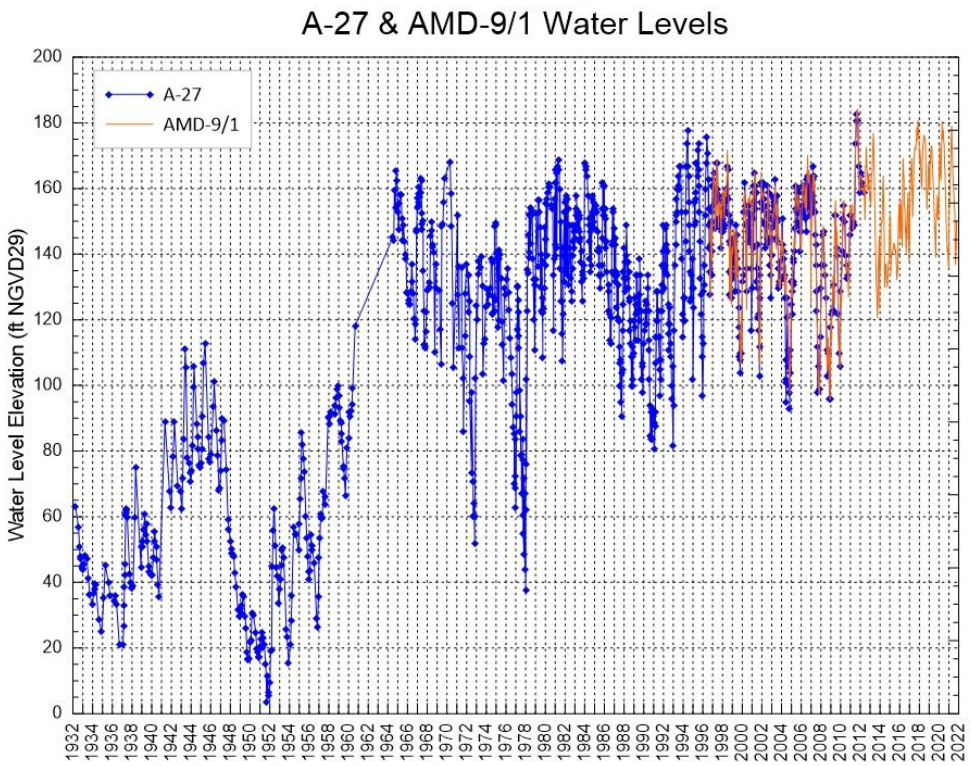


Figure 3-11: Water Level Hydrograph of Well A-27/AMD-9 in Forebay Area

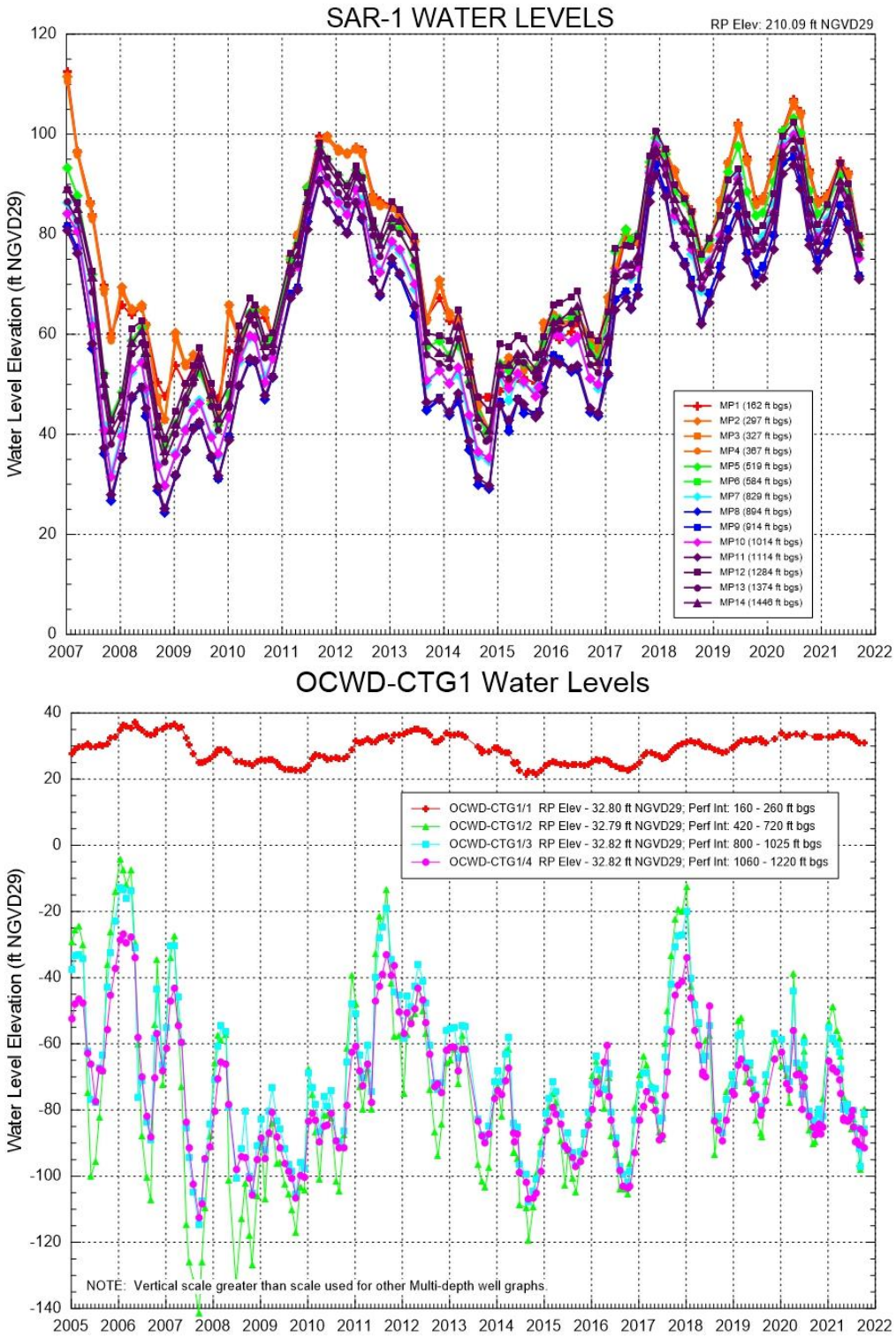
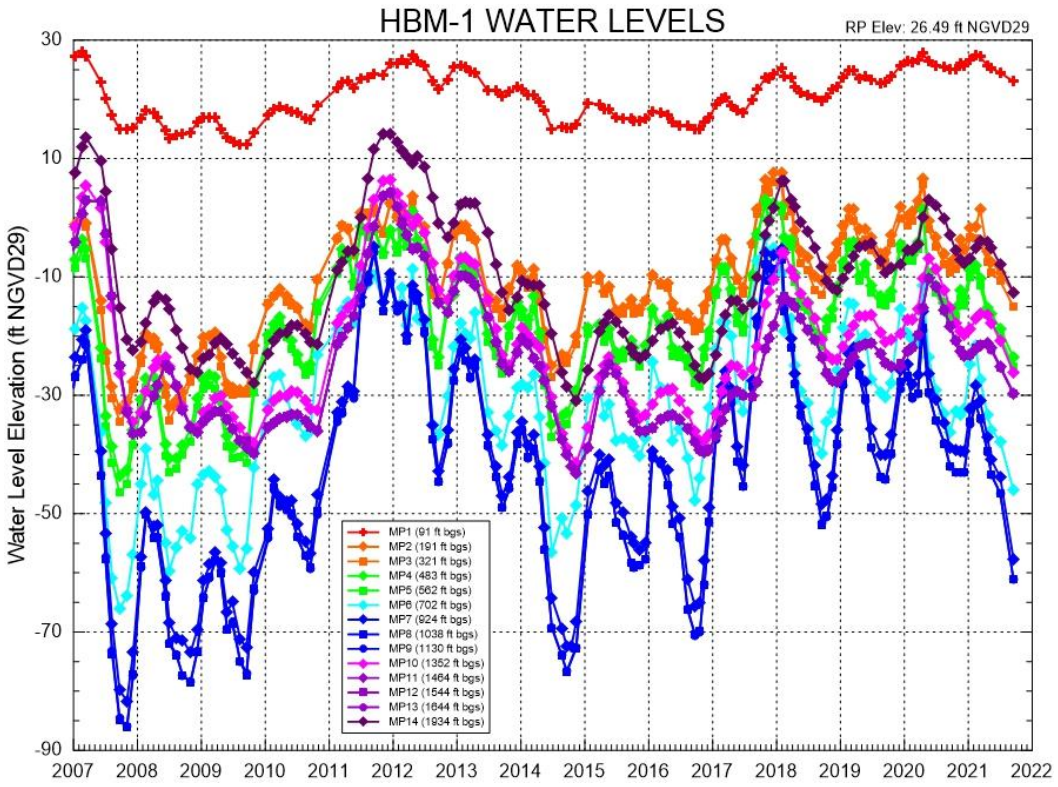


Figure 3-12: Water Level Hydrographs of Wells SAR-1 and OCWD-CTG1



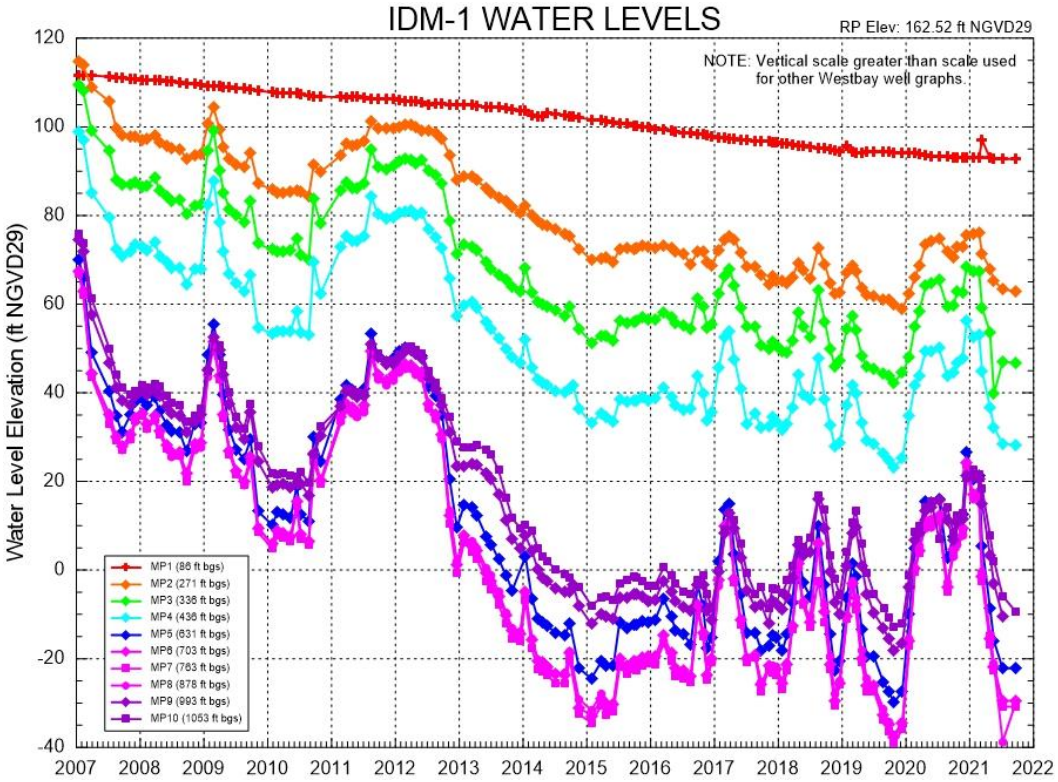


Figure 3-13: Water Level Hydrographs of Wells HBM-1 and IDM-1

3.2.4 Groundwater Storage Data

OCWD operates the basin within an operating range from a full condition to approximately 500,000 acre-feet below full to protect against seawater intrusion, inelastic land subsidence, and other potential undesirable results. Figure 1-3 shows how storage has fluctuated from 1958 to 2021. On a short-term basis, the basin can be operated at an even lower storage level in an emergency.

In order to manage the basin within this operating range, OCWD calculates the change in storage relative to a full basin condition on an annual basis for the three aquifer layers, an example of which is shown in Figure 3-14.

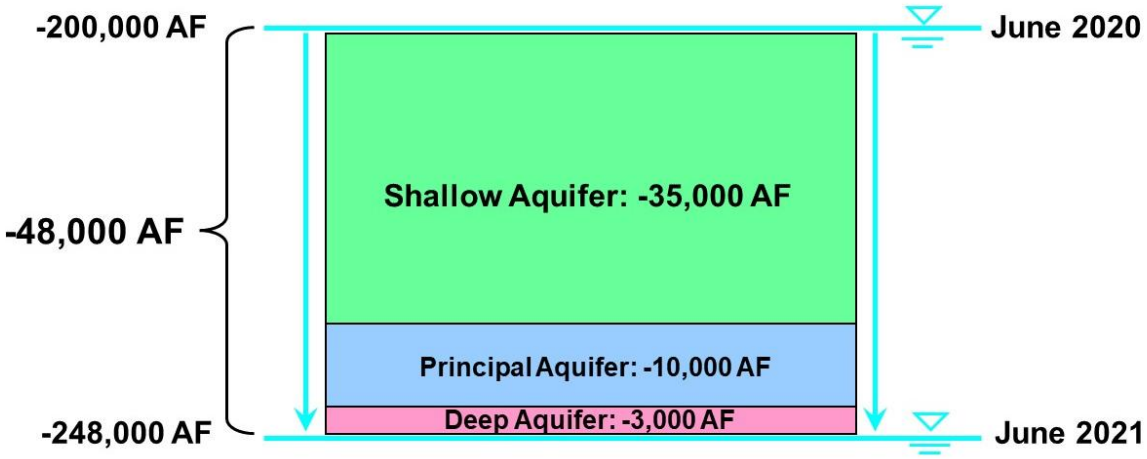


Figure 3-14: Groundwater Storage Change, June 2020 to June 2021

3.3 BASIN MODEL

OCWD's basin model encompasses most of Basin 8-1 and extends approximately three miles into the Central Basin in Los Angeles County to provide for more accurate model results than if the model boundary stopped at the county line (see Figure 3-15). The county line is not a hydrogeologic boundary, and groundwater freely flows through aquifers that have been correlated across the county line. The model provides a tool to supplement the storage change calculations that are done each year with actual groundwater elevation data. The model also provides a tool to conduct evaluations of proposed projects and operating scenarios.

For more detailed information about the model, please refer to the 2017 Alternative.

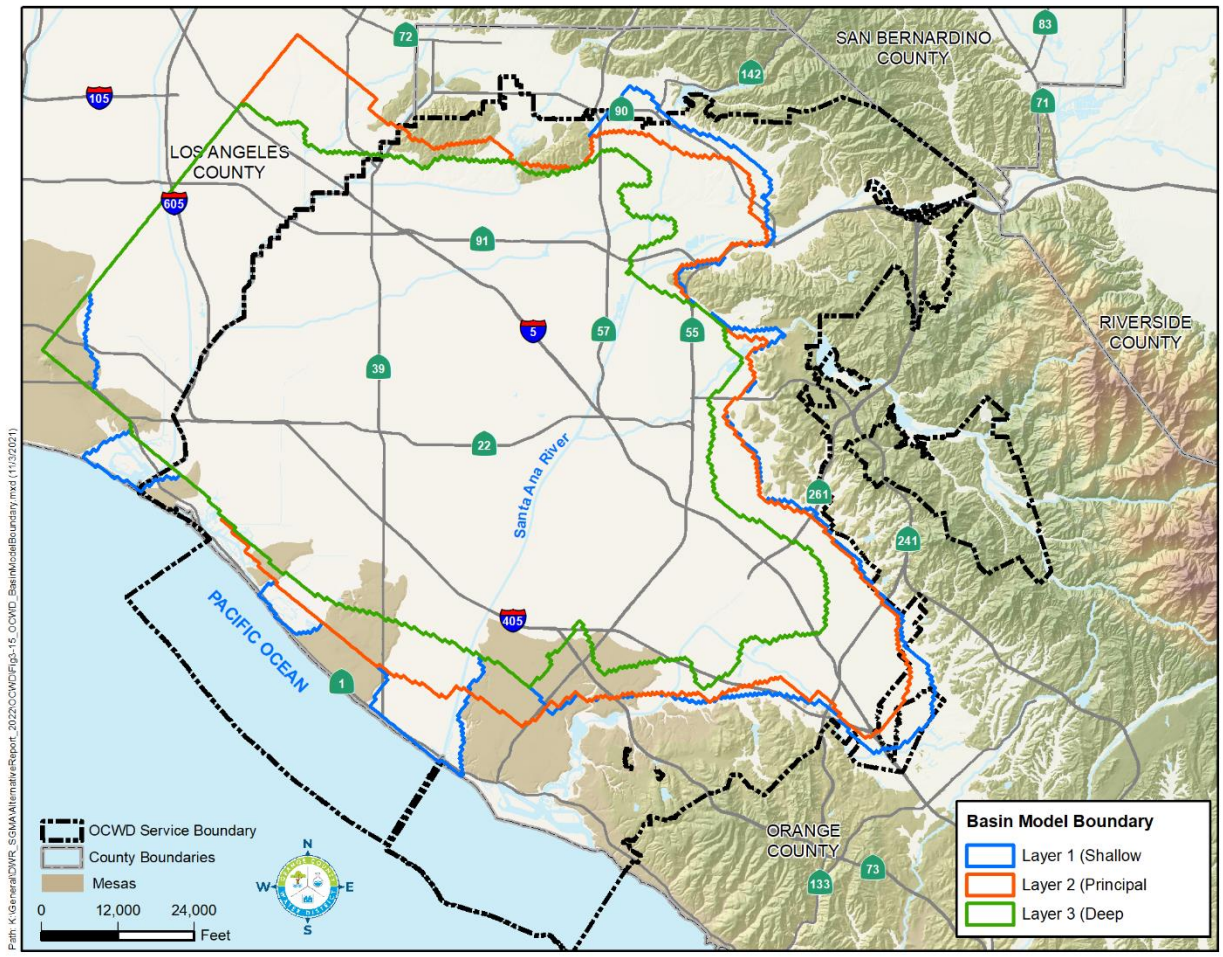


Figure 3-15: OCWD Groundwater Basin Model Boundaries

OCWD staff update the basin groundwater model approximately every three to five years. Major changes and improvements since the 2017 Alternative was submitted include:

1. Extension of the model transient calibration through WY2016-17. The new calibration period is November 1990 to June 2017 which includes a wide range of basin storage conditions as well as a wide range of hydrologic conditions.
2. Addition of new recharge basin, La Palma Basin.
3. Updating aquifer parameters, i.e., hydraulic conductivity and storage parameters, changes during calibration (still in progress).
4. Model layer revision in Irvine Sub Basin area.

3.3.1 Groundwater Quality Conditions

Salinity

At the state level, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards have authority to manage TDS concentrations in water supplies. The salinity management program for the Santa Ana River Watershed is implemented by the Basin Monitoring Program Task Force (Task Force), a group comprised of water districts, wastewater treatment agencies and the Regional Water Board. OCWD is a member of the Task Force.

Historical ambient or baseline conditions were calculated for levels of TDS and nitrate (as N) in each of the 39 groundwater management zones in the watershed. Management Zones established by the Regional Water Board within the OCWD Management Area are shown in Figure 3-16. The TDS water quality objectives and ambient water quality levels for the two zones within the OCWD Management Area are shown in Table 3-1.

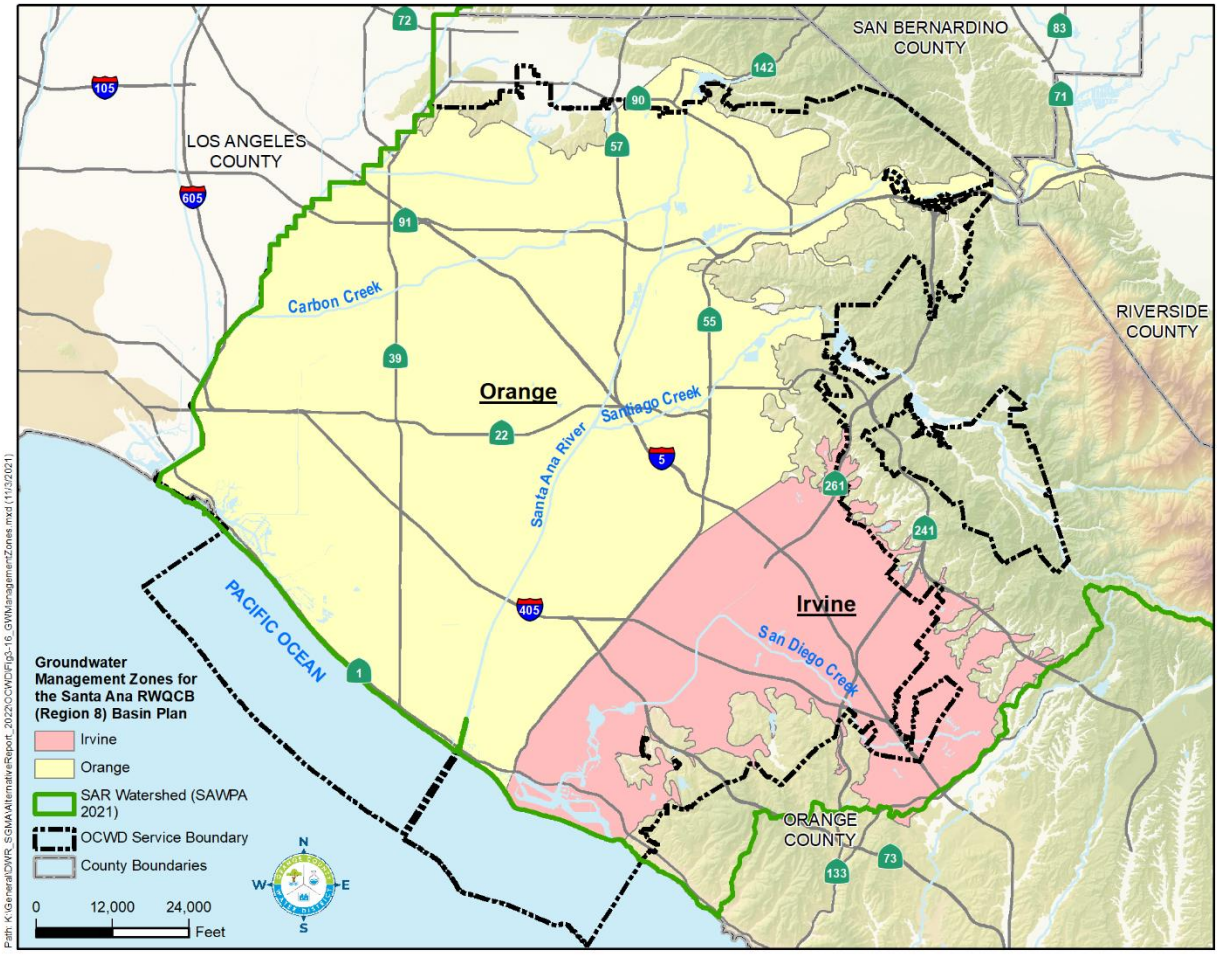


Figure 3-16: Regional Water Board Groundwater Management Zones

Table 3-1: TDS Water Quality Objectives for Lower Santa Ana River Basin Management Zones

Groundwater Management Zone	Water Quality Objective	2018 Ambient Quality*
Orange	580 mg/L	603 mg/L
Irvine	910 mg/L	877 mg/L

*Water Systems Consulting, 2020.

Figure 3-17 shows the average TDS at production wells in the basin for WY2016-17 to 2020-21. In general, the TDS concentrations in the Principal Aquifer in the Orange Groundwater Management Zone generally range from 300 to 400 mg/L in the Pressure Area and from 500 to 700 mg/L in the Forebay Area. In the Irvine Groundwater Management Zone, TDS concentrations range from approximately 400 mg/L west of Culver Drive to 1,000 mg/L in the area northeast of Interstate 5.

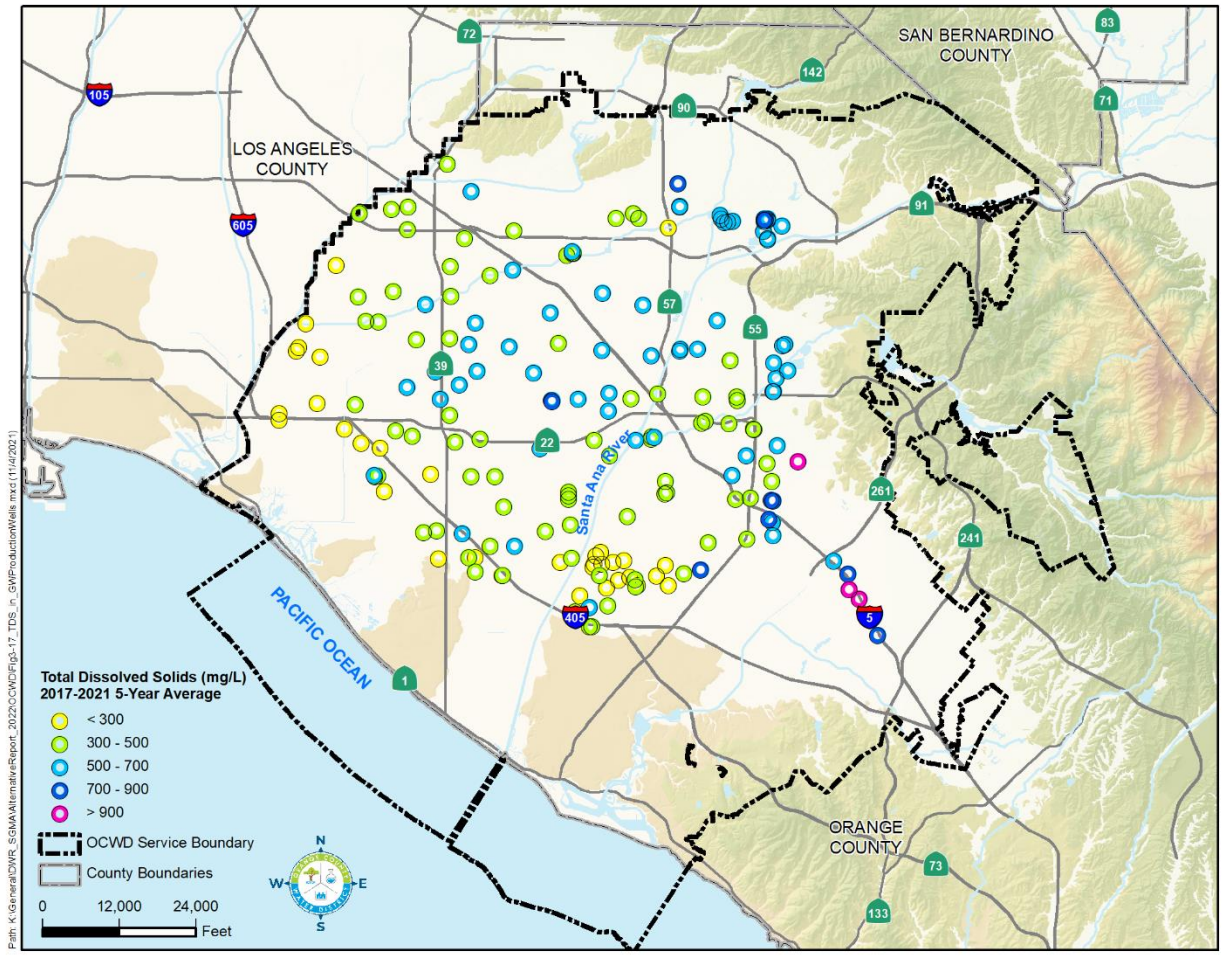


Figure 3-17: TDS in Groundwater Production Wells,
5-year average, WY2016-17 to 2020-21

Nitrate

Management of nitrate is a component of the salinity management program in the Santa Ana River Watershed. Along with TDS objectives, water quality objectives for nitrate (as N) are established for each of the 39 groundwater management zones in the watershed. Water quality objectives and ambient quality levels for the zones within the OCWD Management Area are shown in Table 3-2.

Figure 3-18 shows the 5-year average nitrate (as N) levels in production wells for WY2016-17 to 2020-21. In general, nitrate (as N) concentrations in the Orange Groundwater Management Zone are generally less than 5 mg/L. There are some localized areas with concentrations greater than 10 mg/L. In cases where pumped groundwater exceeds the MCL, the groundwater producer treats the water to reduce nitrate (as N) levels prior to being served to customers.

Table 3-2: Nitrate (as N) Water Quality Objective for
Lower Santa Ana River Basin Management Zones

Groundwater Management Zone	Water Quality Objective	2018 Ambient Quality*
Orange	3.4 mg/L	3.0 mg/L
Irvine	5.9 mg/L	6.37 mg/L

*Water Systems Consulting, 2020.

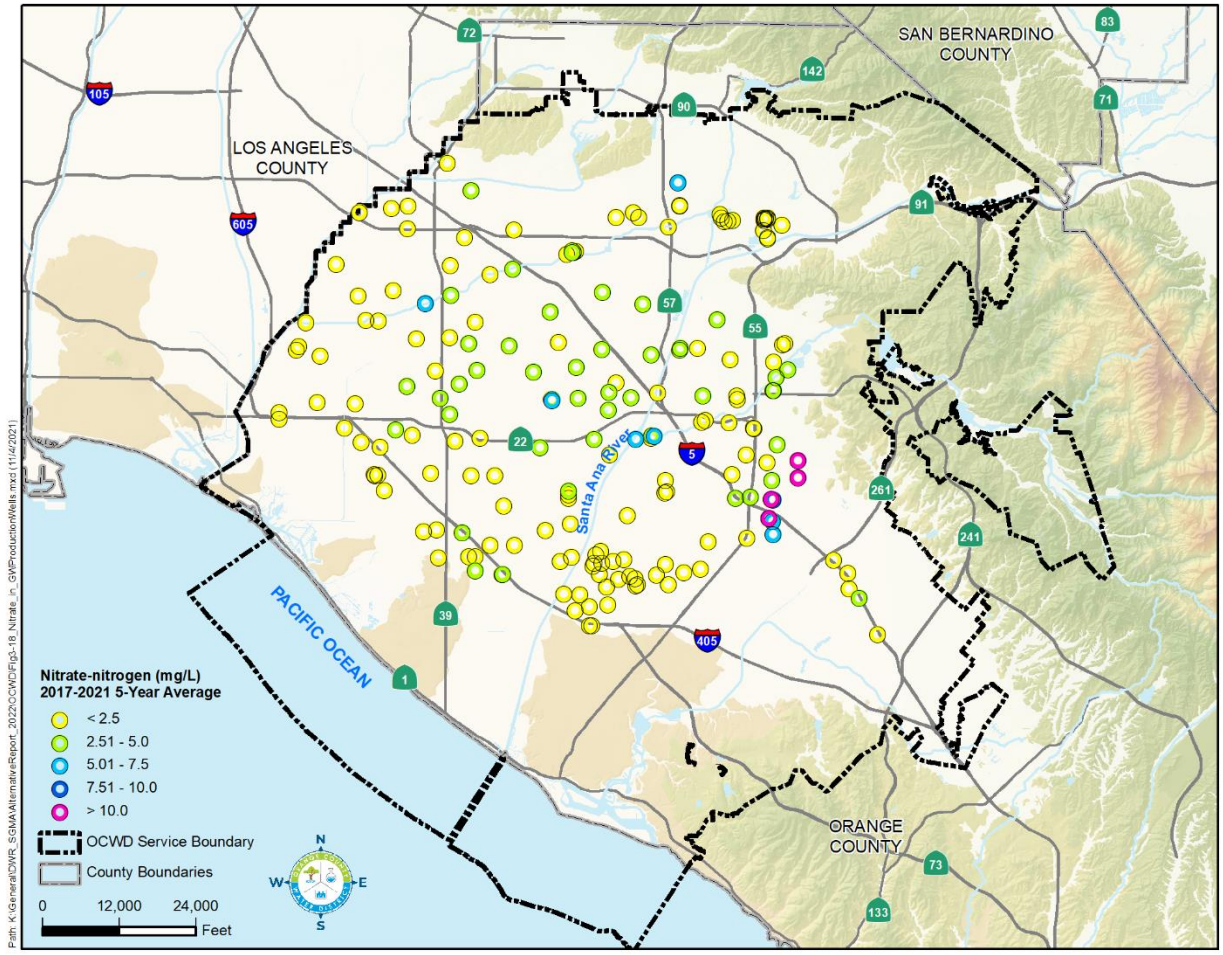


Figure 3-18: Nitrate (as N) Levels in Groundwater Production Wells,
5-year average, WY2016-17 to 2020-21

Per- and polyfluoroalkyl substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds have been commonly used in many products including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning

products, and fire-fighting foams. Beginning in the summer of 2019, the California Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

In February 2020, the DDW lowered its Response Levels (RL) for PFOA and PFOS to 10 and 40 parts per trillion (ppt or nanogram/L, ng/L), respectively. In March 2021, DDW established a third PFAS RL for perfluorobutane sulfonate (PFBS) at 5,000 ppt. The DDW recommends the public water systems not serve any water exceeding the RL – effectively making the RL a *de facto* interim MCL while the state undertakes the formal process to set an enforceable MCL. In response to DDW's issuance of the revised RL, as of September 2021, approximately 60 wells in the OCWD service area have been temporarily turned off until treatment systems can be constructed. As additional wells are tested, this figure may increase. The state has begun the process of establishing MCLs for PFOA and PFOS; in July 2021, the state Office of Environmental Health Hazard Assessment (OEHHA) released draft Public Health Goals (PHGs) for PFOA and PFOS or 0.007 ng/L and 1 ng/L, respectively, for public comment. After the PHGs are finalized, DDW will formally begin developing corresponding MCLs and currently anticipates issuing a final MCL by 2023 or 2024. OCWD anticipates the MCLs will be set at or below the RLs.

In April 2020, OCWD as the groundwater basin manager, executed a multi-party agreement with the impacted groundwater producers to fund and construct the necessary treatment systems for production wells impacted by PFAS compounds. The PFAS treatment projects include the design, permitting, construction, and operation of PFAS treatment systems for impacted production wells. Each well treatment system will be evaluated for use with either granular activated carbon (GAC), ion exchange (IX), or an alternative novel sorbent for the removal of PFAS compounds. These treatment systems utilize vessels in a lead-lag configuration to remove PFOA and PFOS to less than 2 ppt, the current laboratory detection limit. These PFAS treatment systems are designed to ensure the groundwater supplied by producer wells can be served in compliance with current and future PFAS regulations. The groundwater producers will own the treatment systems once they are completed. With financial assistance from OCWD, the groundwater producers will operate and maintain the new treatment systems once they are constructed.

To minimize alternative water supply expenses and provide maximum protection to the public water supply, OCWD initiated design, permitting, and construction of the PFAS treatment projects on a schedule that allows rapid deployment of treatment systems. As of September 2021, construction contracts have been awarded for treatment systems for production wells owned by the cities of Orange (Phase 1), and Garden Grove, Serrano Water District, and Yorba Linda Water District. The City of Anaheim has also awarded a design-build contact (phase A) for 8 impacted wells, that will be reimbursed by OCWD. The City of Fullerton's well KIM-1A treatment system has been completed and is in operation. Additional construction contracts are anticipated to be awarded for impacted wells operated by the cities of Fullerton (Main Plant), Orange (Phase 2), Santa Ana, Tustin, Irvine Ranch Water District and East Orange County Water District by early 2022. OCWD expects the treatment systems to be constructed for the approximately 60 impacted wells within the next 2 to 3 years.

As monitoring continues and additional wells are taken off-line due to PFAS detections reported at or near the current RL (or future MCL), OCWD will continue to partner with the affected groundwater producers and take action to design and construct necessary treatment systems to bring the impacted wells back online as quickly as possible.

Groundwater production in WY2020-21 was expected to be approximately 325,000 acre-feet but declined to 282,000 acre-feet primarily due to PFAS impacted wells being turned off around February 2020. OCWD expects groundwater production to be in the area of 250,000 acre-feet in WY2021-22 due to the currently idled wells and additional wells being impacted by PFAS and turned off. As PFAS treatment systems are constructed, OCWD expects total annual groundwater production to slowly increase back to levels similar to years prior to PFAS impacts.

Contamination Plumes

Major groundwater contamination sites within the OCWD Management Area include areas where contamination has migrated significantly beyond the contamination sources and threaten to further impact the groundwater quality. These plumes, shown in Figure 3-19, are in the process of being remediated, and some are being evaluated for additional remediation.

The North Basin Volatile Organic Compound (VOC) plume area contains contaminated groundwater primarily in the Shallow Aquifer, which is generally less than 200 feet deep with migration downward into the Principal Aquifer. OCWD is performing a remedial investigation/feasibility study (RI/FS) under the oversight of the U.S. EPA and working with state regulatory agencies and stakeholders to evaluate and develop effective remedies to address the contamination under the National Contingency Plan process. The U.S. EPA is the lead agency for this North Basin RI/FS.

The South Basin plume area contains VOCs and perchlorate. OCWD has collected extensive data to delineate the comingled plumes. OCWD is performing an RI/FS in consultation with the Regional Water Board, Department of Toxic Substances Control, and stakeholders to evaluate and develop effective remedies to address the contamination under the National Contingency Plan process, designated as the South Basin Groundwater Protection Project (SBGPP).

The U.S. Navy is taking the lead in remediation of three groundwater contamination plumes of VOCs in the vicinity of the former El Toro Marine Corps Air Station (MCAS), former Tustin MCAS, and the Naval Weapons Station Seal Beach.

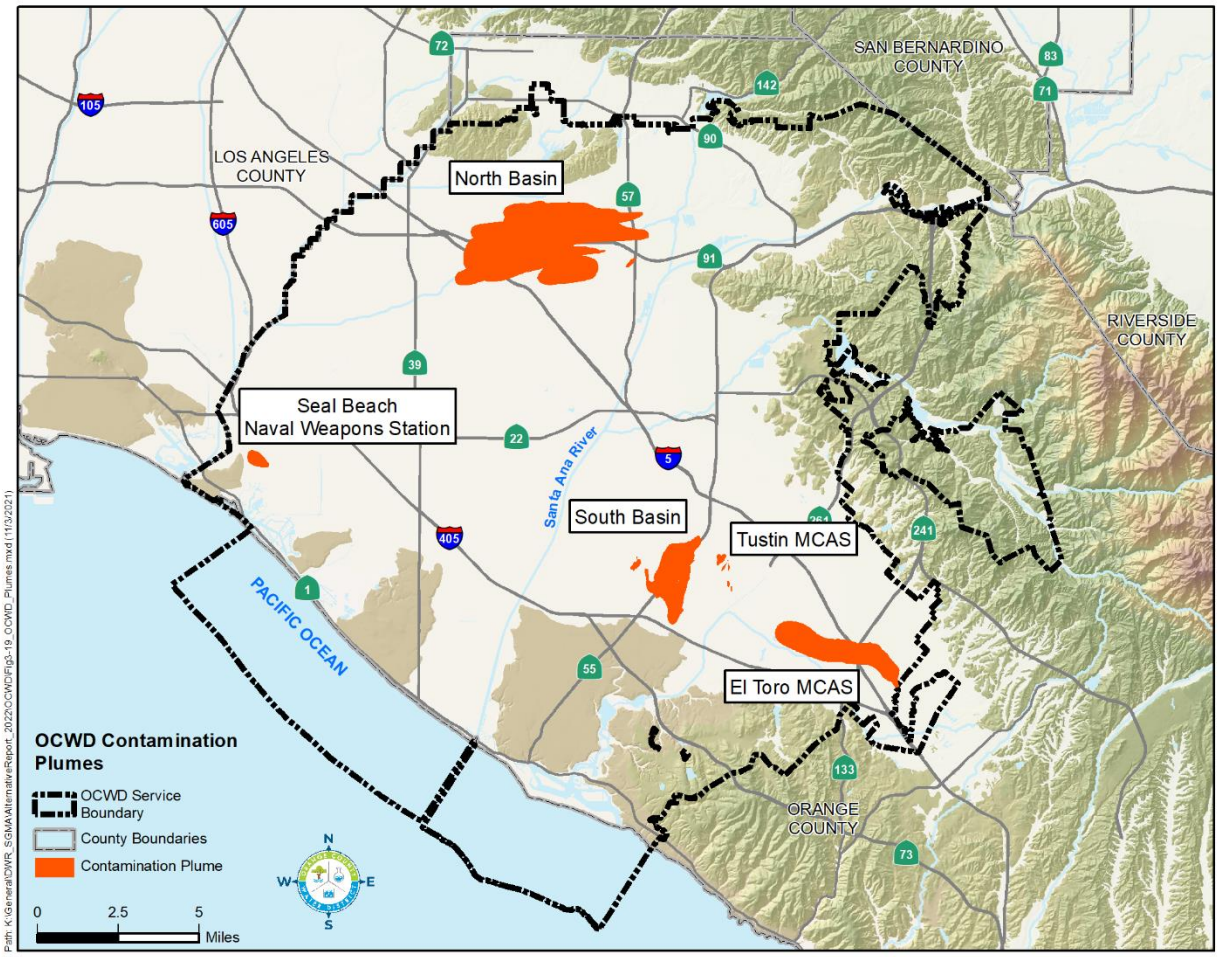


Figure 3-19: Groundwater Contamination Plume Locations

3.3.2 Coastal Gaps

In the coastal area of Orange County, the primary source of saline groundwater is seawater intrusion into the basin through permeable aquifer sediments underlying topographic lowlands or gaps between the erosional remnants or mesas of the Newport-Inglewood Uplift. The susceptible locations from north to south are the Alamitos, Sunset, Bolsa, and Talbert gaps as shown in Figure 3-20. Note that new wells added within the last five years are shown in Figure 3-20.

Background information on these gaps is contained in the 2017 Alternative. Ongoing activities related to seawater intrusion protection is described in subsequent sections of this report.

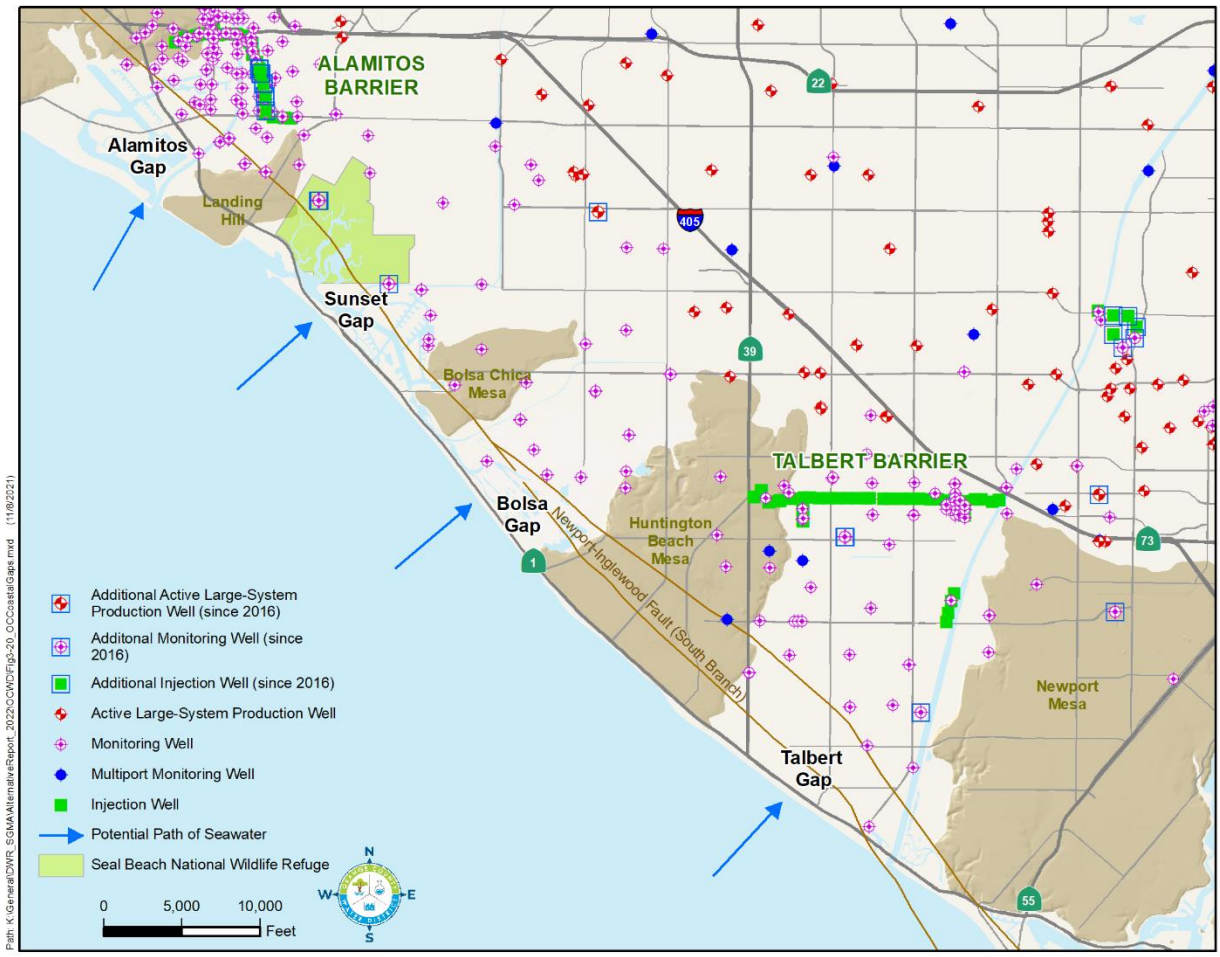


Figure 3-20: Orange County Coastal Gaps

3.3.3 Land Subsidence

In Orange County, subsidence in swampy low-lying coastal areas underlain by shallow organic peat deposits started as early as 1898 when development of these areas for agriculture resulted in excavation of unlined drainage ditches. The ditches drained the swamps and intercepted the shallow water table which was lowered to allow the land to drain adequately for irrigated agriculture. When the shallow water table was lowered, it exposed the formerly saturated peat deposits to oxygen that caused depletion and shrinkage of the peat due to oxidation (Fairchild and Wiebe, 1976).

Subsidence related to shallow peat deposits was associated with land development practices that occurred in Orange County in the late 1800s and early 1900s and, as such, is not something associated with or controlled by groundwater withdrawals in the basin. Another documented cause of subsidence in Orange County unrelated to groundwater basin utilization is oil extraction along the coast, particularly in Huntington Beach (Morton et al., 1976).

Ground surface elevations rise and fall due to groundwater conditions in the OCWD Management Area, and there is no indication of widespread irreversible lowering of the ground surface. Storage conditions in the groundwater basin were at historical lows in the mid-1950s, but since this time OCWD has operated the groundwater basin within a storage range above this historical low. There are reports that some subsidence may have occurred before OCWD began refilling the groundwater basin in the late 1950s (Morton, et al., 1976); however, the magnitude and scope of this subsidence is uncertain, and it is not clear if this subsidence was permanent. As such, there is no evidence of permanent, inelastic land subsidence in the OCWD Management Area (see Section 13), and future subsidence is not expected as long as OCWD continues to manage basin storage above the historic low observed in the late 1950s.

3.3.4 Groundwater/Surface Water Interactions and Groundwater Dependent Ecosystems

Frequent and destructive flooding of the Santa Ana River in Orange County was the impetus for construction of Prado Dam in 1941. Prior to the construction of flood control facilities, the banks of the Santa Ana River naturally overflowed periodically and flooded broad areas of Orange County. Coastal marshes were inundated during winter storms, and the mouth of the river moved both northward and southward of its present location. In the days before flood control, surface water naturally percolated into the groundwater basin, replenishing groundwater supplies.

Subsequent flood protection efforts included construction of levees along the river and concrete-lined bottoms along portions of the river. Flood risk was reduced, increased pumping of groundwater lowered water levels, and low-lying areas were filled in and/or equipped with drains, pumps and other flood control measures to allow for urban development. Since at least the 1950s, groundwater levels throughout the OCWD Management Area have been low enough that the rising and lowering of groundwater levels do not impact surface water flows or ecosystems.

Although it is outside the OCWD Management Area (within the Santa Ana Canyon Management Area described later), it is noted that from Prado Dam to Imperial Highway, the wide soft-bottomed Santa Ana River channel supports riparian habitat. Riparian habitat is dependent on river water released through Prado Dam, which is predominantly treated wastewater discharged in the upper watershed when storm flow is not present. In aggregate, this stretch is generally considered to be in equilibrium between surface water and groundwater based on available stream gage and groundwater level data, although some infiltration may occur due to minor groundwater pumping in the Santa Ana Canyon Management Area.

As the Santa Ana River enters the OCWD Management Area, from Imperial Highway to 17th Street in Santa Ana, there is minimal riparian habitat, and the river is a losing reach with engineered facilities to infiltrate surface water into the groundwater basin. OCWD conducts recharge operations within the soft-bottomed river channel except for a portion of the river where the Riverview Golf Course occupies the river channel. The river levees are constructed of either rip-rap or concrete.

From 17th Street to near Adams Avenue in Costa Mesa, the river channel is concrete-lined for flood control with vertical to sloping concrete side walls and a concrete bottom. From Adams Avenue to the coast, the channel has vertical concrete side walls or rip-rap for flood control and a soft bottom. Estuary conditions within the concrete channel exist at the mouth of the river where the ocean encroaches at high tide. The tidal prism extends from the ocean approximately three miles inland to the Adams Avenue Bridge.

There are no surface water bodies within the boundaries of the OCWD Management Area that are dependent on groundwater. Therefore, there are no groundwater-dependent ecosystems in the OCWD Management Area.

Some areas in the basin experience relatively high groundwater levels due to perched groundwater where shallow groundwater is impeded from flowing into deeper groundwater by a layer of low-permeable clay or silt, known as an aquitard. Except in very low-lying areas near sea level, the high groundwater is not close enough to the surface to support hydrophilic vegetation. OCWD carefully monitors water levels in the vicinity of the Talbert Seawater Barrier in order to maintain injection well rates to assure that groundwater levels do not rise to levels that could threaten urban infrastructure.

SECTION 4 WATER BUDGET

OCWD developed a hydrologic budget (inflows and outflows) for the purpose of constructing a basin-wide groundwater flow model, (Basin Model) and for evaluating basin production capacity and recharge requirements. The key components of the budget include measured and unmeasured (estimated) recharge, groundwater production, and subsurface flows along the coast and across the Orange County/Los Angeles County line. Because the basin is not operated on an annual safe-yield basis, the net change in storage in any given year may be positive or negative; however, over the long-term, the basin is operated within the established operating range. The components of the water budget are described below. OCWD's water year (WY) begins on July 1 and ends on June 30.

4.1 WATER BUDGET COMPONENTS

4.1.1 Measured Recharge

Measured recharge consists of all water artificially recharged at OCWD's surface water recharge facilities, water injected in the Talbert and Alamitos Barriers, and water injected in the Mid-Basin Injection wells. The majority of measured recharge occurs in the District's surface water system, which receives Santa Ana River baseflow and storm flow, GWRS water, and imported water.

4.1.2 Unmeasured Recharge

Unmeasured recharge also referred to as "incidental recharge" accounts for a significant amount of the basin's recharge, particularly in wet periods. This includes recharge from precipitation, irrigation return flows, urban runoff, seawater inflow through the gaps as well as subsurface inflow at the basin margins along the Chino, Coyote, and San Joaquin hills and the Santa Ana Mountains, and beneath the Santa Ana River and Santiago Creek. Subsurface inflow beneath the Santa Ana River and Santiago Creek refers to groundwater that enters the basin at the mouth of Santa Ana Canyon and in the Santiago Creek drainage below Villa Park Dam. Estimated average subsurface inflow to the basin is shown in Figure 4-1.

OCWD has estimated total unmeasured recharge, sometimes referred to as "incidental recharge," between 20,000 and 160,000 acre-feet per year. Net unmeasured recharge is the amount of unmeasured recharge remaining in the basin after accounting for underflow losses to Los Angeles County and relatively minor groundwater inflows/outflows at the coastal gaps. Under average hydrologic conditions, net incidental recharge averages 66,000 acre-feet per year. This average was substantiated during calibration of the Basin Model and is also consistent with the estimate of 58,000 acre-feet per year reported by Hardt and Cordes (1971) as part of a USGS modeling study of the basin. Because unmeasured recharge is one of the least understood components of the basin's water budget, the error margin for any given year is likely in the range of 10,000 to 20,000 acre-feet. Since unmeasured recharge is well distributed

throughout the basin, the physical significance (e.g., water level drawdown or mounding in any given area) of overestimating or underestimating the total recharge volume within this error margin is considered to be minor.

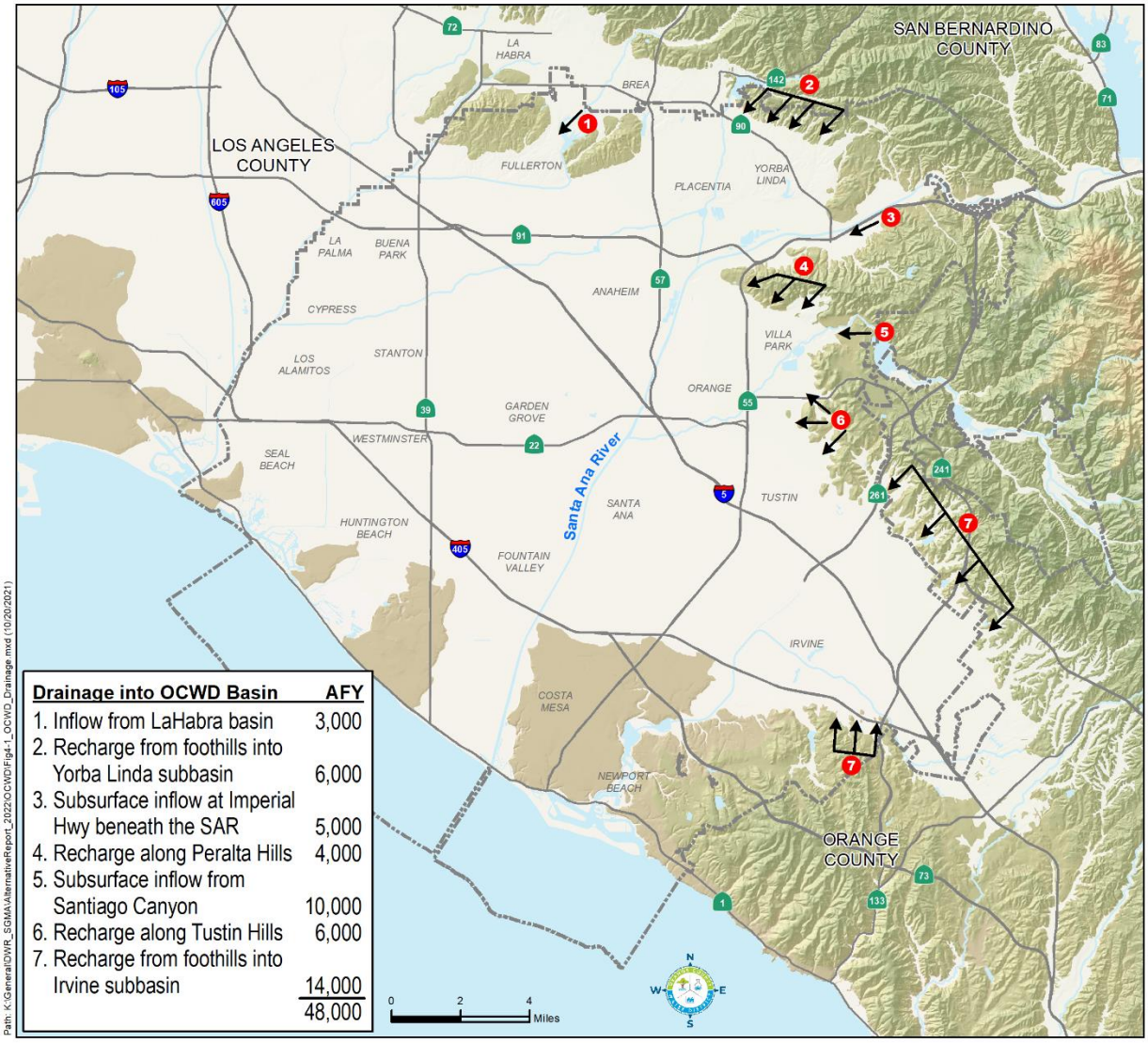


Figure 4-1: Estimated Subsurface Inflow

4.1.3 Groundwater Production

Entities that produce groundwater within the OCWD Management Area include major groundwater producers and small groundwater producers. Ninety-eight percent of groundwater production within Basin 8-1 occurs within the OCWD Management Area. The major groundwater producers include cities, water districts and a private water company that account for approximately 97 percent of the total basin production. These 19 major producers operate approximately 200 large-system wells. Small groundwater producers include entities that typically

produce less than 500 acre-feet per year. These include small mutual water companies, agricultural companies, golf courses, cemeteries (irrigation wells), and private-well owners. Groundwater pumping for agricultural irrigation use accounts for less than one percent of total basin production.

4.1.4 Subsurface Outflow

Groundwater outflow from the basin across the Los Angeles County/Orange County line has been estimated to range from approximately 1,000 to 14,000 acre-feet per year based on groundwater elevation gradients and aquifer transmissivity (DWR, 1967; McGillicuddy, 1989). The Water Replenishment District of Southern California (WRD) also has estimated underflow from Orange County to Los Angeles County within the aforementioned range. Groundwater outflow cannot be directly measured and is accounted for in the basin water budget within the net unmeasured recharge described above. Modeling by OCWD indicates that underflow to Los Angeles County increases by approximately 7,500 acre-feet per year for every 100,000 acre-feet of increased groundwater in storage in Orange County, given the assumption that groundwater elevations in Los Angeles County remain constant.

Recent updates to the OCWD groundwater model show that subsurface outflow averaged approximately 13,000 acre-feet per year during the period 1991 to 2017 with a range of 5,000 to 25,000 acre-feet per year. Due to differences in model-estimated inter-basin groundwater flows, OCWD and WRD are jointly conducting a study to evaluate OCWD's Basin Model and WRD's groundwater model of Central Basin in Los Angeles County constructed by the USGS. The goal is to improve each model's ability to more closely represent local groundwater conditions and thereby more accurately estimate inter-basin groundwater flows.

With the exception of unknown amounts of semi-perched (near-surface) groundwater being intercepted and drained by submerged sewer trunk lines and unlined flood control channels along coastal portions of the basin, no other significant basin outflows are known to occur.

4.1.5 Evaporation

The total wetted area of the District's recharge system is over 1,000 acres. OCWD estimates the evaporation from this system on a monthly basis. Generally, total evaporation is on the order of 2,000 acre-feet per year which is approximately one percent of the total volume recharged annually. The relatively minor impact of evaporation reflects moderate temperatures in the region and high percolation rates (1 to 10 feet per day).

4.2 WATER YEAR TYPE

As explained previously, OCWD manages groundwater pumping and basin storage over the long-term, which includes wet and dry years. Basin storage levels from WY1957-58 to 2020-21 are shown in Figure 1-3. Typically, basin storage levels increase during wet periods and decrease during dry periods. Operating the basin within the operating range provides for maximum basin production while preventing significant and unreasonable undesirable results.

4.3 ESTIMATE OF SUSTAINABLE YIELD

Even though the groundwater basin contains an estimated 66 million acre-feet when full, OCWD operates the basin within an operating range of up to 500,000 acre-feet below full condition to protect against seawater intrusion, inelastic land subsidence, and other potential undesirable results. On a short-term basis, the basin can be operated at an even lower storage level in an emergency.

OCWD manages groundwater production and recharge to maintain groundwater storage levels within the established operating range. In this sense, the basin's sustainable yield can be defined as the volume of groundwater production that can be sustained while maintaining groundwater in storage within the operating range. Basin storage is determined on an annual basis by calculating the difference between groundwater production and recharge based on OCWD's July 1 to June 30 water year.

The sustainable yield of the basin is a function of the amount of groundwater recharge from OCWD's managed aquifer recharge program and natural recharge as a result of precipitation and percolation of irrigation flows. The process that determines a sustainable level of pumping on an annual basis considers the basin's operating range, basin storage conditions and the amount of available recharge water supplies.

As mentioned in Section 1.2, the groundwater basin is not operated on an annual safe-yield basis. The net change in storage in any given year may be positive or negative; however, over a period of several years, the basin is maintained in an approximate balance. Amounts of total basin production and total water recharged from WY1999-2000 to 2020-21 are shown in Figure 1-4.

4.4 WATER BUDGETS

The OCWD Management Area water budget for WY2016-17 to 2020-21 is presented in Table 4-1. Estimated water budgets for dry years, average years and wet years as well as a future projected budget are presented in the 2017 Alternative.

Table 4-1 Water Budget, WY2016-17 to 2020-21

FLOW COMPONENT	2016-17	2017-18	2018-19	2019-20	2020-21
INFLOW					
Santa Ana River baseflow	70,000	65,400	98,000	74,500	76,400
Santa Ana River stormflow	65,400	24,100	63,700	79,500	36,600
Recycled Water (GWRS/Alamitos Barrier)	98,000	106,400	97,200	99,700	101,700
Imported Water	50,400	66,100	40,300	18,100	0
Net Estimated Unmeasured or Incidental Recharge*	67,900	26,200	45,600	41,400	19,100
TOTAL INFLOW:	351,700	288,200	344,800	313,200	233,800
OUTFLOW					
Groundwater Production	300,700	237,200	303,800	277,200	281,800
TOTAL OUTFLOW:	300,700	237,200	303,800	277,200	281,800
CHANGE IN STORAGE:	51,000	51,000	41,000	36,000	(48,000)

SECTION 5 WATER RESOURCE MONITORING PROGRAMS

5.1 OVERVIEW

Water resource monitoring programs can be categorized into groundwater, surface water, and recycled and imported water programs. These programs are summarized in Table 5-1 in the 2017 Alternative. The only change is related to the termination of CASGEM, which is being replaced by annual reporting required by SGMA.

5.2 GROUNDWATER MONITORING PROGRAMS

OCWD collects samples and analyzes water elevation and water quality data from approximately 400 District-owned monitoring wells (shown in Figure 5-1) and at over 250 privately-owned and publicly-owned large and small system drinking water wells that are part of OCWD's Title 22 program, shown in Figure 5-2. OCWD also has access agreements to sample a number of non-District-owned monitoring wells and privately-owned irrigation, domestic and industrial wells, shown in Figure 5-3. New wells constructed in the last five years are highlighted in these figures. Inactive wells are included in District monitoring programs when feasible. An inactive well is defined as a well that is not currently being routinely operated. The number and location of wells that are sampled change regularly as new wells come online and old ones are abandoned and destroyed.

The District collects, stores, and uses data from wells owned and sampled by other agencies. For example, data collected by the WRD from wells in Los Angeles County along the Orange County boundary are part of the network of wells evaluated to determine annual groundwater elevations and are used for basin modeling. Also included in OCWD's monitoring network are wells that are owned and operated by the U.S. Navy for remediation of contamination plumes in the cities of Irvine, Seal Beach and Tustin, and wells that are related to operation of the Alamitos Barrier that are located in Los Angeles County. Los Angeles County wells are also used to model the Orange County groundwater basin as groundwater flow is unrestricted across the county line.

Wells sampled under various monitoring programs change in response to fluctuations in the number of available wells, basin conditions, observed water quality, and regulatory and non-regulatory requirements. Appendix A of the 2017 Alternative presented a comprehensive list of all wells in OCWD's database. This list included well name, owner, type of well, casing sequence number, depth, screened interval, and aquifer zone monitored, when known.

In some cases, well depth and screened intervals are listed in the database as unknown. OCWD maintains data on these wells when water quality or elevation data continues to be collected by the owner or operator. OCWD uses data from these wells in monitoring programs, for groundwater modeling, or for other basin programs. Wells on the list also include inactive

wells when water quality or water elevation data continues to be collected or the data is utilized in one or more current basin programs. Groundwater elevation and monthly production data are used to quantify total basin pumping, evaluate seasonal groundwater level fluctuations and assess basin storage conditions.

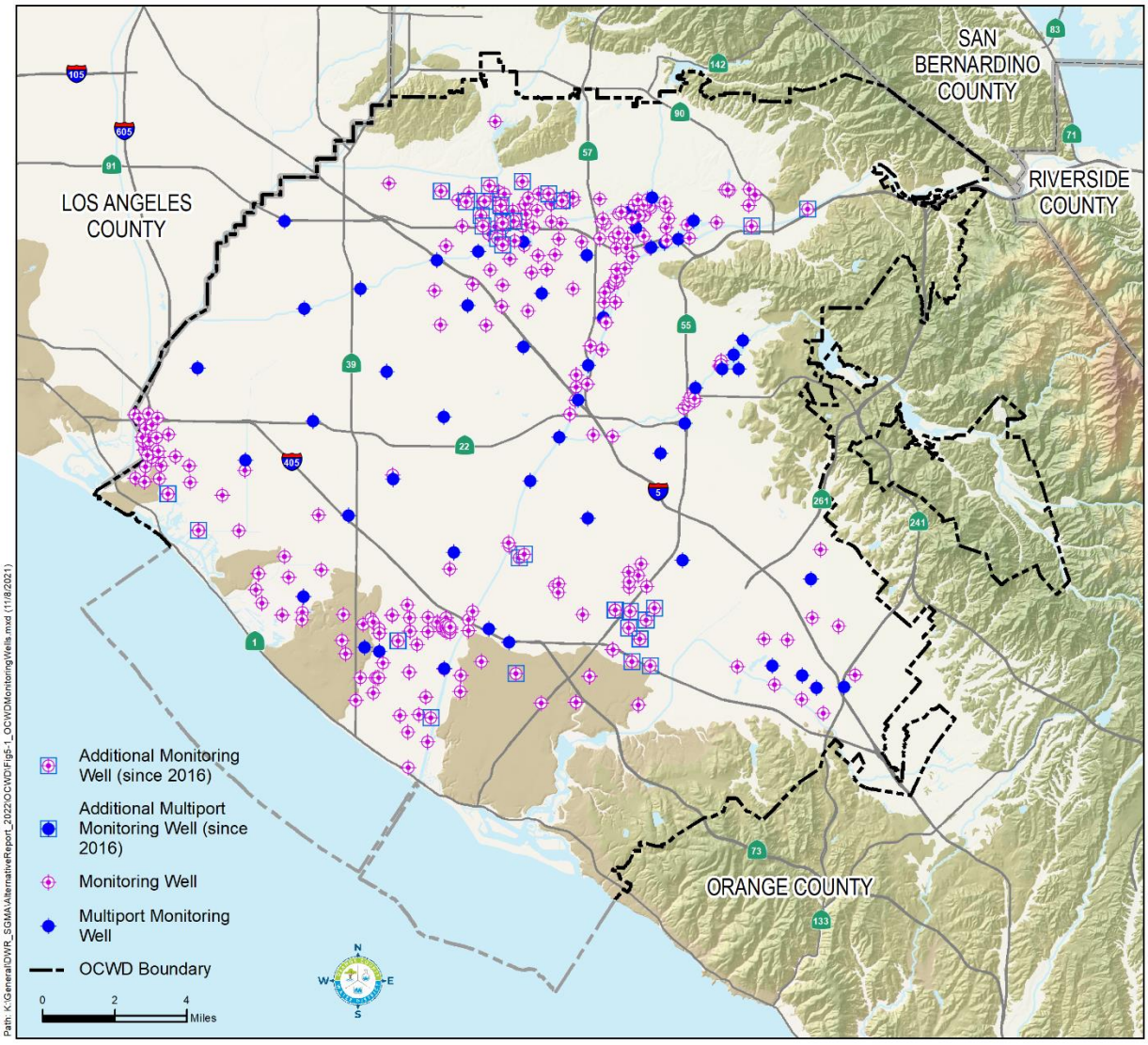


Figure 5-1: OCWD Monitoring Wells

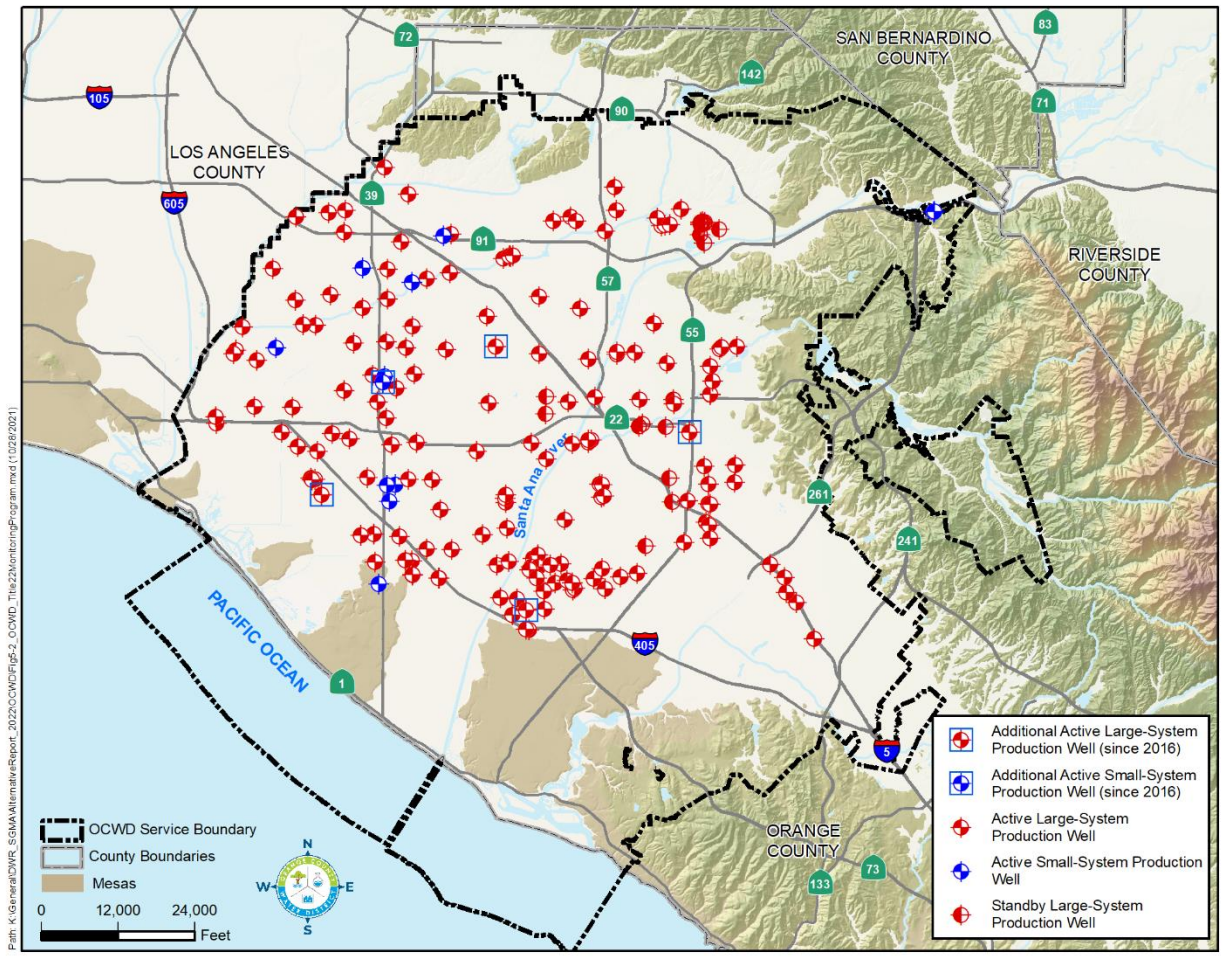


Figure 5-2: Large and Small System Drinking Water Wells in Title 22 Monitoring Program

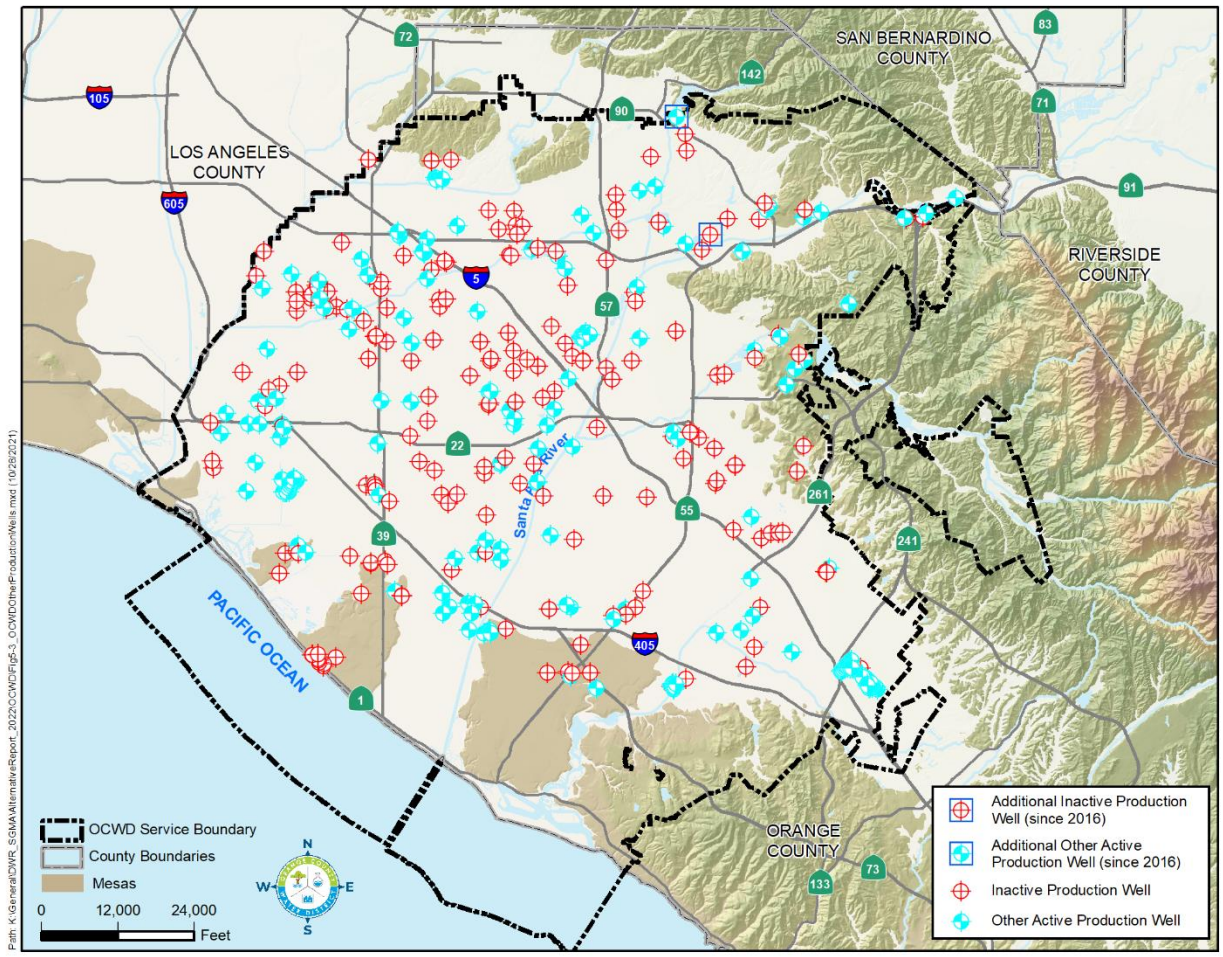


Figure 5-3: Private Domestic, Irrigation and Industrial Wells in OCWD Monitoring Program

5.2.1 Groundwater Production Monitoring

All entities that pump groundwater from the basin are required by the OCWD District Act to report production every six months and pay a Replenishment Assessment. Owners or operators of wells with discharge outlets of two inches in diameter or less and supply an area of no more than one acre pay an annual flat fee as the Replenishment Assessment and do not have to report their production.

Approximately 200 large-capacity production wells owned by 19 major water retail agencies account for ninety-seven percent of production. Large-capacity well owners voluntarily report monthly groundwater production for each of their wells. The production volumes are verified by OCWD field staff. Production data are used to evaluate basin conditions, calculate and manage basin storage, run groundwater model scenarios, and collect revenues.

5.2.2 Groundwater Elevation Monitoring

Production and monitoring wells in the basin are measured for groundwater elevation at varying intervals, as explained below:

- Water elevation measurements are collected for every OCWD monitoring well at least once a year with most wells measured at least monthly;
- Monitoring of production wells is typically monthly but may vary depending on operational status, well maintenance, abandonment, new well construction, and related factors;
- Over 1,000 individual measuring points are monitored for water levels on a monthly or bi-monthly basis to evaluate short-term effects of pumping, recharge or injection operations; and
- Additional monitoring is done as needed in the vicinity of OCWD's recharge facilities, seawater barriers, and areas of special investigation where drawdown, water quality impacts or contamination are of concern.

Beginning in 2011, OCWD began reporting seasonal groundwater elevation measurements to DWR as part of the CASGEM program. The monitoring well network developed for the CASGEM program provide a detailed and representative data set, both spatially and temporally. The initial network established in 2011 consisted of a total of 77 monitoring stations distributed laterally and vertically throughout the groundwater basin. Most of the wells are owned by OCWD and have detailed borehole geologic logs and downhole geophysical logs.

In 2021, DWR instructed agencies that submitted an Alternative to begin submitting data to the SGMA portal. As a result, CASGEM data was incorporated into annual data submittals required for SGMA compliance. For the 2022 Update, OCWD reviewed the CASGEM network and updated it, primarily in removing wells that were no longer accessible, and changed the name to the SGMA Monitoring Well Network.

Figures 5-4 to 5-6 present the monitoring well locations for each of the three aquifer systems. The SGMA network includes wells within the OCWD, La Habra-Brea, Santa Ana Canyon, and Southeast Management Areas. The City of La Habra Groundwater Sustainability Agency will be reporting water levels from the La Habra Management Area separately. Two wells monitored by the Irvine Ranch Water District (IRWD) that are located in the Southeast Management area, IRWD-LA1 and IRWD-LA4 (Figure 5-5) are included in the SGMA reports that OCWD will submit to DWR.

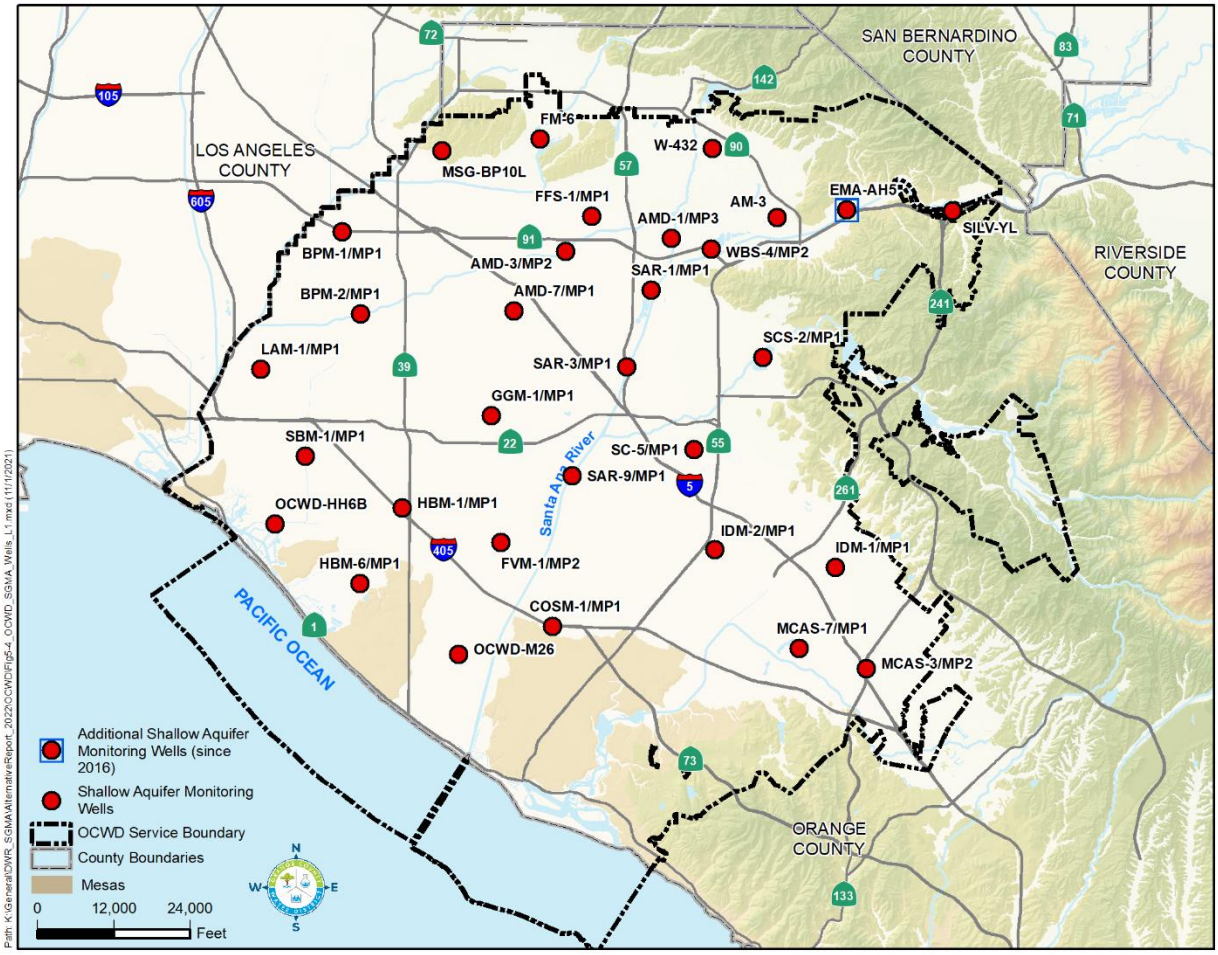


Figure 5-4: SGMA Shallow Aquifer System Monitoring Well Network

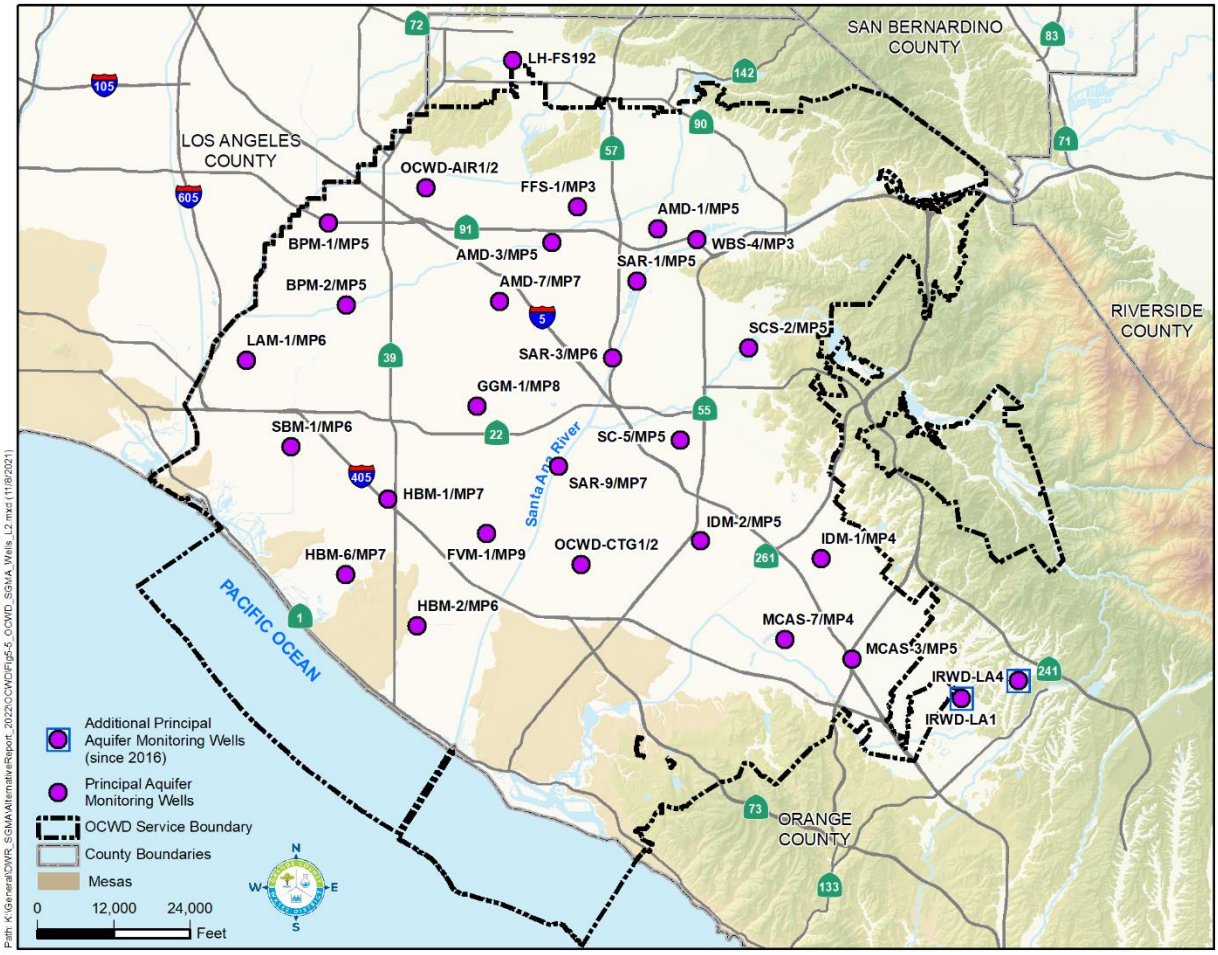


Figure 5-5: SGMA Principal Aquifer System Monitoring Well Network

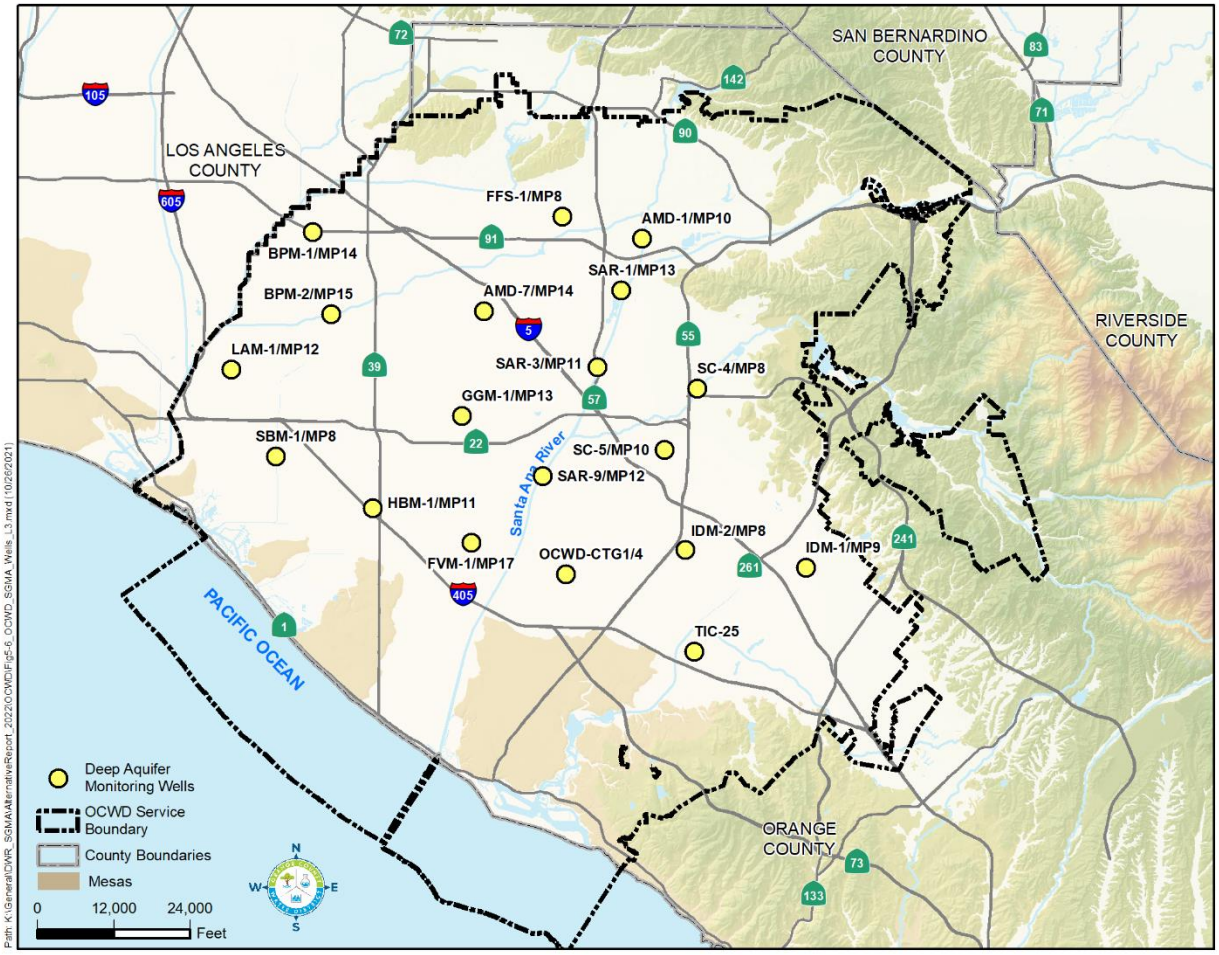


Figure 5-6**:** SGMA Deep Aquifer System Monitoring Well Network

5.2.3 Groundwater Quality Monitoring

OCWD monitors water quality in production wells on behalf of the groundwater producers for compliance with state and federal drinking water regulations. Samples are analyzed for more than 100 regulated and unregulated chemicals at frequencies established by regulations from the DDW and EPA. Over 425 monitoring and production wells are sampled semi-annually to assess water quality conditions during periods of lowest (winter) and peak production (summer).

The total number of water samples analyzed varies year-to-year due to regulatory requirements, conditions in the basin and applied research and/or special study demands. In 2020, OCWD water quality staff collected 15,496 samples, 4,139 of which were collected from drinking water wells.

OCWD developed specific programs to monitor the North Basin and South Basin plumes \\as described in the 2017 Alternative. Several new monitoring wells were constructed within the last five years for the North Basin and South Basin plume areas as shown on Figures 5-7 and 5-8.

Continual monitoring of groundwater near the coast is done to assess the effectiveness of the Alamitos and Talbert Barriers and track salinity levels in the Bolsa and Sunset Gaps. Key groundwater monitoring parameters used to determine the effectiveness of the barriers include water level elevations, chloride, TDS, electrical conductivity, and bromide. Groundwater elevation contour maps for the aquifers most susceptible to seawater intrusion are prepared to evaluate whether the freshwater mound developed by the barrier injection wells is sufficient to prevent the inland movement of saline water.

OCWD's extensive network of monitoring wells within the groundwater basin includes concentrated monitoring along the seawater barrier and near the recharge basins. GWRS-related monitoring wells in the vicinity of Kraemer, Miller, La Palma and Miraloma basins are used to measure water levels and to collect water quality samples. In addition to ensuring the protection of water quality, these wells have been used to determine travel times from recharge basins to production wells.

Permits regulating operation of GWRS require adherence to rigorous product water quality specifications, extensive groundwater monitoring, buffer zones near recharge operations, reporting requirements, and a detailed treatment plant operation, maintenance and monitoring program. GWRS product water is monitored daily, weekly, and quarterly for general minerals, metals, organics, and microbiological constituents. Focused research-type testing has been conducted on organic contaminants and selected microbial species.

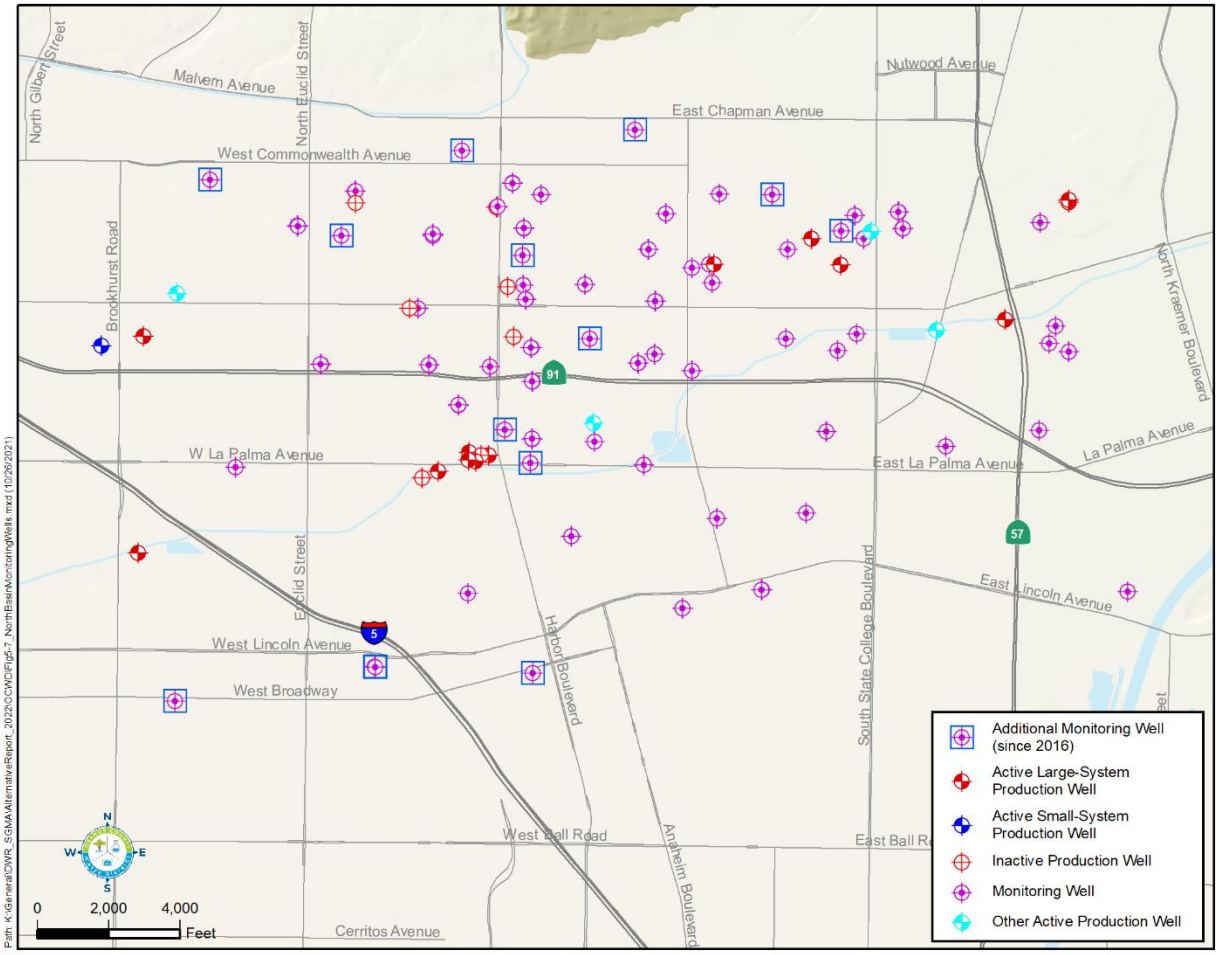


Figure 5-7: North Basin Groundwater Protection Program Monitoring Wells

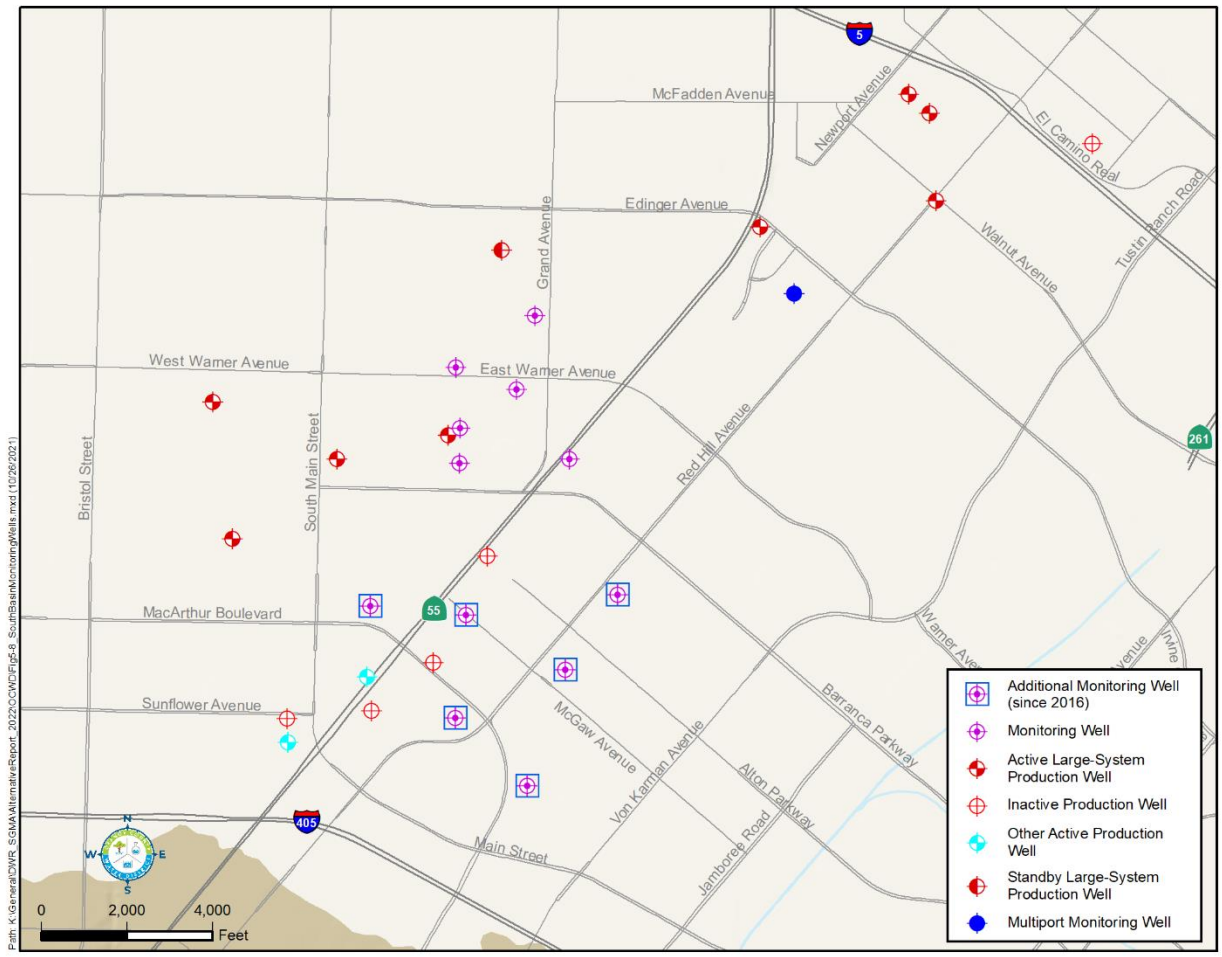


Figure 5-8: South Basin Groundwater Protection Program Monitoring Wells

5.2.4 Coastal Area Monitoring

OCWD operates and maintains a network of coastal area monitoring wells that provide water level and water quality data that allow staff to evaluate the performance of seawater intrusion barriers and to identify potential intrusion in coastal areas. The monitoring well network has been expanded and improved over time based on new information and a greater understanding of the basin hydrogeology.

Approximately 200 monitoring and production well sites are monitored for groundwater levels and quality within a 4- to 5- mile area from the coast, generally seaward or south of the 405 freeway, as shown in Figure 5-9. The monitoring wells are largely located in the coastal gaps as well as on the coastal mesas. The mesas are not impermeable features; rather, the marine deposition Pleistocene aquifers extend beneath the mesas to the basin production wells and provide potential avenues for seawater intrusion.

OCWD conducts the groundwater monitoring for the majority of the monitoring wells with the exception of the Alamitos Barrier monitoring wells. The Alamitos Seawater Intrusion Barrier is

located along the border of Los Angeles and Orange counties and is jointly owned by OCWD and Los Angeles County Public Works (LACPW). LACPW operates, maintains, and samples Alamitos Barrier monitoring and injection wells, including those owned by OCWD located within Orange County. Through an interagency cooperative agreement dating to 1964, operational costs and data are shared between the two agencies with a joint report on the status of the barrier prepared on an annual basis.

Most of the monitoring wells shown in Figure 5-9 are owned by OCWD and are either single-point or nested. Single-point monitoring wells have one screened interval in one targeted aquifer zone, while nested wells have multiple (2 to 6) casings within the same borehole, with each casing screened in a separate aquifer zone at a discrete depth. A handful of OCWD monitoring wells in the coastal area are Westbay multi-port type, having only one well casing but with multiple monitoring ports each separated by inflatable packers. Therefore, although there are approximately 200 monitoring and production well sites in the coastal groundwater monitoring program, there are over 430 individual sampling points.

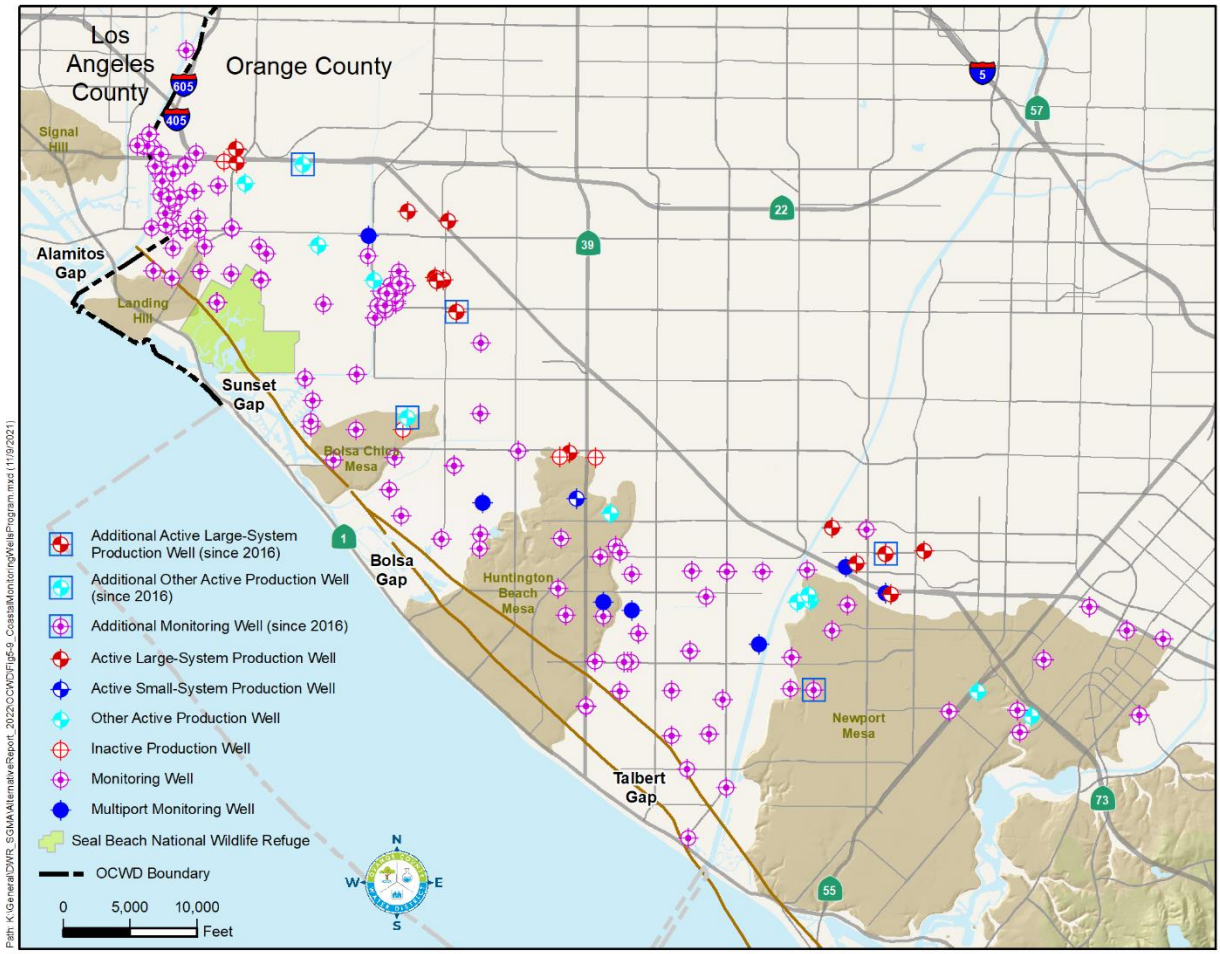


Figure 5-9: Seawater Intrusion Monitoring Wells

In addition to OCWD monitoring wells, there are a few privately owned monitoring wells and active municipal production wells included in OCWD's coastal monitoring program. For example, in Sunset Gap there are a few monitoring wells owned by The Boeing Company (Boeing) related to a shallow VOC plume in the area; Boeing monitors these wells twice a year (groundwater levels and VOCs), and OCWD obtains split samples with Boeing for seawater intrusion monitoring. The retail water agency production wells in the coastal monitoring program include three wells inland of the Alamitos Barrier (City of Seal Beach and Golden State Water Company) and three wells just inland of Sunset Gap (City of Huntington Beach). A complete list of all wells in the coastal groundwater monitoring program, along with their screened interval depths, was presented in Appendix A of the 2017 Alternative.

Groundwater levels are measured bi-monthly (every 2 months) at the majority of coastal monitoring wells and nearly all of the coastal monitoring wells are sampled semi-annually (March and September) for key groundwater quality parameters to assess seawater intrusion and barrier operations. Key groundwater quality parameters analyzed for the coastal monitoring program include chloride, bromide, and electrical conductivity (EC), which is a surrogate for TDS. The EC is typically measured both in the field at the time of sampling and in the laboratory.

Dissolved chloride concentrations and EC are used both to track seawater intrusion and to trace the injection of purified recycled water at the barriers, especially the Talbert Barrier in which the injection supply consists of 100 percent recycled water having a much lower salinity signal than native fresh groundwater. Chloride is considered to be a good conservative intrinsic tracer since it is relatively unaffected by sorption- and chemical-, or biological reactions in the subsurface. Bromide concentrations in brackish groundwater samples are valuable to help determine the origin or source of intrusion by evaluating the chloride to bromide ratio. Chloride to bromide ratios in the range of 280-300 in brackish coastal samples suggest relatively young active intrusion from the ocean or water body connected to the ocean, whereas lower ratios may indicate intrusion from past oil brine disposal or an influence of very old connate water from the original marine depositional process when these coastal aquifers were first formed.

5.3 SURFACE WATER AND RECYCLED WATER MONITORING

Surface water from the Santa Ana River is a major source of recharge supply for the groundwater basin. As a result, the quality of the surface water has a significant influence on groundwater quality. Therefore, characterizing the quality of the river and its effect on the basin is necessary to verify the sustainability of continued use of river water for recharge and to safeguard a high-quality drinking water supply for Orange County. Several on-going programs monitor the condition of Santa Ana River water. OCWD monitoring sites along the river and its tributaries are shown in Figure 5-10.

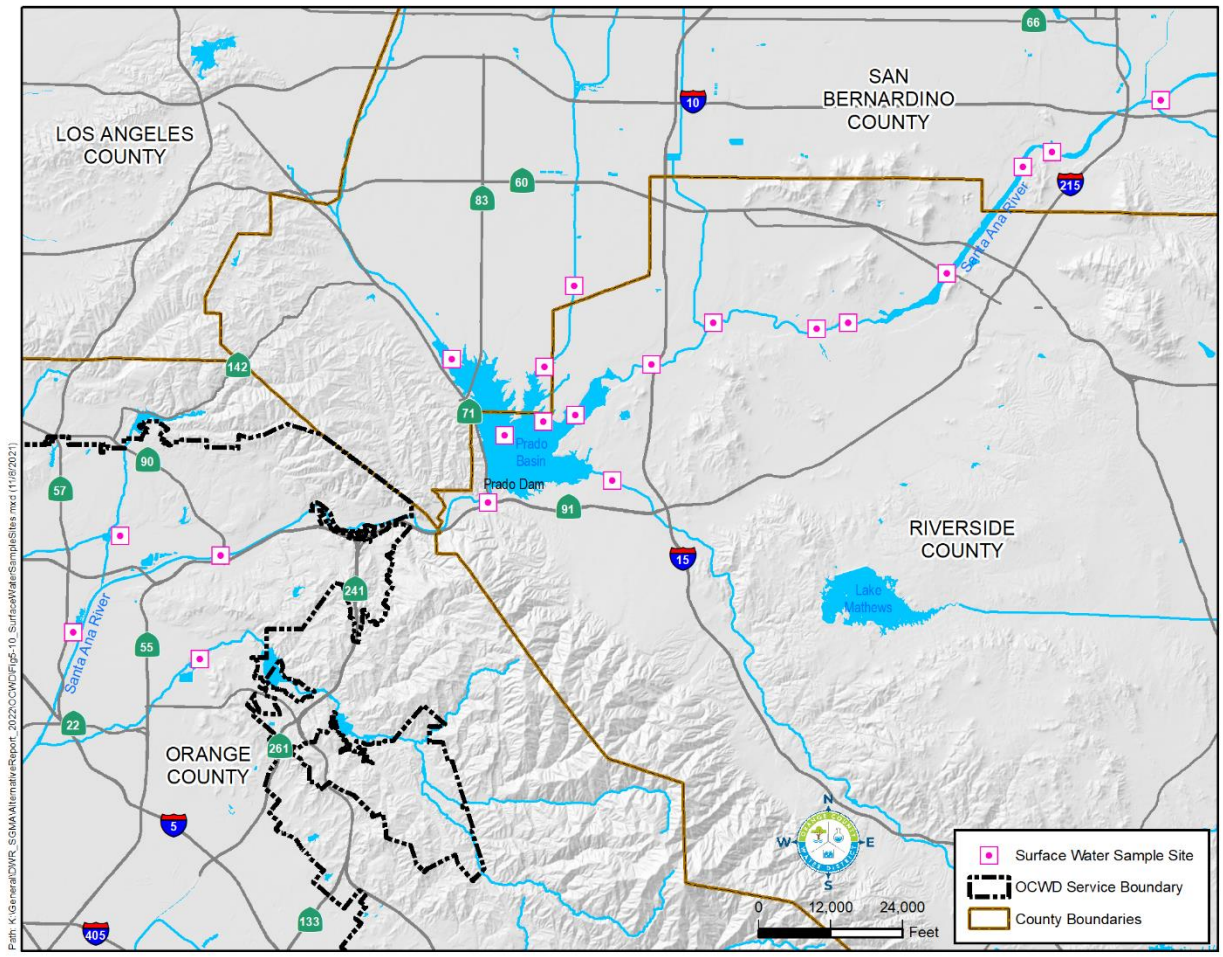


Figure 5-10: Surface Water Monitoring Locations

5.3.1 Surface Water Monitoring Programs

The surface water monitoring programs include:

- Santa Ana River Monitoring (SARMON) Program
- The Basin Monitoring Program Task Force (Task Force)
- Santa Ana River Watermaster
- Emerging constituents
- Imported water from MWD

Detailed descriptions of each program are contained in the 2017 Alternative.

Within the last five years, additional work has been done by the watershed-wide Emerging Constituents Monitoring Task Force administered by the Santa Ana Watershed Project Authority (SAWPA). This group was formed in 2010 to characterize emerging constituents in 1) municipal wastewater effluents, 2) the Santa Ana River at various locations, and 3) imported water. Three years of testing (2011-2013) were completed as directed by the Regional Water Board (R8-

2009-0071). OCWD monitored two sites twice a year on the Santa Ana River for this program. The SAWPA testing program was resumed voluntarily 2019, with the addition of PFAS monitoring; the program was not continued in 2020 and has been functionally replaced by the statewide PFAS Investigation Orders issued to upper watershed wastewater dischargers.

OCWD monitors for Constituents of Emerging Concern (CECs), including PFAS, at two surface water sites quarterly on the Santa Ana River and at various locations within District recharge facilities below Prado Dam. Samples are analyzed for pharmaceuticals, endocrine disruptors and other emerging constituents such as personal care products, food additives, and pesticides.

5.3.2 Recycled Water Monitoring

Use and monitoring of GWRS water is regulated by the Regional Water Board and DDW. Performance of the GWRS is monitored on a routine basis. Monitoring wells to monitor and track GWRS water are located adjacent to surface recharge basins located in Anaheim, downgradient of Mid-Basin Injection wells, and near the injection wells of the Talbert Seawater Barrier as shown on Figure 5-11. Additional details on recycled water monitoring and reporting are presented in the 2017 Alternative. Similar monitoring is performed at the WRD-owned Leo J. Vander Lans Advanced Water Treatment Facility that supplies recycled water to the Alamitos Seawater Barrier for injection.

In March 2020, OCWD's Mid-Basin Injection (MBI) Project went on-line. This project started in April 2015 with the operation of a demonstration well (MBI-1). The MBI Project is located in the city of Santa Ana, primarily at Centennial Park and injects up to 10 million gallons of GWRS water a day into the Principal Aquifer and includes four new injection wells, MBI-2, 3, 4, and 5. Additionally, a total of four nested monitoring wells were installed as part of the MBI Project to track the quality and movement of injection water prior to reaching down gradient production wells. Nested wells SAR-10 and -11 were installed downgradient of MBI-1. To track the movement of GWRS water from the four new injection wells, SAR -12 and -13 were constructed (see Figure 5-11).

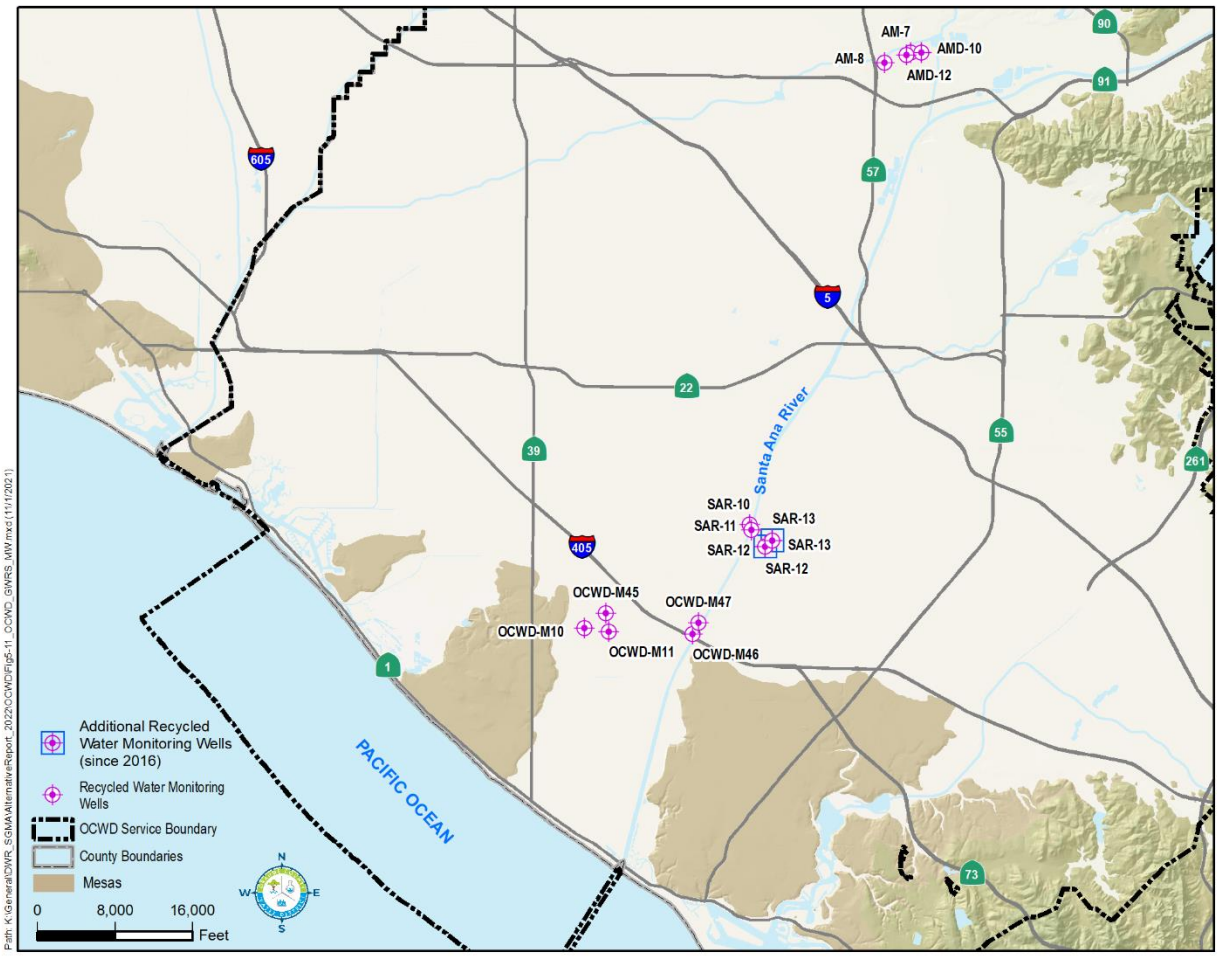


Figure 5-11: Recycled Water Monitoring Wells

SECTION 6 WATER RESOURCE MANAGEMENT PROGRAMS

6.1 LAND USE ELEMENTS RELATED TO BASIN MANAGEMENT

The OCWD Management Area is highly urbanized as shown on Figure 3-4. Monitoring potential impacts from proposed new land uses and planning for future development are key management activities essential for sustainable management of the groundwater basin.

OCWD monitors, reviews and comments on local land use plans and environmental documents such as environmental impact reports, notices of preparation, amendments to local general plans and specific plans, proposed zoning changes, draft water quality management plans, and other land development plans. District staff also review draft National Pollution Discharge Elimination System and waste discharge permits issued by the Regional Water Board. The proposed projects and programs may have elements that could cause short- or long-term water quality impacts to source water used for groundwater replenishment or have the potential to degrade groundwater resources. Monitoring and reviewing waste discharge permits provides OCWD with insight on activities in the watershed that could affect water quality.

The majority of the basin's land area is located in a highly urbanized setting and requires tailored water supply protection strategies. Reviewing and commenting on stormwater permits and waste discharge permits adopted by the Regional Water Board for the portions of Orange, Riverside and San Bernardino counties that are within the Santa Ana River watershed are conducted by OCWD on a routine basis. These permits can affect the quality of water in the Santa Ana River and other water bodies, thereby impacting groundwater quality in the basin.

OCWD works with local agencies having oversight responsibilities on the handling, use and storage of hazardous materials; underground tank permitting; well abandonment programs; septic tank upgrades; and drainage issues. Participating in basin planning activities of the Regional Water Board and serving on technical advisory committees and task forces related to water quality are also valuable activities to protect water quality.

6.1.1 Summary of Plans Related to Basin Management

The 2017 Alternative presented a comprehensive list of plans related to basin management, including:

- Municipal Stormwater Permit
- The OC Plan which is the combined North Orange County Integrated Regional Water Management Plan (IRWM), Central Orange County IRWM, and Coastal Watershed Management Plan
- OWOW 2.0 Plan which is the IRWM Plan for the Santa Ana Watershed

- Municipal Water District of Orange County (MWDOC) 2020 Regional Urban Water Management Plan
- Municipal Water District of Orange County (MWDOC) 2016 Orange County Reliability Study

6.1.2 Land Use Development and Water Demands and Supply

Water demands within the OCWD Management Area between WY1989-90 and 2020-21 have fluctuated between approximately 367,000 and 526,000 acre-feet per year but have leveled off in the past few years to approximately 400,000 acre-feet per year as shown in Figure 1-5.

Since its founding, OCWD has grown in area from 162,676 to 243,968 acres and has experienced an increase in population from approximately 120,000 to 2.5 million people. OCWD has employed groundwater management techniques to increase the annual yield from the basin including operating over 1,000 wetted acres of infiltration basins. Annual groundwater production increased from approximately 150,000 acre-feet in the mid-1950s to a high of over 366,000 acre-feet in WY2007-08. OCWD strives to maximize production from the basin through maximizing recharge of the groundwater basin. The basin is managed within the established groundwater storage operating range independently of total regional water demands as total water demands are met by a combination of groundwater and imported water.

6.1.3 Well Construction, Management, and Closure

Well construction, management and closure are regulated by various state agencies. To comply with federal Safe Drinking Water Act requirements regarding the protection of drinking water sources, the DDW created the Drinking Water Source Assessment and Protection (DWSAP) program. Water suppliers must submit a DWSAP report as part of the drinking water well permitting process and have it approved before providing a new source of water from a new well. OCWD provides technical support to groundwater producers in the preparation of these reports.

Well construction ordinances adopted and implemented by the Orange County Health Care Agency (OCHCA) and certain municipalities follow state well construction standards established to protect water quality under California Water Code Section 231. Cities within OCWD boundaries that have local well construction ordinances and manage well construction within their local jurisdictions include the cities of Anaheim, Fountain Valley, Buena Park, and Orange. To provide guidance and policy recommendations on these ordinances, the County of Orange established the Well Standards Advisory Board in the early 1970s. The five-member appointed Board includes OCWD's Chief Hydrogeologist. Recommendations of the Board are used by the OCHCA and municipalities to enforce well construction ordinances within their jurisdictions.

A well is considered abandoned when the owner has permanently discontinued its use, or it is in such a condition that it can no longer be used for its intended purpose. This often occurs when wells have been forgotten by the owner, were not disclosed to a new property owner, or when the owner is unknown.

A properly destroyed and sealed well has been filled so that it cannot produce water or act as a vertical conduit for the movement of groundwater. In cases where a well is paved over or under a structure and can no longer be accessed it is considered destroyed but not properly sealed. Many of these wells may not be able to be properly closed due to overlying structures, landscaping or pavement. Some of them may pose a threat to water quality because they can be conduits for contaminant movement as well as physical hazards to humans and/or animals.

OCWD supports and encourages efforts to properly destroy abandoned wells. As part of routine monitoring of the groundwater basin, OCWD will investigate on a case-by-case basis any location where data suggests that an abandoned well may be present and may be threatening water quality. When an abandoned well is found to be a significant threat to the quality of groundwater, OCWD will work with OCHCA and the well owner, when appropriate, to properly destroy the well.

The City of Anaheim has a well destruction policy and has an annual budget to destroy one or two wells per year. The funds are used when an abandoned well is determined to be a public nuisance or needs to be destroyed to allow development of the site. The city's well permit program requires all well owners to destroy their wells when they are no longer needed. When grant funding becomes available, the city uses the funds to destroy wells where a responsible party has not been determined and where the well was previously owned by a defunct water consortium.

Information on the status of wells is kept within OCWD's Water Resource Management System data base. Since the 2017 Alternative was submitted, a total of 15 production wells were properly destroyed and sealed. During this same period, a total of 9 new production wells were constructed.

6.2 GROUNDWATER QUALITY PROTECTION AND MANAGEMENT

OCWD has a number of policies and programs to project groundwater quality. The list of programs below is described in detail in the 2017 Alternative.

- OCWD Groundwater Protection Policy (2014)
- Various Salinity Management Programs
    - Seawater Intrusion Barriers
    - Coastal Pumping Transfer Program
    - Groundwater Replenishment System
    - Septic Systems
    - Nitrogen and Selenium Management Program
    - Groundwater Desalters and Inland Empire Brine Line and Non-Reclaimable Waste Line
    - Basin Monitoring Program Task Force
    - Salinity Management and imported Water Workgroup
    - Nitrate Management Program

6.2.1 Regulation and Management of Contaminants

A variety of federal, state, county and local agencies have jurisdiction over the regulation and management of hazardous substances and the remediation of contaminated groundwater supplies. OCWD does not have regulatory authority to require responsible parties to clean up pollutants that have contaminated groundwater. In some cases, OCWD has pursued legal action against entities that are responsible for contaminating the groundwater basin to recover OCWD's remediation costs or to compel those entities to implement remedies. OCWD also coordinates and cooperates with regulatory oversight agencies that investigate sources of contamination. OCWD efforts to assess the potential threat to public health and the environment from contamination in the Santa Ana River Watershed and within the County of Orange include:

- Reviewing ongoing groundwater cleanup site investigations and commenting on the findings, conclusions, and technical merits of progress reports
- Providing knowledge and expertise to assess contaminated sites and evaluating the merits of proposed remedial activities
- Conducting third-party groundwater split samples at contaminated sites to assist regulatory agencies in evaluating progress of groundwater cleanup and/or providing confirmation data of the areal extent of contamination

The following is a list of potential contaminants of greatest concern for basin water quality management. More details on these are presented in the 2017 Alternative.

- Per- and polyfluorinated Alkyl Substances (PFAS)
- Methyl Tertiary Butyl Ether (MTBE)
- Volatile Organic Compounds (VOCs)
- N-Nitrosodimethylamine (NDMA)
- 1,4-Dioxane
- Constituents of Emerging Concern (CECs)

As new chemicals become of scientific interest or are regulated, the OCWD laboratory develops the analytical capability and becomes certified in the approved method to process compliance samples. In 2019, the District's lab became the first public agency laboratory in the state of California to achieve state certification to analyze PFAS in drinking water. The District has invested over $1 million in monitoring equipment to test for PFAS and other CECs.

OCWD is committed to (1) track new compounds of concern; (2) research chemical occurrence and treatment; (3) communicate closely with the DDW on prioritizing investigation and guidance; (4) coordinate with OC San, upper watershed wastewater dischargers and regulatory agencies to identify sources and reduce contaminant releases; and (5) inform the groundwater producers on emerging issues**.**

6.3 RECYCLED WATER PRODUCTION

6.3.1 Overview

The Groundwater Replenishment System (GWRS) is a joint project built by OCWD and OC San that began operating in 2008. Secondary treated wastewater that otherwise would be discharged to the Pacific Ocean is purified using a three-step process to produce high-quality water used to control seawater intrusion and recharge the basin. As shown on Figure 6-1, the system includes four major components (1) the Advanced Water Purification Facility (AWPF), (2) the Talbert Seawater Intrusion Barrier, (3) Mid-Basin Injection wells, and (4) four dedicated recharge basins.

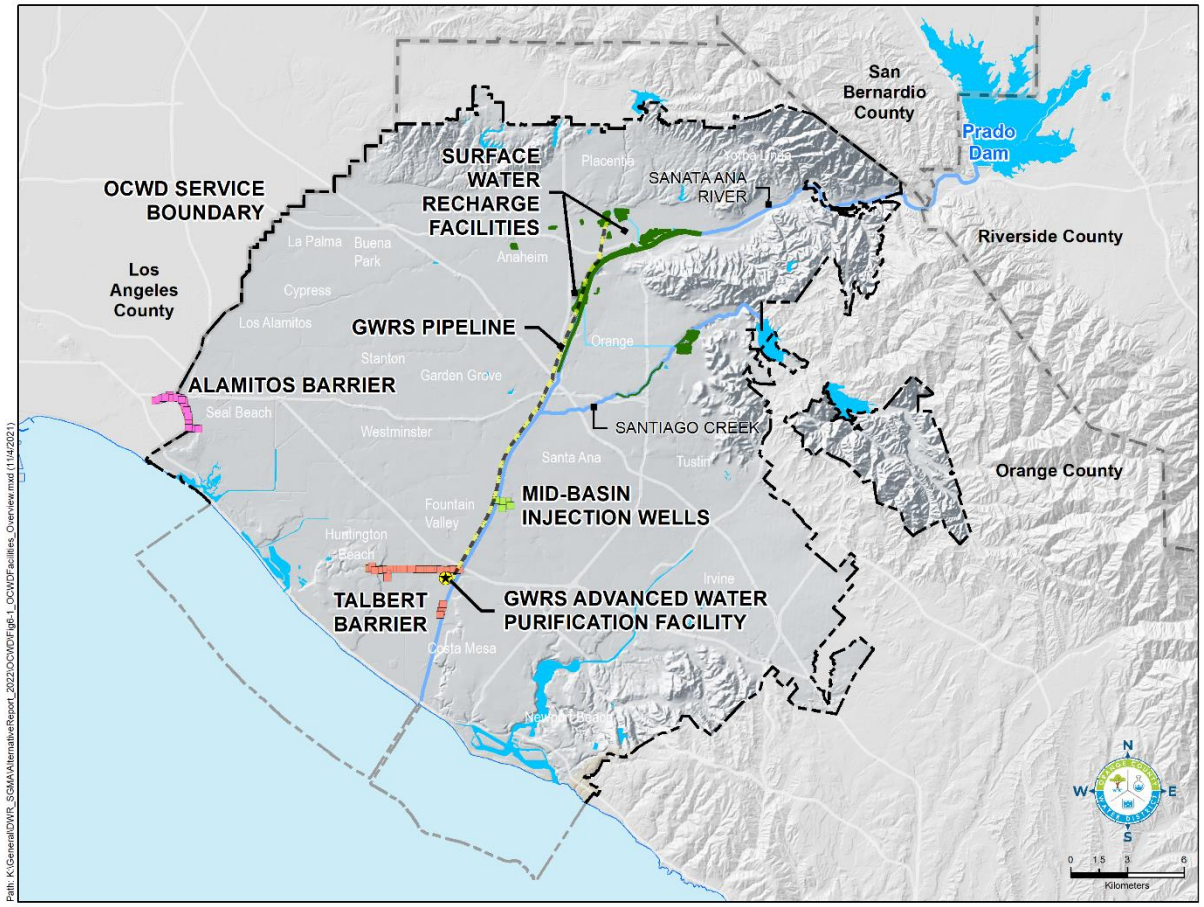


Figure 6-1: Groundwater Replenishment System

6.4 FINAL EXPANSION

The GWRS Final Expansion (GWRSFE) Project began in 2019 with a budget of $310 million. It is the third and final phase of the project to build-out capacity of the GWRS facility that treats

secondary effluent from OC San to drinking water standards for groundwater replenishment. As discussed above, the GWRS first began operating in 2008 producing 70 mgd and in 2015, it underwent a 30 mgd expansion. When the Final Expansion is completed in 2023, the plant will have the capacity to produce 130 mgd.

In order to produce 130 mgd, additional treated wastewater from the OC San is required. This additional water will come from OC San's Treatment Plant 2, which is located in the city of Huntington Beach approximately 3.5 miles south of the GWRS. Since the current GWRS facility only receives influent from OC San's Plant No. 1, new secondary effluent conveyance facilities are required at OC San' Plant No. 2 to convey the secondary effluent to GWRS. These conveyance facilities include an effluent pump station, two flow equalization tanks and rehabilitation of an existing pipeline.

In order for secondary effluent from OC San's Plant No. 2 to be recycled by GWRS, Santa Ana Regional Interceptor (SARI) flows must be segregated. Currently, SARI flows are not permitted to be recycled through GWRS due to the industrial and treatment facility discharges that currently flow in the SARI pipeline. Therefore, in addition to the conveyance facilities, modifications will be made to OC San Plant No. 2 headworks facilities to segregate the SARI flows and treat these flows separately for discharge to the ocean outfall. This project is referred to as the Plant No. 2 Headworks Modification Project. In addition to the Plant No. 2 Headworks Modification Project, an upgrade to OC San's Plant No. 2 water pump station is required to feed the headworks with reclaimable water. This Plant Water Pump Station Project is also considered part of the complete GWRSFE Project. An overview of the sites and the project locations of the GWRSFE are shown in Figure 6-2.



Figure 6-2: GWRS Final Expansion Overview

The GWRSFE is anticipated to be completed and operational in 2023. Once completed, the GWRS will recycle 100 percent of OC San's reclaimable sources and produce enough water to meet the needs of over one million people.

6.5 CONJUNCTIVE USE PROGRAMS

The conjunctive use of surface and groundwater has been the foundation of OCWD's basin management strategy since it was formed in 1933. OCWD Managed Aquifer Recharge (MAR) program began in 1936 when it began purchasing portions of the Santa Ana River channel, eventually acquiring six miles of the channel in Orange County, in order to maximize the recharge of river water to the basin.

Recharge of imported water began in 1949 when OCWD began purchasing Colorado River water from MWD. In 1958, OCWD purchased and excavated a 64-acre site one mile north of the Santa Ana River to create Anaheim Lake, OCWD's first recharge basin. Today OCWD operates a network of 25 facilities that recharge an average of over 230,000 acre-feet per year.

OCWD has developed a diverse recharge portfolio including water from the Santa Ana River and tributaries, imported water, and recycled water supplied by the GWRS. The basin also receives natural recharge (also called incidental recharge) from precipitation and subsurface inflow.

6.5.1 Sources of Recharge Water Supplies

Water supplies used to recharge the groundwater basin are listed in Table 6-1. Figure 6-3 shows the historical recharge by source from 1936 to 2021. Table 4-1 presents the annual recharge by source for WY2016-17 to 2020-21.

Santa Ana River

Water from the Santa Ana River is a primary source of water used to recharge the groundwater basin. OCWD diverts river water into recharge facilities where the water percolates into the groundwater basin. Recharge facilities are capable of recharging all of the base flow. Both the Santa Ana River base flow and storm flow vary from year to year. The volume of storm water that can be recharged into the basin is highlight dependent on the amount and timing of precipitation in the upper watershed, which is highly variable. OCWD has water rights to all storm flows and base flows that reach Prado Dam. When storm flows exceed the capacity of the diversion facilities, river water reaches the ocean, and this portion is lost as a water supply.

Santiago Creek

Santiago Creek is the primary drainage for the northwest portion of the Santa Ana Mountains and ultimately drains into the Santa Ana River. OCWD captures and recharges water in Santiago Creek that flows into the Santiago Recharge Basins. During dry periods, the Santiago basins are used to recharge Santa Ana River flows which are pumped to the basins.

Table 6-1: Sources of Recharge Water Supplies

SUPPLY SOURCES AND DESCRIPTION			RECHARGE LOCATION
Santa Ana River	Base Flow	Perennial flows from the upper watershed in Santa Ana River; predominately treated wastewater discharges	Santa Ana River, recharge basins, and Santiago Creek
	Storm Flow	Precipitation from upper watershed flowing in Santa Ana River through Prado Dam	Santa Ana River, recharge basins, and Santiago Creek
Santiago Creek	Storm Flow / Santa Ana River	Storm flows in Santiago Creek and Santa Ana River water pumped from Burris Basin via Santiago Pipeline	Santiago Creek, Santa Ana River, recharge basins
Incidental Recharge	Precipitation and subsurface inflow	Precipitation and runoff from Orange County foothills, subsurface inflow from basin boundaries	Basin-wide
Recycled Water	Groundwater Replenishment System	Advanced treated wastewater produced at GWRS plant in Fountain Valley	Injected into Talbert Barrier and Mid-Basin Injection Wells, recharged in Kraemer, Miller, La Palma and Miraloma basins
	Water Replenishment District of Southern CA	Water purified at the Leo J. Vander Lans Treatment Facility in Long Beach	Injected into Alamitos Barrier
Imported Water	Untreated	State Water Project and Colorado River Aqueduct	Various recharge basins
	Treated	State Water Project and Colorado River Aqueduct treated at MWD Diemer Water Treatment Plant	Injected into Alamitos Barrier

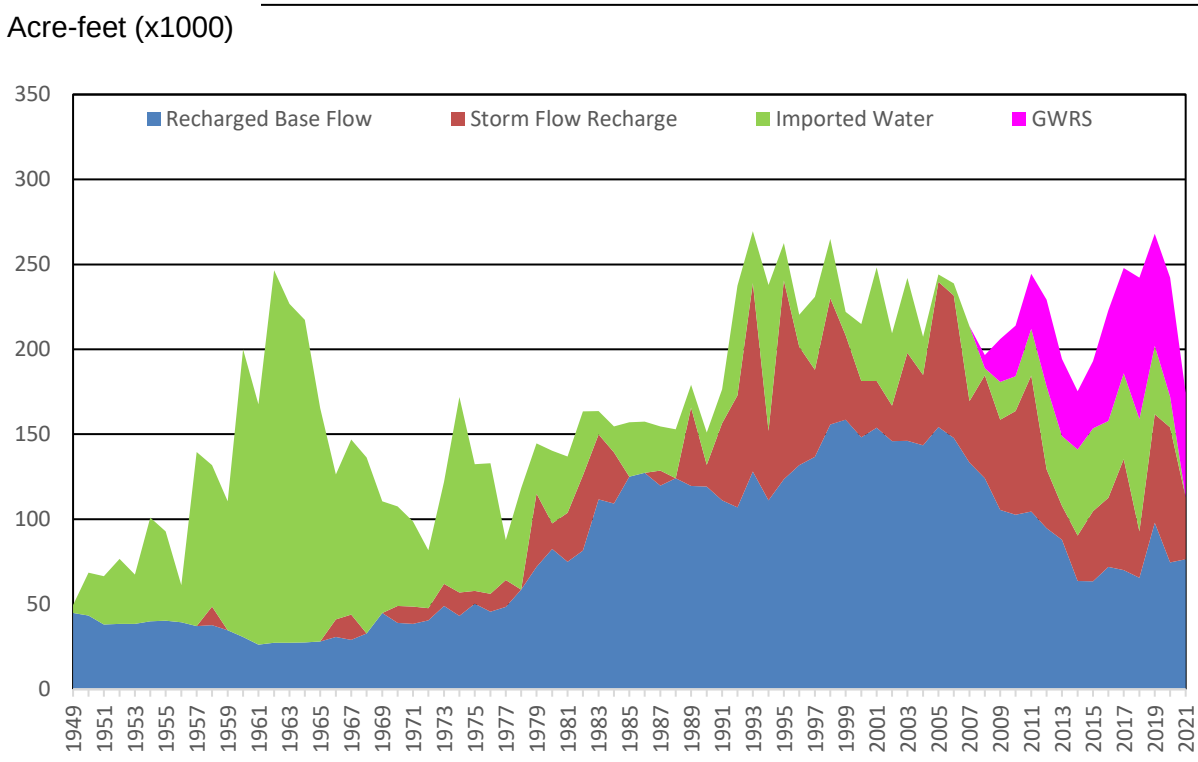


Figure 6-3: Historical Recharge in Surface Water Recharge System

Incidental Recharge

Incidental recharge is comprised of subsurface inflow from the local hills and mountains, infiltration of precipitation and irrigation water, recharge in small flood control channels, and groundwater underflow to and from Los Angeles County and the ocean. Since the amount of incidental recharge cannot be directly measured, it is also referred to as unmeasured recharge. Each year, an estimate is made of the amount of net incidental recharge based on OCWD's annual groundwater storage calculation. In general, since the Central Basin in Los Angeles County is usually operated at a lower level than the Orange County basin, there is usually a net flow of water out of the Orange County basin to the Central Basin. This outflow is subtracted from the total incidental recharge to get the net incidental recharge to the basin, which is the value reported in this document.

Recycled Water

The basin receives two sources of recycled water for recharge. The primary source is the GWRS, which currently has the capacity to produce 103,000 acre-feet per year of recycled water. This will be increasing to 134,000 acre-feet per year, when the GWRS Final Expansion is complete in 2023. Recycled water from the GWRS is percolated in the surface water system and injected into the Talbert Seawater Barrier, and the Mid-Basin Injection wells. Operation of GWRS is explained in detail in Section 5.

The second source of recycled water is the Leo J. Vander Lans Treatment Facility which supplies water to the Alamitos Seawater Barrier. The capacity of the Vander Lans Treatment

Facility was expanded from 3 mgd to 8 mgd but has generally not operated above 4 mgd for extended periods of time for various reasons. WRD is working on increasing this facility's online performance. A portion of the water recharged in the Alamitos Barrier recharges the Orange County Groundwater Basin with the remainder recharging the Central Basin in Los Angeles County.

Imported Water

OCWD purchases imported water for recharge from the Municipal Water District of Orange County (MWDOC), which is a member agency of MWD. Untreated imported water can be delivered to the surface water recharge system in multiple locations, including Anaheim Lake (OC-28/28A), Santa Ana River (OC-11), Irvine Lake (OC-13A), and San Antonio Creek near the City of Upland (OC-59). These locations are shown in Figure 6-4. Connections OC-28, OC-11 and OC-13A supply OCWD with Colorado River Aqueduct water. Connection OC-59 supplies OCWD with State Water Project water, and OC-28A (co-located with OC-28) supplies OCWD with a variable blend of water from these two sources.

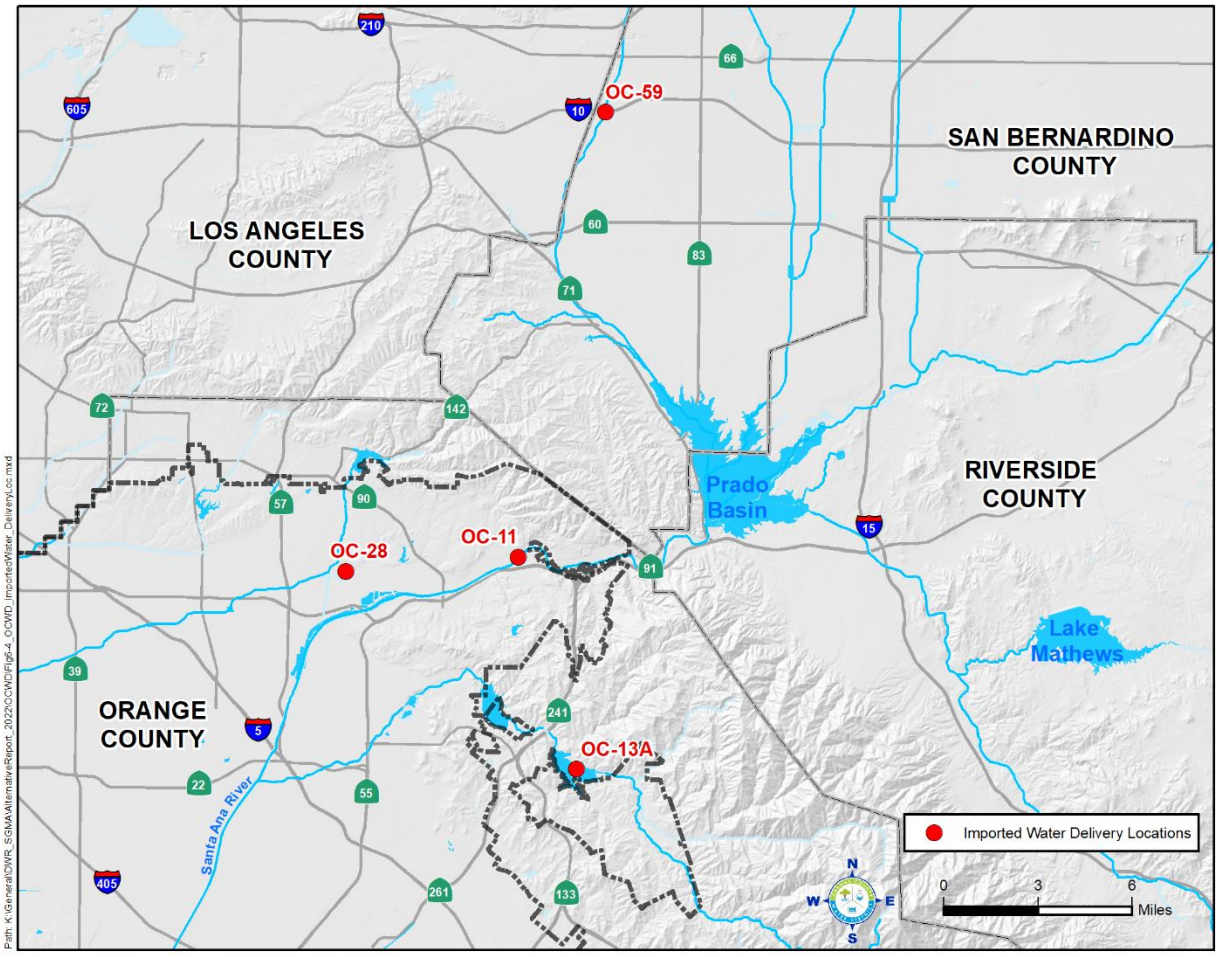


Figure 6-4: Locations of Imported Water Deliveries

6.5.2 Surface Water Recharge Facilities

OCWD operates a network of 25 surface water facilities located adjacent to the Santa Ana River in the City of Anaheim and Santiago Creek in the City of Orange as shown in Figure 6-5. The system has a total storage capacity of over 25,000 acre-feet. OCWD carefully tracks the amount of water being recharged in each facility on a daily basis.

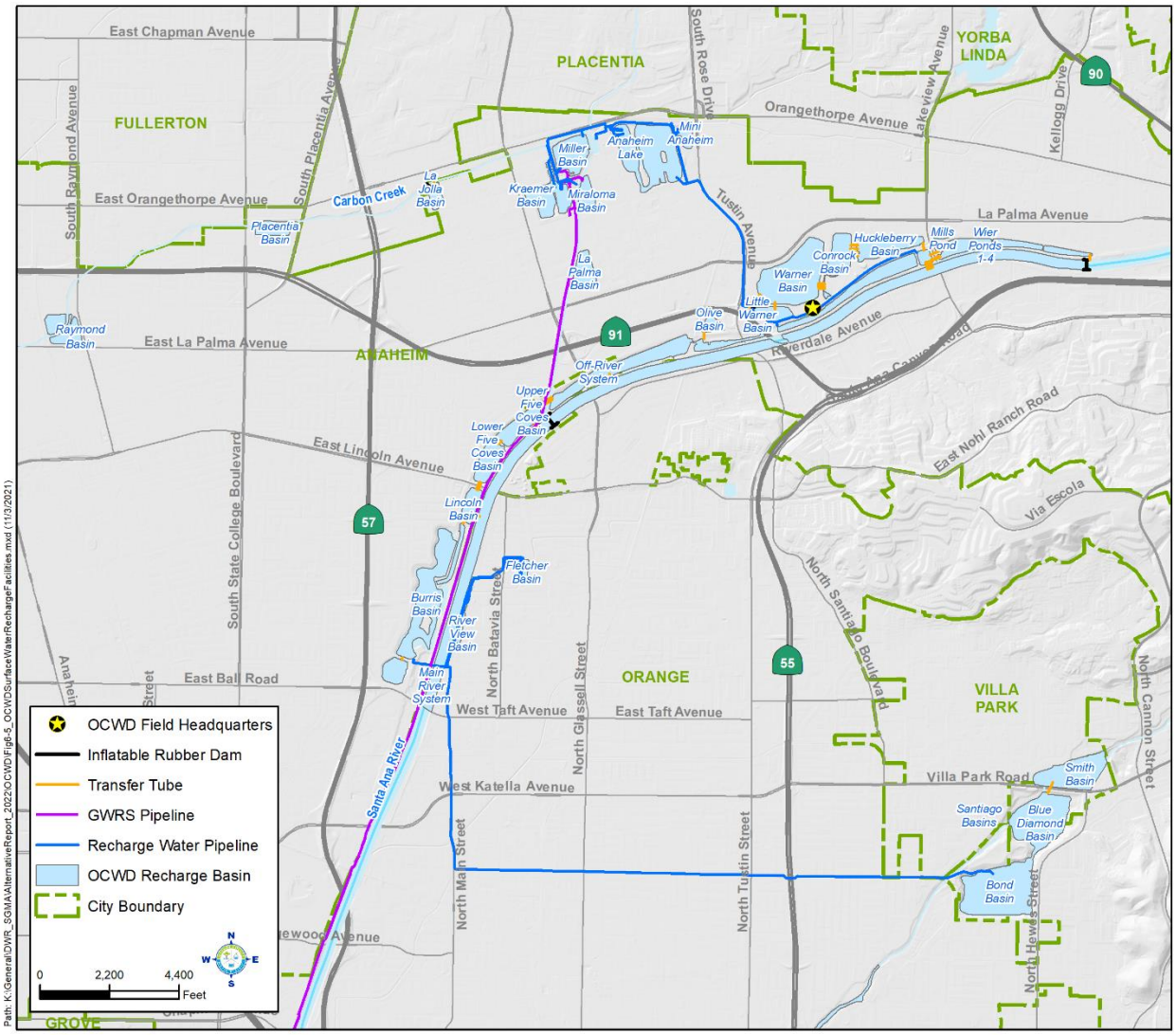


Figure 6-5: OCWD Surface Water Recharge Facilities

Three full-time hydrographers control and monitor the recharge system. These hydrographers and other OCWD staff prepare a monthly *Water Resources Summary Report*, which lists the source and volume for each recharge water supply, provides an estimate of the amount of water percolated in each recharge basin, documents total groundwater production from the basin, and estimates the change in groundwater storage. The report also estimates the amount of incidental recharge, evaporation and losses to the ocean – essentially a monthly water budget

accounting. The monthly figures are compiled to determine yearly recharge and production totals and used in the year-end determination of groundwater storage change.

6.6 MANAGEMENT OF SEAWATER INTRUSION

In the coastal area of Orange County, the primary source of saline groundwater is seawater intrusion into the groundwater basin through permeable sediments underlying topographic lowlands or gaps between the erosional remnants or mesas of the Newport-Inglewood Uplift. Areas susceptible to intrusion are the Talbert, Bolsa, Sunset, and Alamitos gaps as shown in Figure 3-26.

Seawater intrusion in the Talbert Gap area began as early as the 1920s as the previously flowing artesian conditions within the shallow Talbert aquifer were gradually lowered until groundwater levels declined below sea level due to unrestricted agricultural pumping. By the 1930s and 1940s, seawater had advanced more than one mile inland within the Talbert Gap, forcing the closure of municipal supply wells owned and operated by the cities of Newport Beach and Laguna Beach due to elevated salinity.

Seawater intrusion became a critical problem in the 1950s. Overdraft of the basin caused water levels to drop as much as 40 feet below sea level. By the mid-1960s seawater had intruded nearly four miles inland within the Talbert Gap. Intrusion was also observed in the Alamitos Gap area along the Orange County/Los Angeles County border. During the 1950s and 1960s seawater intrusion investigations in coastal Orange County were conducted by the USGS, DWR and OCWD to define the nature and extent of the problem. During this time, OCWD slowed seawater intrusion by filling the basin with imported Colorado River water in the Anaheim Forebay area, thus reducing the overdraft throughout the basin and raising coastal groundwater levels (DWR, 1966).

Largely based on the 1966 DWR study, OCWD constructed the initial Talbert Seawater Intrusion Barrier in 1975 with 23 injection well sites. In 1965, a line of injection wells was constructed across the Alamitos Gap to form a subsurface freshwater hydraulic barrier. The Alamitos and Talbert barriers control seawater intrusion in their respective gaps by injecting fresh water into a series of multi-depth wells targeting each individual aquifer zone that is susceptible to seawater intrusion. The pressure mound resulting from this injection minimizes seawater intrusion through these gaps into the basin.

Both the Alamitos and Talbert barriers have been expanded and improved periodically and have allowed the basin to be operated more flexibly as a storage reservoir with an operating range of 500,000 acre-feet below full condition.

In July 2014, the OCWD Board of Directors adopted a Seawater Intrusion Prevention Policy that contained the following tenets:

- Prevent degradation of the quality of the groundwater basin from seawater intrusion
- Effectively operate and evaluate the performance of the seawater barrier facilities

- Adequately identify and track trends in seawater intrusion in susceptible coastal areas and evaluate and act upon this information, as needed, to protect the groundwater basin

6.6.1 Talbert Seawater Intrusion Barrier

The Talbert Barrier consists of 36 injection well sites, shown in Figure 3-26, with the primary alignment along Ellis Avenue approximately four miles inland from the ocean. Barrier injection raises groundwater levels in the immediate vicinity and thus creates a groundwater mound that acts as a hydraulic barrier to seawater that would otherwise migrate inland toward areas of groundwater production.

From 1975 until 2008, a blend of deep well water, imported water and recycled water from the former Water Factory 21 was injected into the barrier. In 2008, GWRS recycled water became the primary supply used for the injection wells, with a small and intermittent portion of the supply from potable imported water delivered via the City of Huntington Beach at the OC-44 turnout and potable water delivered by the City of Fountain Valley (a blend of groundwater and imported water). Since approval by the Regional Water Board in 2009, OCWD uses recycled water for all of the injection well supply at the Talbert Barrier.

Prior to GWRS, barrier capacity averaged approximately 15 mgd but now averages approximately 30 mgd with a typical seasonal range of 20 to nearly 40 mgd. Doubling the injection capacity was necessary to prevent seawater intrusion as groundwater production increased and was made possible by construction of additional injection wells and pipelines, superior water quality (GWRS water), and improved barrier operations, such as more frequent backwashing and rehabilitation. Barrier injection rates are adjusted based on overall basin storage conditions and seasonally varying coastal water levels. Therefore, injection is typically lower in the winter months and higher in the summer when increased coastal production causes lower coastal groundwater levels. Approximately 85 to 90 percent of barrier injection is typically targeted into the shallow and intermediate aquifer zones for seawater intrusion control on an annual basis, while the other 10 to 15 percent goes into the deeper Main aquifer zone primarily for basin replenishment. Based on the much steeper hydraulic gradient inland toward pumping depressions (relative to that toward the coast), OCWD estimates that approximately 95 percent of the water injected at the Talbert Barrier flows inland to replenish the basin, with the remainder ultimately flowing to the ocean as subsurface outflow.

6.6.2 Alamitos Seawater Intrusion Barrier

The Alamitos Barrier Project was initially constructed in 1964 and went into operation in 1965 to create a freshwater pressure ridge to prevent seawater intrusion from migrating through the Alamitos Gap into the Central Basin of Los Angeles County and the Orange County groundwater basin. The barrier alignment straddles the Los Angeles-Orange County line and spans approximately 1.8 miles across the Alamitos Gap from Bixby Ranch Hill in the City of Long Beach to the vicinity of Landing Hill in the City of Seal Beach.

Under the terms of the 1964 Agreement for Cooperative Implementation of the Alamitos Barrier Project (1964 Agreement), the barrier facilities are co-owned by OCWD and the Los Angeles County Flood Control District (LACFCD, a division of LACPW) and currently include 58 injection wells and 238 active monitoring wells as shown in Figure 3-26. The barrier is operated and maintained by LACPW under the direction of the Alamitos Barrier Joint Management Committee (JMC), whose membership includes OCWD, LACPW, WRD, City of Long Beach, and Golden State Water Company.

The barrier has been incrementally expanded over time to include the construction of additional injection and monitoring wells. Since the initial 14 injection wells were constructed in 1964, an additional 44 injection wells have been installed over eight phases of well construction. Most recently in 2018, with the addition of 17 new injection wells at 8 locations to control breaches through the barrier where well spacing was too large and injection capacity too small.

Similar to the Talbert Barrier, the Alamitos Barrier consists of both nested and cluster-type injection wells screened discretely in each aquifer zone in order to control the injection rate and injection pressure into each targeted aquifer zone independently since each aquifer zone has different physical characteristics and groundwater levels. In addition, there are a couple “dual-point” injection wells that consist of only one well casing, but two different screened interval depths separated inside the well by an inflatable packer and two separate injection drop pipes.

SECTION 7 NOTICE AND COMMUNICATION

7.1 DESCRIPTION OF GROUNDWATER USERS

The local agencies that produce the majority of the groundwater from the basin are listed in Table 7-1 with geographic boundaries shown in Figure 3-3. OCWD meets monthly with 19 major water retail agencies, referred to as the groundwater producers, to discuss and evaluate basin management issues and proposed projects and work cooperatively among the agencies in the OCWD Management Area.

Table 7-1: Major Groundwater Producers

CITIES		
Anaheim	Huntington Beach	Santa Ana
Buena Park	La Palma	Seal Beach
Fountain Valley	Newport Beach	Tustin
Fullerton	Orange	Westminster
Garden Grove		
WATER DISTRICTS AND WATER COMPANIES		
East Orange County Water District	Mesa Water District	
Golden State Water Company	Serrano Water District	
Irvine Ranch Water District	Yorba Linda Water District	

The monthly meeting with OCWD staff and the groundwater producers provides a forum for the groundwater producers to provide their input to OCWD on important issues such as:

- Setting the Basin Production Percentage (BPP) each year
- Reviewing the merits of proposed capital improvement projects
- Purchasing imported water to recharge the groundwater basin
- Reviewing water quality data and regulations
- Maintaining and monitoring basin water quality
- Budgeting, replenishment assessment and considering other important policy decisions

7.2 PUBLIC PARTICIPATION

On September 30, 2021, OCWD sent a letter via email to all of the Basin 8-1 agencies to inform them that the 2017 Alternative was being updated and would be available for review and comment. No comments were received by any of the agencies contacted.

A draft of the 2022 Update was presented to the OCWD Board and posted on the OCWD website on November 18, 2021, to allow for public review and comment. The final 2022 Update was presented to the OCWD Board on December 15, 2021. At this board meeting, a resolution was adopted to support the submission of the 2022 Update to DWR.

7.3 COMMUNICATION PLAN

Proactive community outreach and public education are central to OCWD. The 2017 Alternative provides detailed information on OCWD's communication plan.

SECTION 8 SUSTAINABLE BASIN MANAGEMENT

8.1 SUSTAINABILITY GOAL

The sustainability goal for the OCWD Management Area is as follows:

> Continue to manage the groundwater basin to prevent basin conditions that would lead to significant and unreasonable undesirable results as defined by California Water Code Section 10721(x).

Existing monitoring and management programs in place today enable OCWD to sustainably manage the groundwater basin. Since its formation in 1933, OCWD has developed a managed aquifer recharge program, constructed hundreds of monitoring wells, developed water quality monitoring programs, constructed a large surface water recharge system, installed seawater intrusion barriers, and managed the volume of groundwater production through a scientifically based understanding of the basin's sustainable yield and the use of financial incentives. Continued successful protection of the groundwater basin requires that OCWD's management of the basin be able to adapt to changing conditions affecting the groundwater basin. The following sections describe the sustainable basin management for each of the undesirable results as defined in the California Water Code, Section 10721(x).

SECTION 9 SUSTAINABLE MANAGEMENT RELATED TO GROUNDWATER LEVELS

9.1 HISTORY/SUMMARY

OCWD manages the basin for long-term sustainability by maximizing recharge of the basin and managing basin production within sustainable levels. This section will discuss the relationship between groundwater elevations and sustainable groundwater management.

Groundwater elevations over the last twenty years exhibit short-term changes and long-term (multi-year) trends see Figures 3-10 through 3-13). Short-term elevation changes typically reflect seasonal variations in pumping and recharge, while multi-year trends reflect the effects of extended periods of above- or below-average precipitation and/or availability of imported water.

Groundwater elevation is monitored at over 1,000 individual measuring points, including key wells formerly designated under the CASGEM program which has been superseded by annual reporting required under SGMA. OCWD will be reporting water level data for the basin except for the La Habra-Brea Management Area.

In general, groundwater elevations in the Shallow Aquifer system show less amplitude than those in the underlying Principal and Deep Aquifer systems due to the higher degree of pumping and confinement of the Principal and Deep Aquifer systems. Because approximately 95 percent of all production occurs from wells screened within the Principal Aquifer system, groundwater elevations within this system are typically lower than those in the overlying Shallow Aquifer system and, in some areas, the underlying Deep Aquifer system. Vertical hydraulic gradients created by pumping and recharge drive groundwater into the Principal Aquifer system from the overlying Shallow Aquifer system and, to a lesser extent, from the Deep Aquifer system.

Long-term data demonstrates that groundwater elevations in the basin have exhibited multi-year cyclical patterns and have not experienced chronic lowering due to OCWD's management approach of maintaining basin storage within the established operating range. As a result, the undesirable effect of "chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply" is not occurring in the OCWD Management Area and is not expected to occur in the future as OCWD continues to manage the basin as described in this report.

9.2 MONITORING OF GROUNDWATER LEVELS FOR SUSTAINABILITY

As explained in Section 3.2, OCWD monitors water levels at over 1,000 individual measuring points on a monthly or bi-monthly basis to evaluate the effects of pumping, recharge or injection operations. Additional monitoring is conducted as needed in the vicinity of OCWD's recharge

facilities, seawater barriers and areas of special investigation where drawdown, water quality impacts or contaminants are of concern.

Groundwater elevation contour maps for the Shallow, Principal and Deep Aquifers are prepared annually and are scanned and digitized into OCWD's GIS database. Figures 3-5, 3-6, and 3-7 show the groundwater elevation contours for June 2021 for all three basin aquifers. The changes in groundwater elevations for the three aquifers are also calculated on an annual basis. The water level changes for each of the three aquifers for June 2020 to June 2021 are shown in Figures 9-1, 9-2 and 9-3.

9.3 MANAGEMENT OF GROUNDWATER LEVELS FOR SUSTAINABILITY

For each of the three major aquifer systems, GIS mapping is used to multiply the water level changes by a grid of aquifer storage properties from OCWD's calibrated groundwater flow model. This results in a storage change volume for each of the three aquifer layers which are totaled to provide a net annual storage change for the basin. Thus, measurements of groundwater elevations are ultimately used to calculate total basin storage levels each year.

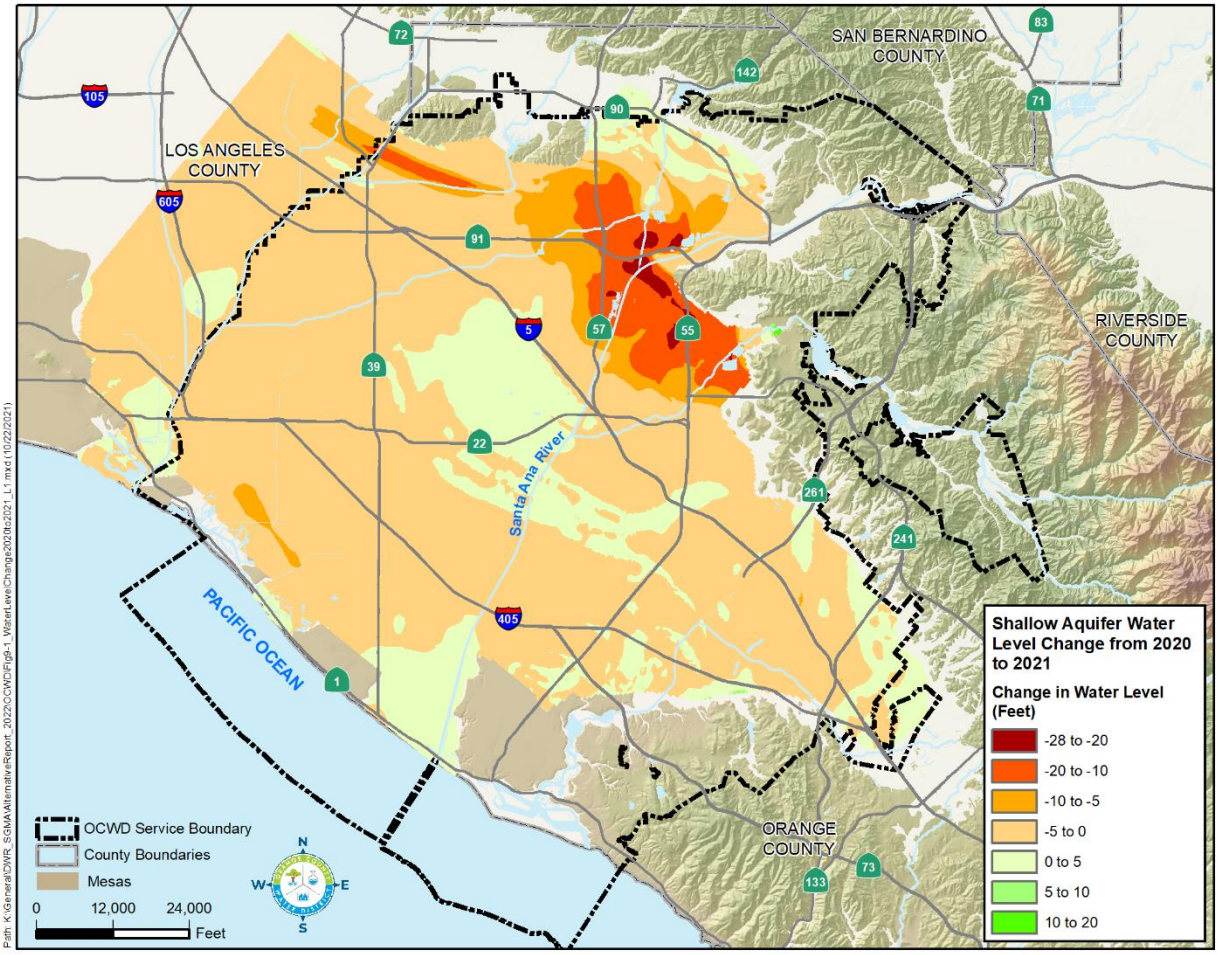


Figure 9-1: Shallow Aquifer Water Level Change, June 2020 to June 2021

In determining the operating range for groundwater storage levels, OCWD considered the potential negative impacts that could occur due to unreasonable and chronic lowering of groundwater elevations. These potential negative impacts include increased costs for groundwater producers to pump groundwater, decreased yield in production wells, increased risk of land subsidence, and increased risk of seawater intrusion.

Monitoring and management of groundwater elevations in the OCWD Management Area is most important in the coastal areas in order to protect groundwater basin water quality from seawater intrusion. Management programs that enable long-term sustainable basin management related to groundwater elevations in the coastal areas include the operation of the Alamitos and Talbert Seawater Intrusion Barriers and the Coastal Pumping Transfer Program.

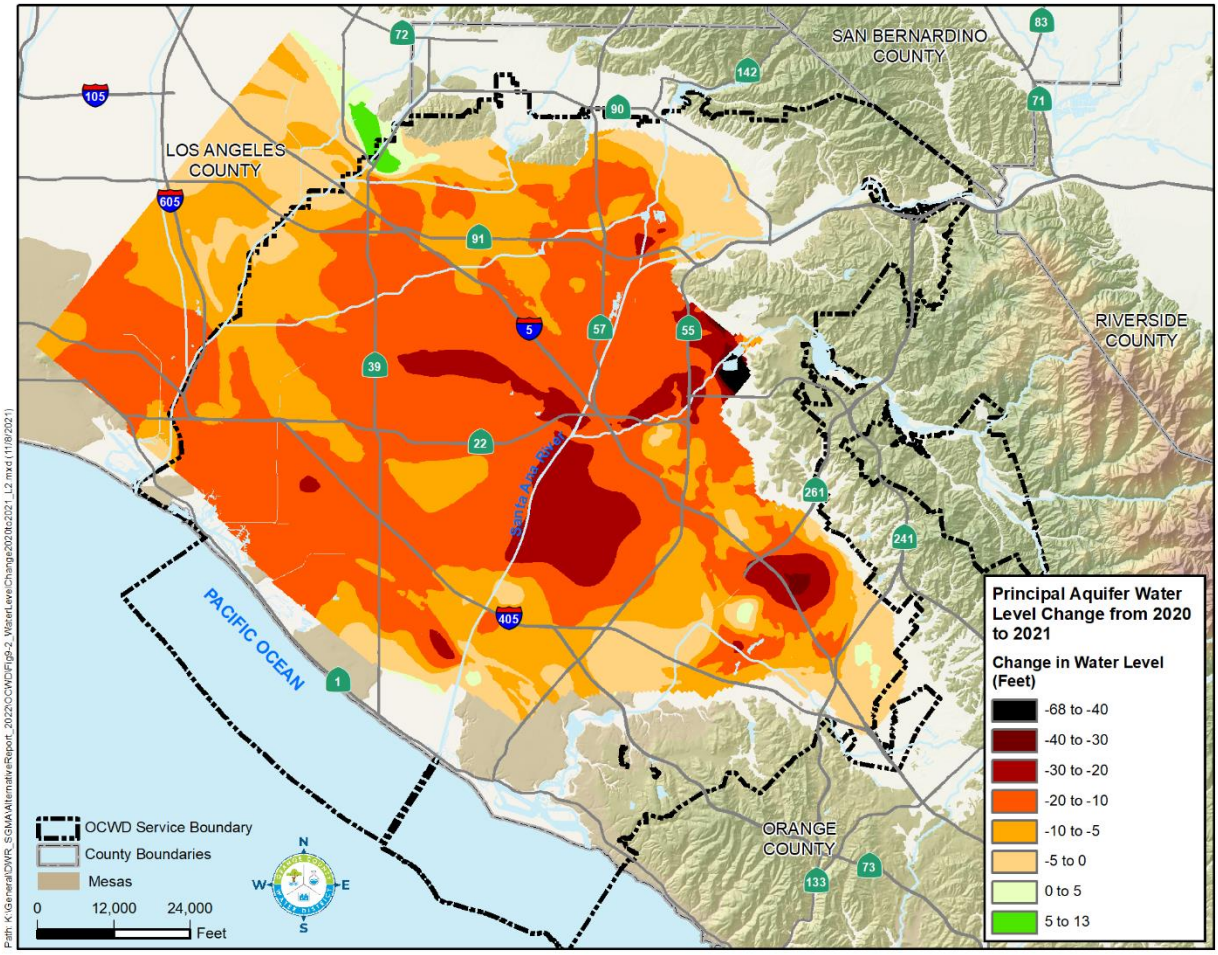


Figure 9-2: Principal Aquifer Water Level Change, June 2020 to June 2021

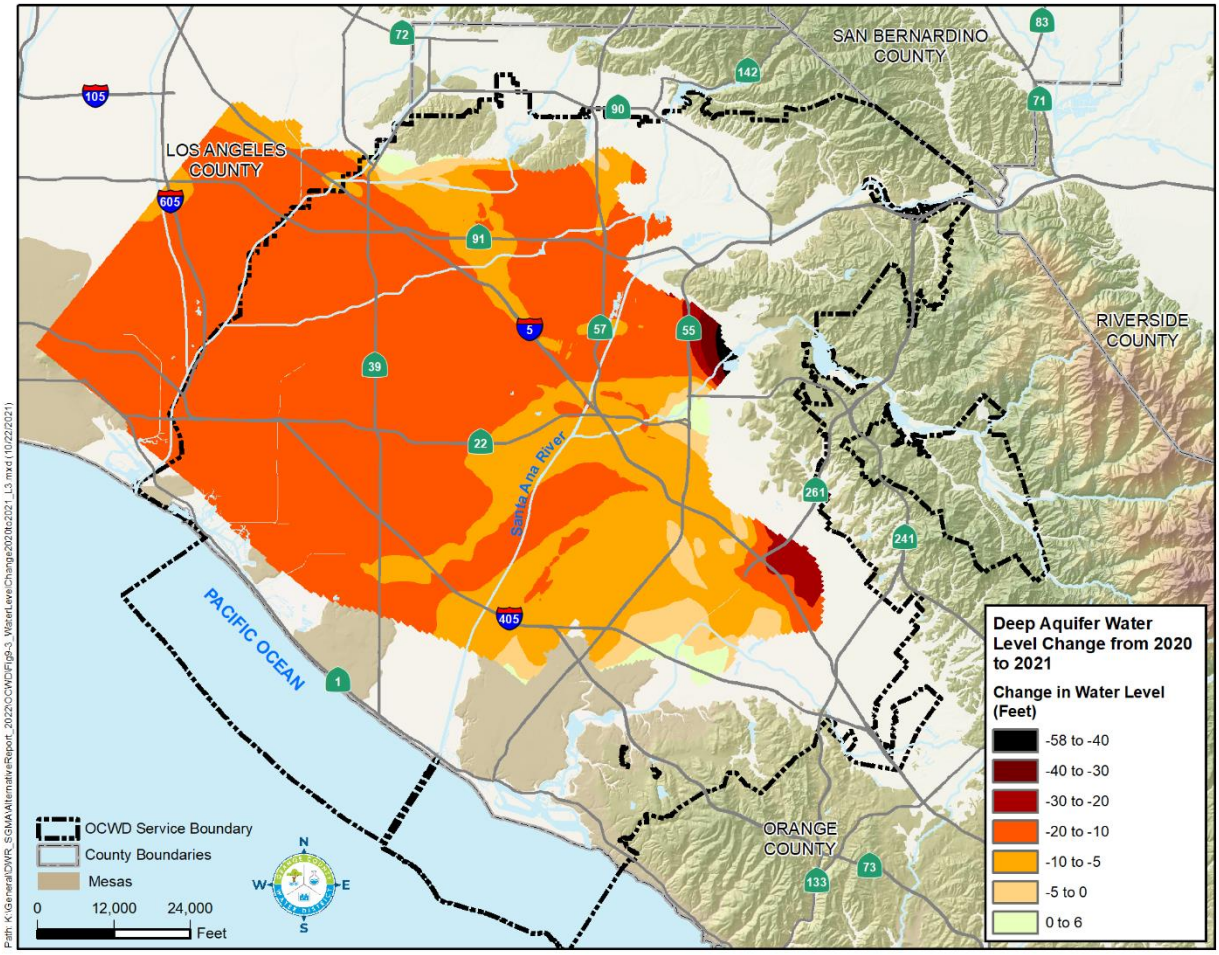


Figure 9-3: Deep Aquifer Water Level Change, June 2020 to June 2021

9.4 DEFINITION OF SIGNIFICANT AND UNREASONABLE LOWERING OF GROUNDWATER LEVELS

OCWD closely monitors groundwater levels in the three major aquifer systems (Shallow, Principal and Deep) for a number of purposes including determination of groundwater storage within the basin. OCWD uses groundwater storage conditions to manage the basin sustainably by keeping storage levels within an operating range up to 500,000 acre-feet below full condition. Significant and unreasonable reduction of groundwater in storage could occur in the event that the volume of groundwater in storage fell below the 500,000 acre-feet below full condition for an extended period of time. If OCWD were to consider an operating range below 500,000 acre-feet from full condition, additional analysis and monitoring would be needed.

9.5 DETERMINATION OF MINIMUM THRESHOLD

The minimum threshold for significant and unreasonable reduction in groundwater levels is reached when the storage volume of the groundwater basin falls below the operating range of up to 500,000 acre-feet below full condition for an extended period of time.

SECTION 10 SUSTAINABLE MANAGEMENT RELATED TO BASIN STORAGE

10.1 HISTORY

Within the Orange County Groundwater Basin, there is an estimated 66 million acre-feet of water in storage (OCWD, 2007). In spite of the large amount of stored water, there is a comparatively narrow operating range within which the basin can be safely operated.

The operating range of the basin is considered to be the maximum allowable storage range over the long-term without incurring detrimental impacts. The upper limit of the operating range is defined by the full basin condition. Although it may be physically possible to fill the basin higher than this full condition, it could lead to detrimental impacts such as percolation reductions in recharge facilities and increased risk of shallow groundwater seepage in low-lying coastal areas.

The lower limit of the operating range is considered to be 500,000 acre-feet below full condition. Although it may be considered to be acceptable to allow the basin to decline below 500,000 acre-feet below full condition for brief periods due to severe drought conditions and lack of imported water for basin recharge, it is not considered to be an acceptable management practice to intentionally manage the basin for sustained periods at this lower limit for the following reasons:

- Increased risk of seawater intrusion
- Increased risk of land subsidence
- Depletion of water in storage available for future drought conditions
- Some wells potentially becoming inoperable due to lower groundwater levels
- Increased costs to pump groundwater for groundwater users
- Increased potential for upwelling of amber-colored groundwater from the Deep Aquifer

It is important to note that detrimental impacts do not suddenly happen when storage levels fall to 500,000 or more acre-feet below full condition; rather, they occur incrementally, or the potential for their occurrence grows as the basin declines to lower levels. OCWD has used the basin model computer simulations to evaluate the potential for detrimental impacts if storage were to fall to 700,000 acre-feet from full. Basin model runs at 700,000 acre-feet below full condition indicates the potential for increased seawater intrusion and considerably more production wells being impacted by low pumping levels. Thus, a reduction of up to 700,000 acre-feet of groundwater in storage is only considered acceptable during an extreme emergency, such as a disruption in imported water supplies due to an earthquake. Negative or adverse impacts that are considered when establishing the operating range include chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if

continued over the long-term, increased seawater intrusion, significant and unreasonable land subsidence that substantially interferes with surface land uses, and increased pumping costs.

The current policy of maintaining a groundwater storage level of up to 500,000 acre-feet below full was established based on completion of a comprehensive hydrogeological study of the basin in 2007 (OCWD, 2007).

The basin's storage level is quantified based on a benchmark defined as the full basin condition. Although the groundwater basin rarely reaches the full basin condition, basin storage has fluctuated within the operating range for many decades. OCWD manages groundwater pumping such that it is sustainable over the long term; however, in any given year pumping may exceed recharge or vice versa. Thus, the amount of groundwater stored in or withdrawn from the basin varies from year to year and often goes through multi-year cycles of emptying and filling, which generally correlates with state-wide and/or local precipitation patterns.

Each year OCWD calculates the volume of groundwater storage change from a theoretical "full" benchmark condition based on a calculation using changes in groundwater elevations in each of the three major aquifer systems and aquifer storage coefficients. This calculation is checked against an annual water budget that accounts for all production, measured recharge, and estimated unmeasured recharge. The amount of available or unfilled storage from the theoretical full condition from WY1958-59 to 2020-21 is shown in Figure 1-3.

Maintaining the basin storage condition on a long-term basis within this operating range allows for long-term sustainable management of the basin without experiencing undesirable effects. Short-term excursions from the operating range due to extreme drought or other factors are not expected to cause adverse impacts but would need to be monitored closely and be of limited duration. In the California Water Plan Update 2013 (DWR, 2014) this manner of groundwater basin management is described as follows:

> "Change in groundwater storage is the difference in stored groundwater volume between two time periods…However, declining storage over a period characterized by average hydrologic conditions does not necessarily mean that the basin is being managed unsustainably or is subject to conditions of overdraft. Utilization of groundwater in storage during years of diminishing surface water supply, followed by active recharge of the aquifer when surface water or other alternative supplies become available, is a recognized and acceptable approach to conjunctive water management." (p. SC-77)

10.2 CALCULATION OF GROUNDWATER STORAGE LEVELS

The estimated historical minimum storage level of 500,000 to 700,000 acre-feet below full condition occurred in 1956-57 (DWR, 1967; OCWD, 2003). Since this time, the basin storage fluctuated within the operating range reaching a full condition in 1969 and 1983.

OCWD uses two methods to calculate the storage condition of the basin: (1) water budget method and (2) three-layer storage change method. The water budget method is simply an accounting of the inflows to the basin and outflows. This data is collected and compiled on a

monthly basis. Estimates of unmeasured or incidental recharge are used based on a statistical relationship between historical local precipitation and calculated unmeasured recharge. Unmeasured recharge is trued up at the end of the year with the final reports of inflows and outflows and basin storage change (based on groundwater level changes). This method produces a monthly estimate of the change in groundwater storage and allows for real-time decision making with respect to managing the basin.

In 2007, OCWD instituted a new three-layer change in storage method for calculating the amount of groundwater in storage (OCWD, 2007). The three-layer method involves creating groundwater elevation contour maps for each of the three aquifer layers (Shallow, Principal and Deep aquifers) for conditions at the end of June of each year. Prior to this time, groundwater storage was determined based on a single groundwater elevation map that was essentially a composite of the Shallow and Principal aquifers.

10.3 SUSTAINABLE MANAGEMENT PROGRAMS

10.3.1 Basin Operating Range

Each year OCWD assesses current basin storage and projected water supply availability as factors in establishing how much groundwater can be pumped from the basin for the following year. If basin storage approaches or falls within the lower end of the established operating range, issues that are evaluated when considering the management of the basin include the current status of seawater intrusion protective measures, monitoring of ground surface elevations to assess the risk of land subsidence, inflow of amber-colored water or poor quality groundwater into the Principal Aquifer from underlying or overlying aquifers, and the number of shallow production wells that would become affected by lower groundwater levels. On the other hand, when operating the basin near the higher end of the storage range, considerations include the potential to increase groundwater pumping, purchase less imported replenishment water, and the potential for more groundwater outflow to Los Angeles County.

10.3.2 Balancing Production and Recharge

Over the long-term, the basin must be maintained in an approximate balance to ensure the long-term viability of basin water supplies. In a given year, water withdrawals may exceed water recharged as long as over the course of a number of years this is balanced by years where water recharged exceeds withdrawals. Levels of total basin production and total water recharged since WY1999-00 are shown in Figure 1-4.

10.3.3 Managing Basin Pumping

The primary mechanisms used by OCWD to manage pumping are the Basin Production Percentage (BPP) and the Basin Equity Assessment (BEA). The ability to assess the BPP and the BEA were provided to OCWD through an amendment to the OCWD Act in 1969. Section 31.5 of the OCWD Act empowers the Board to annually establish the BPP, defined as:

> "…the ratio that all water to be produced from groundwater supplies with the district bears to all water to be produced by persons and operators within the District from supplemental sources and from groundwater within the District during the ensuing water year."

In other words, the BPP is a percentage of each Producer's water supply (supplemental and groundwater sources) that comes from groundwater pumped from the basin. The BPP is set uniformly for all groundwater producers. Groundwater production at or below the BPP is assessed the Replenishment Assessment (RA). Production above the BPP is charged the RA plus the Basin Equity Assessment (BEA). The BEA is set by the Board and is presently calculated so that the cost of groundwater production above the BPP is equivalent to the cost of purchasing imported potable supplies. This approach serves to discourage, but not eliminate, production above the BPP. In practice, groundwater producers rarely pump in excess of the BPP as doing so triggers a requirement to pay the BEA, thereby eliminating any cost savings that a pumper might obtain by pumping an amount in excess of the BPP. Collection of the BEA provides funds for OCWD to purchase additional replenishment water (where determined appropriate by OCWD). If necessary, the BEA can be increased to further discourage production above the BPP.

The BPP is set after evaluating groundwater storage conditions, availability of recharge water supplies and basin management objectives. OCWD's goal is to set the BPP as high as possible to allow groundwater producers to sustainably maximize pumping and reduce their overall water supply cost.

To change the BPP, the Board of Directors must hold a public hearing. Raising or lowering the BPP allows OCWD to manage the amount of pumping from the basin. The BPP is lowered when basin conditions necessitate a decrease in pumping. A lower BPP results in the need for groundwater producers to purchase additional, more expensive imported water.

The methodology for setting the BPP and OCWD polices related to the BPP are described further in the 2017 Alternative.

Table 10-1 shows the management actions to be used to guide OCWD in setting the BPP. As the BPP is annually set in April for the following fiscal year (but may be changed throughout the year), the projected change in basin storage would be estimated for the end of that fiscal year (as of June 30), given various assumptions of basin pumping, inflows and outflows. Maintaining some available storage space in the basin allows for maximizing surface water recharge when such supplies are available, especially in relatively wet years. By keeping the basin relatively full during wet years and for as long as possible in years with near-normal recharge, the maximum amount of groundwater could be maintained in storage for future drought conditions. During dry hydrologic years when less water would be available for recharge, the BPP could be lowered to maintain groundwater storage levels.

At the beginning of 2015, OCWD committed to purchase 650,000 acre-feet of imported water to recharge the basin over a ten-year time period. This amount of imported water for recharge into the basin will help maintain the BPP and assist in managing the basin storage level within the operating range. OCWD works to maintain a Water Reserve Fund to purchase imported water

from MWD. Each year, a specific amount of money is budgeted to purchase imported water and, if water is not available from MWD, the funds are carried over to the next year in the Water Reserve Fund.

Table 10-1: Management Actions based on Change in Groundwater Storage

Available Storage Space (amount below full basin condition)	Basin Management Actions to Consider
Less than 100,000 acre-feet	Raise BPP
100,000 to 300,000 acre-feet	Maintain and/or raise BPP towards 75% goal
300,000 to 350,000 acre-feet	Seek additional supplies to refill basin and/or lower the BPP
Greater than 350,000 acre-feet	Seek additional supplies to refill basin & lower the BPP

Basin Production Limitation

Another management tool that enables OCWD to sustainably manage the basin is the Basin Production Limitation. Section 31.5(g)(7) of the OCWD Act authorizes limitations on production and the setting of surcharges when those limits are exceeded. This provision can be used when it is necessary to shift pumping from one area of the basin to another. An example of this is the Coastal Pumping Transfer Program, which shifts pumping from the coastal area to inland to minimize seawater intrusion, when necessary.

10.3.4 Supply Management Strategies

One of OCWD's basin management objectives is to maximize groundwater recharge. This is achieved through increasing the efficiency of and expanding OCWD's recharge facilities and the supply of recharge water. Construction and operation of the GWRS has provided a substantial increase in supply of water available to recharge the basin. Additional OCWD supply management programs include developing increased stormwater capture programs behind Prado Dam in cooperation with the U.S. Army Corps of Engineers, encouraging and participating in water conservation efforts, and working with MWD and the Municipal Water District of Orange County in developing and conducting other supply augmentation projects and strategies.

10.4 DEVELOPING NEW LOCAL WATER RESOURCES POLICY

In July 2020, the District adopted a policy called the Developing New Local Water Resources Policy to acknowledge that the local multi-billion-dollar economy and 2.5 million citizens that rely on groundwater as their primary water supply require a reliable, sustainable and economical

water source to remain healthy and strong. It further acknowledges that the imported water that is purchased annually to meet the needs of the groundwater producers is becoming uncertain as environmental, agricultural, and urban interests maneuver to obtain a greater share and is susceptible to impacts from climate change. The Policy contains the following tenets:

- The District recognizes the impacts of climate change and their ability to disrupt predictions of future local water supplies for the District's service territory
- The District will evaluate and undertake economical and environmentally sensitive projects and programs to work towards the goal of ensuring adequate water supplies are always available to its service territory
- The types of projects that will be evaluated include: (1) Maximizing Santa Ana River base and storm flow capture, (2) Increasing water conservation, (3) Increasing water recycling, (4) Improving the reliability of imported water supplies, (5) Brackish water desalination, (6) weather modification/cloud seeding; and (7) Seawater desalination

Conjunctive Use and Water Transfers

By agreement with OCWD, MWD established a Conjunctive Use Project (CUP) in the OCWD Management Area by purchasing the right to store up to 66,000 acre-feet of water in the groundwater basin until 2028. OCWD used the funds provided by MWD to improve basin management facilities including the construction of eight new production wells for water retail agencies and new injection wells for the Talbert Barrier. Under the agreement, MWD may request that stored water be extracted up to a maximum of 22,000 acre-feet each year.

OCWD reviews opportunities for additional conjunctive use projects that would store water in the basin and potentially in other groundwater basins. Additionally, OCWD reviews opportunities for water transfers that could provide additional sources of recharge water. Such projects are evaluated carefully with respect to their impact on available storage, reliability and cost effectiveness.

10.4.1 Water Demands

Water demands within the OCWD Management Area for WY2016-17 to 2020-21 averaged 400,000 acre-feet per year (Figure 6-1). Total demand includes the use of groundwater, surface water from Santiago Creek and Irvine Lake, recycled water, and imported water.

Projected Water Demands

OCWD estimated future total water demands (including recycled water) within the OCWD Management Area to be approximately 431,000 acre-feet per year in 2050. This is based on a water demand study jointly funded by OCWD and MWDOC. This study was undertaken to assist the 19 major groundwater producers in the development of their 2020 Urban Water Management Plans. Water Demands within the OCWD Management Area was determined by summing the 19 producer future estimates and water produced by private, mutual water company, and irrigation wells.

Drought Management

During a drought, flexibility to manage pumping from the basin becomes increasingly important. The OCWD Management Area may experience a decline in the supply of recharge water (local supply of Santa Ana River water and net incidental recharge) of 55,000 acre-feet per year or more during drought.

Provided that the basin has available water in storage within the established operating range, this stored water provides a valuable water supply asset during drought conditions. Ensuring that the basin can provide a buffer against drought conditions requires:

- Maintaining sufficient water in storage that can be pumped out in time of need; and
- Possessing a plan to recover basin storage following the drought, including having a reserve account with sufficient funds to purchase replenishment water.

A sufficient supply of stored groundwater provides a safe and reliable buffer to manage for drought periods. If the basin, for example, has an available storage level of 150,000 acre-feet and can be drawn down to 500,000 acre-feet without irreparable seawater intrusion, a supply of 350,000 acre-feet is available for increased production. In a hypothetical five-year drought, an additional 70,000 acre-feet per year may be produced from the basin for five years without jeopardizing the long-term health of the basin. In addition to reducing pumping when the basin is at lower storage levels, planning for refilling the basin is important. Approaches for refilling the basin are described in Table 10-2.

10.5 DEFINITION OF SIGNIFICANT AND UNREASONABLE REDUCTION OF GROUNDWATER STORAGE

OCWD manages the groundwater basin to maintain groundwater storage levels within an operating range of up to 500,000 acre-feet below the full condition. Significant and unreasonable reduction of groundwater in storage would occur when the volume of groundwater in storage fell below the 500,000 acre-feet below full condition for an extended period of time. If OCWD were to consider an operating range below 500,000 acre-feet additional analysis and monitoring would be needed.

Table 10-2: Approaches to Refilling the Basin

APPROACH	DISCUSSION
Decrease Total Water Demands	• Increase water conservation and water-use efficiency measures
Decrease BPP	• Allows groundwater levels to recover rapidly • Decreases revenue to the OCWD • Increases water cost for groundwater producers • Does not require additional recharge facilities • Dependent upon other sources of water (e.g., imported water) being available to substitute for reduced groundwater pumping
Increase Recharge	• Dependent on increased supply of recharge water • Replenishment could be in the form of in-lieu water (additional imported water delivered to groundwater producers instead of groundwater pumping) • Water transfers and exchanges could be utilized to provide the increased supply of recharge water • May be dependent on building and maintaining excess recharge capacity (which may be underutilized in non-drought years)
Combination of the Above	• A combination of the approaches provides flexibility and a range of options for refilling the basin

10.6 DETERMINATION OF MINIMUM THRESHOLDS

The minimum threshold for significant and unreasonable reduction in groundwater in storage is reached when the storage volume of the groundwater basin falls below the operating range of up to 500,000 acre-feet below full condition for an extended period of time.

SECTION 11 SUSTAINABLE MANAGEMENT RELATED TO WATER QUALITY

OCWD has extensive monitoring and management programs in place to protect the groundwater basin from significant and unreasonable degradation of water quality including migration of contaminant plumes that impair water supplies. These programs include monitoring, remediation of contaminated groundwater, and recharging high-quality recycled water. This section describes sustainable basin management related to the water quality programs and projects instituted to prevent degradation of water quality and to remediate water quality problems in the OCWD Management Area.

11.1 SALINITY MANAGEMENT

Management of salt and nitrate concentrations in groundwater is important to maintaining the long-term sustainable use of groundwater supplies. OCWD also operates the Prado Wetlands to remove nitrate from Santa Ana River (SAR) water that is recharged into the groundwater basin. These efforts help provide high-quality groundwater to water users in Orange County.

In 2020, OCWD completed an evaluation of future TDS and nitrate concentrations in the Orange and Irvine Management Zones (OCWD, 2020). Figure 3-16 shows the areal extent of these zones, which are not to be confused with the OCWD Management Area that is the subject of this report. The 2020 update is similar to an analysis conducted in 2016 (OCWD, 2016) and involved using a model to evaluate the effects of different basin management scenarios on TDS and nitrate concentrations over the next 30 years. One of the key outputs of the model is the calculated ambient TDS and nitrate concentrations for groundwater in the Orange and Irvine Management Zones. The model-calculated ambient concentration represents a volume-weighted average value for the Shallow and Principal Aquifers. The report was prepared to meet regulatory requirements of the Regional Water Board as part of the watershed-wide salt and nutrient management plan.

Data and information used for this analysis included:

- Quantity and quality of water recharged through surface recharge facilities and injection wells
- Quantity and quality of unmeasured recharge, such as percolation of irrigation water into the groundwater basin
- Measurements of groundwater pumping
- Estimates of groundwater outflow from the Orange Management Zone

The most significant change from the prior analysis is the impact of the GWRS Final Expansion, which increases the volume of low-TDS recycled water recharged by 30,000 acre-feet per year. Because OCWD is obtaining the additional water from OC San Plant No. 2, the overall TDS of the recycled water generated increases slightly from 60 mg/L to 86 mg/L.

The quantity and quality of water recharged in the model for the Baseline Scenario are shown in Table 11-1.

Table 11-1: Baseline Projected Future Salt Inflows

Source of Water Recharge	Volume (acre-feet/yr)	TDS Conc. (mg/L)	Mass (tons/yr)
Deep percolation of precipitation*	6,500	100	900
Percolation of applied water*	9,000	1,900	23,200
Subsurface inflow*	44,500	1,290	78,200
SAR base flow	52,000	700	49,500
SAR storm flow	50,000	200	13,600
Recycled water (GWRS)	133,000	86	15,600
Alamitos Barrier	2,500	350	950
MWD imported water	0	0	0
Total	297,000	449	181,200

*Component of unmeasured recharge

The Baseline Scenario assumes that no imported water is used for recharge for the 30-year period and is utilized to compare with other model runs and determine how changing model inputs affect the predicted concentration. The projected trend for TDS for the Baseline declines from the current ambient groundwater concentration of 603 mg/L to 569 mg/L in 30 years as shown in Figure 11-1. Seven additional scenarios were run to model different quantities of recharge source water. The projected 30-year TDS for these scenarios range from 559 mg/L to 580 mg/L. This shows the tremendous impact of low-TDS GWRS water in lowering the overall salinity in the basin over time regardless of how much water is obtained from other recharge sources, such as higher TDS imported water.

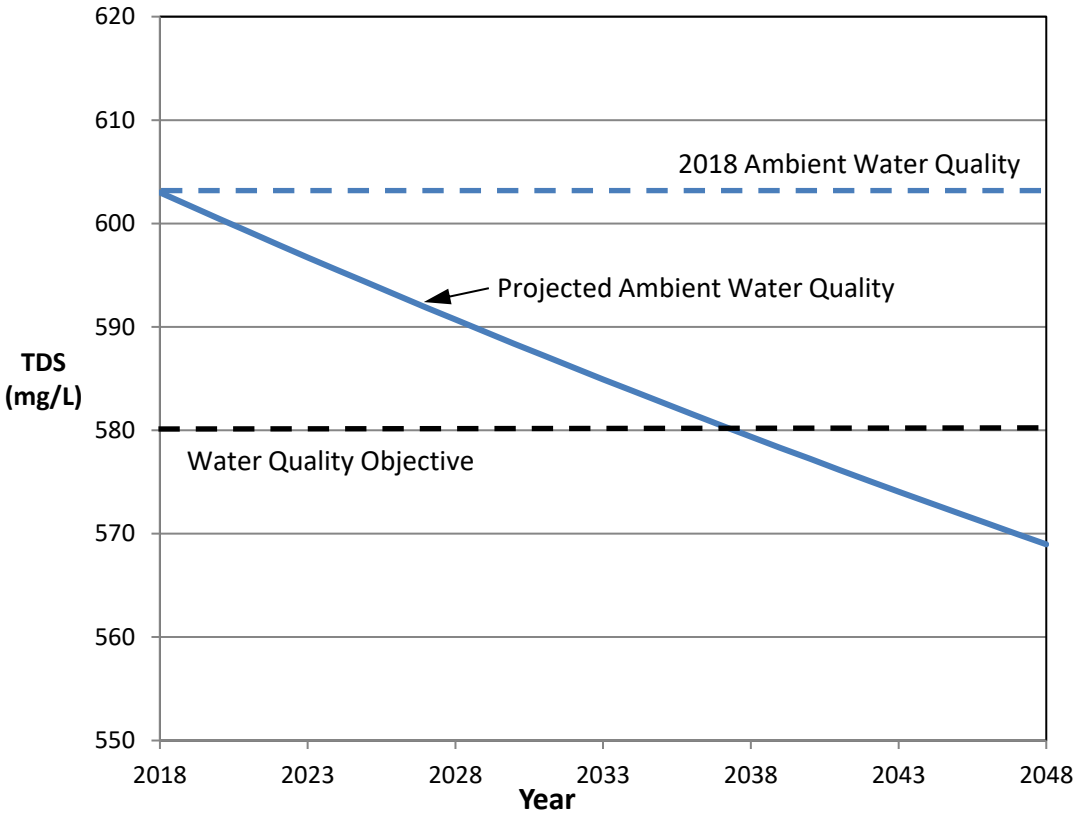


Figure 11-1: Estimated TDS Concentration in Base Case for 30-year Period

With regards to nitrate, the approach used to estimate future nitrate concentrations was similar to the approached used for TDS projections. The nitrate (as nitrogen, N) concentration for each inflow component was estimated using available data. Table 11-2 summarizes the inflow terms and their nitrate-N concentrations for the Baseline Scenario.

The flow-weighted average nitrate (as N) concentration for all inflows to the management zone is 2.3 mg/L. The initial concentration was set at 2.95 mg/L (based on the current ambient concentration for the most recent 20-year period).

Since the inflow concentration is less than the initial concentration, the estimated future nitrate (as N) concentration gradually decreases. For the Baseline Scenario, the ambient nitrate (as N) concentration is projected to decrease from 2.95 mg/L to 2.8 mg/L over the course of 30 years. Again, as with TDS, the impact of recharging large volumes of high quality GWRS water lowers nitrate concentrations in basin groundwater over time.

Table 11-2: Baseline Future Nitrate (as N) Inflows

Inflow	Volume (Acre-Feet/yr)	Nitrate-N Conc.(mg/L)	Mass (tons/yr)
Deep percolation of precipitation*	6,500	1	9
Percolation of applied water*	9,000	10	122
SAR base flow	52,000	3.6	255
SAR storm flow	50,000	1.3	88
Imported water recharge	0	0	0
Recycled water recharge (GWRS)	133,000	1.0	181
Subsurface inflow*	44,500	4.2	253
Alamitos Barrier	2,000	1.4	4
Total	297,000	2.3	657

*component of unmeasured recharge

11.2 GROUNDWATER QUALITY IMPROVEMENT PROJECTS

This section describes specific projects that improve groundwater quality by removing TDS, nitrate, VOCs and other constituents, including PFAS. The locations of these projects, except for PFAS, are shown in Figure 11-2. PFAS projects are located at specific groundwater producer wells.

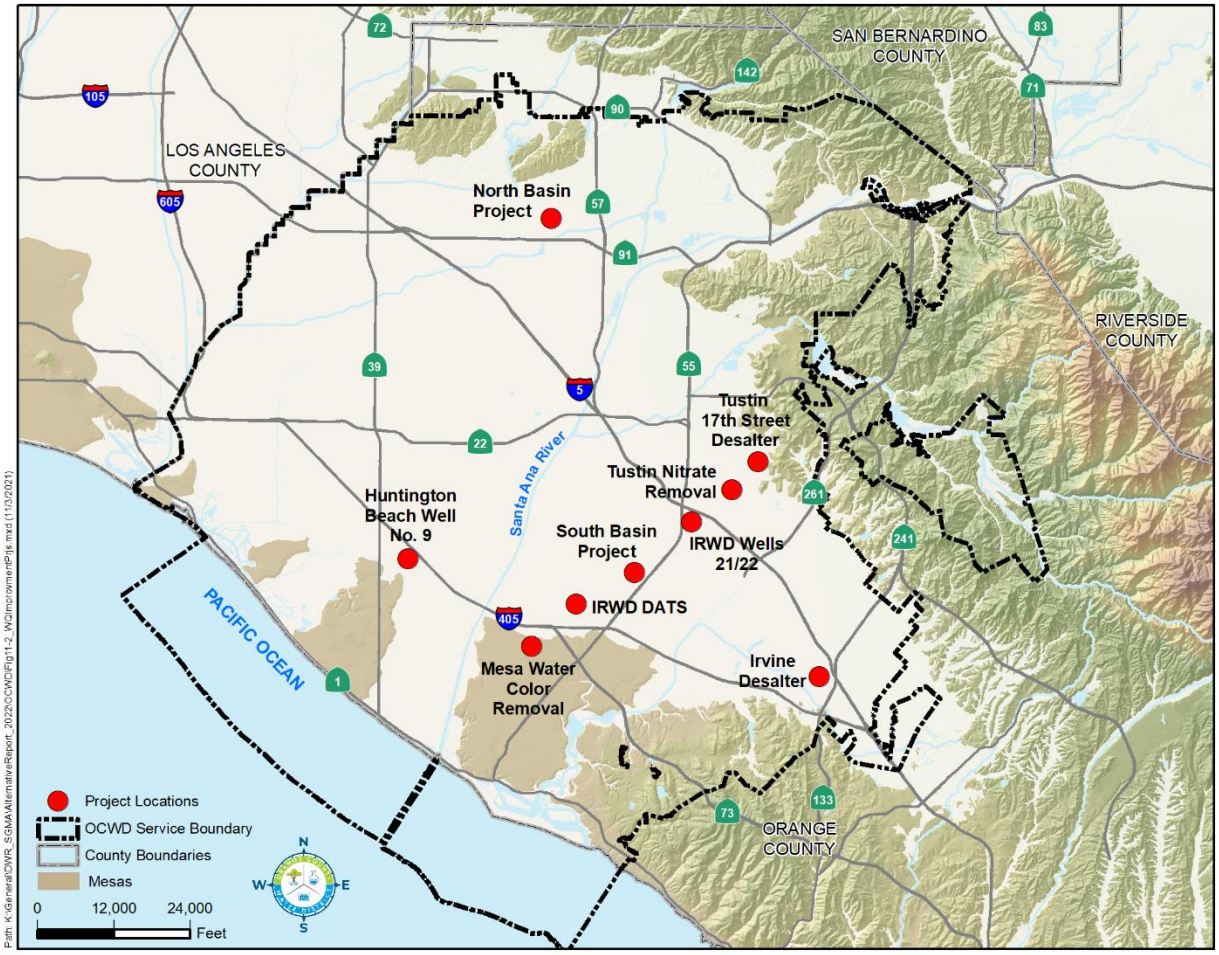


Figure 11-2: Water Quality Improvement Projects and Programs

North Basin Groundwater Protection Program

The U.S. Environmental Protection Agency (USEPA) is taking the lead to remediate a VOC plume in the North Basin area of the groundwater basin as shown in Figure 11-3. Groundwater contamination is primarily found in the Shallow Aquifer, which is generally less than 200 feet deep; however, VOC-impacted groundwater has migrated downward into the Principal Aquifer tapped by production wells. The contamination continues to migrate both laterally and vertically threatening downgradient production wells operated by the cities of Fullerton and Anaheim and other agencies. OCWD is conducting a remedial investigation/feasibility study under USEPA oversight to evaluate and develop effective remedies to address the contamination under the National Contingency Plan (NCP) process. In September 2020 the USEPA included the North Basin site on the National Priorities (Superfund) List.

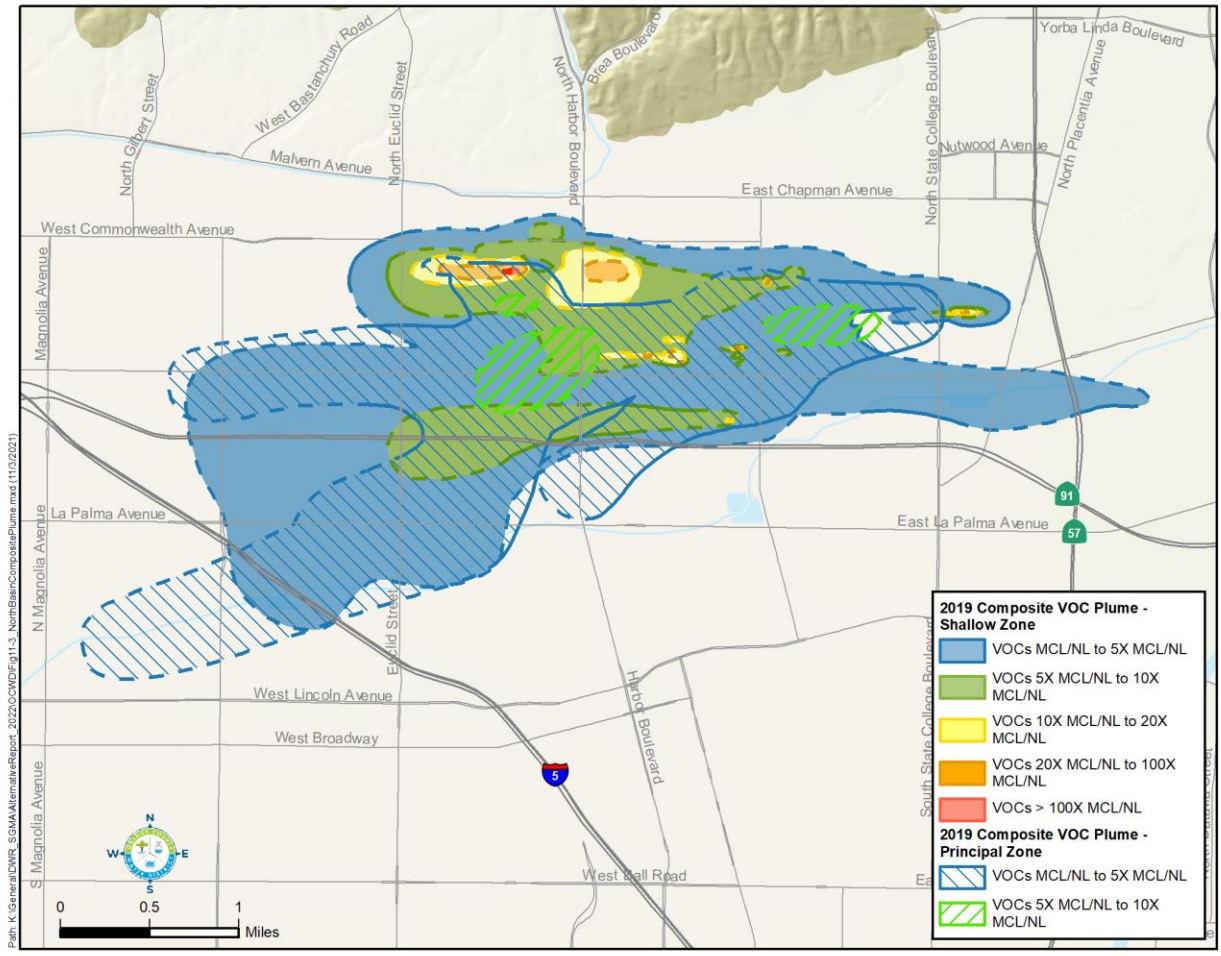


Figure 11-3: North Basin Groundwater VOC Plume

South Basin Groundwater Protection Program

Groundwater contaminated with VOCs and perchlorate in the South Basin area of the groundwater basin is shown in Figure 11-4. Elevated concentrations of perchloroethylene (PCE), trichloroethylene (TCE), and perchlorate were detected in Irvine Ranch Water District's Well No. 3, located in Santa Ana. OCWD's remedial investigation has resulted in the delineation of an approximately 2-mile long comingled contaminant plume. With the remedial investigation complete, OCWD is proceeding with a feasibility study to evaluate and develop remedial measures in cooperation with regulatory agencies and stakeholders following the NCP process. In tandem with OCWD's remediation program to address off-site contamination, the Regional Water Board and DTSC are overseeing investigation and remediation activities at the contaminant source sites.

MTBE Remediation

In 2003, OCWD filed suit against numerous oil and petroleum-related companies that produce, refine, distribute, market, and sell MTBE and other oxygenates. The suit seeks funding from

these responsible parties to pay for the investigation, monitoring and removal of oxygenates from the basin. Most of the major defendants have settled the litigation with OCWD, and funds from these settlements have been set aside for use at such time as treatment is required at drinking water wells.

Treatment technologies used to remove MTBE from groundwater include granular activated carbon or advanced oxidation. Depending upon site-specific requirements, a treatment train of two or more technologies in series may be appropriate (i.e., use one technology to remove the bulk of MTBE and a follow-up technology to polish the effluent water stream).

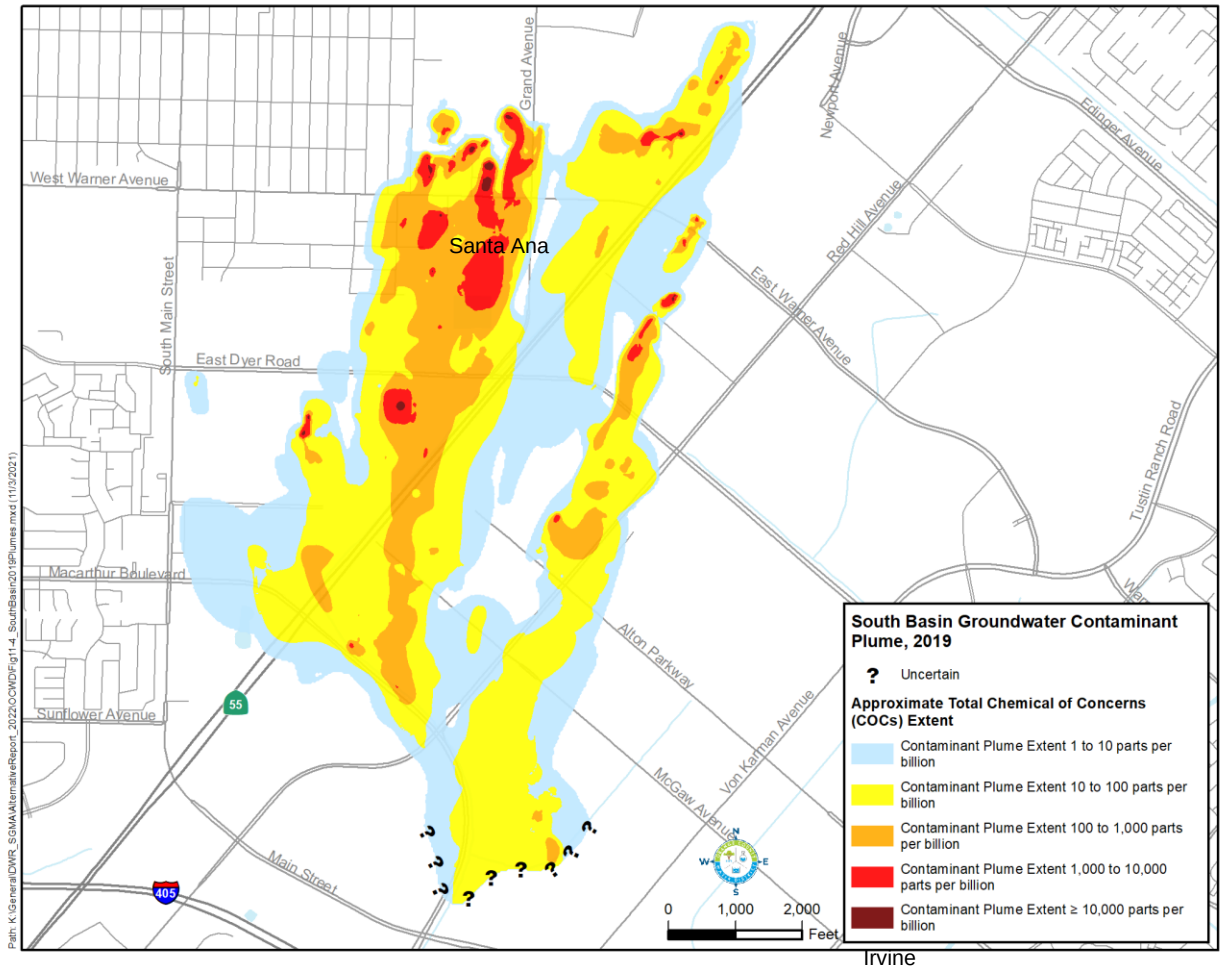


Figure 11-4: South Basin Groundwater Contaminant Plume

Irvine Desalter

The Irvine Desalter was built in response to elevated TDS and nitrate and the discovery in 1985 of VOCs beneath the former El Toro Marine Air Corps Station and the central area of Irvine. A plume of TCE migrated off base and impacted the groundwater basin. In 1990 the USEPA placed the site on the National Priorities List. Irvine Ranch Water District and OCWD cooperated with the U.S. Department of Navy in building production wells, pipelines and two

treatment plants, both of which are now owned and managed by IRWD. Operating since 2007, the two plants remove VOCs by air-stripping and vapor-phase carbon adsorption with the treated water used for irrigation and recycled water purposes. A third plant treats groundwater outside the plume to remove excess nitrate and TDS concentrations using reverse osmosis (RO) membranes for drinking water purposes. Combined production of the Irvine Desalter wells is approximately 8,000 acre-feet per year. OCWD provides a financial subsidy to IRWD in the form of a BEA exemption to help offset the treatment costs.

Tustin Desalters

Tustin's Main Street Treatment Plant has operated since 1989 to reduce nitrate levels from the groundwater produced by Tustin's Main Street Wells Nos. 3 and 4. The groundwater undergoes either RO or ion exchange treatment. The RO membranes and ion exchange units operate in a parallel treatment train. Approximately 1 mgd is bypassed and blended with the treatment plant product water to produce up to 2 mgd or 2,000 acre-feet per year**.**

The Tustin Seventeenth Street Desalter began operation in 1996 to reduce high nitrate and TDS concentrations from the groundwater pumped by Tustin's Seventeenth Street Wells Nos. 2 and 4 and Tustin's Newport Well. The desalter utilizes two RO membrane trains to treat the groundwater. The treatment capacity of each RO train is 1 mgd. Approximately 1 mgd is bypassed and blended with the RO product water to produce up to 3 mgd or 3,000 acre-feet per year. OCWD provides a financial subsidy to the City of Tustin in the form of a BEA exemption to help offset the treatment costs.

Irvine Ranch Water District Wells 21 and 22

Water produced by IRWD Wells 21 and 22 contain nitrate (as N) at levels exceeding the primary MCL of 10 mg/L. TDS concentrations range from 650-740 mg/L, which is above the secondary MCL of 500 mg/L. Because of the elevated nitrate, TDS, and hardness concentrations, IRWD constructed a RO treatment facility to reduce concentrations in the water before conveying to the potable supply distribution system. Operation of the treatment facility provides 6,300 acre-feet per year of drinking water and benefits the groundwater basin by reducing the spread of impaired groundwater to other portions of the basin. OCWD provides a financial subsidy to IRWD in the form of a BEA exemption to help offset the treatment costs.

Amber-Colored Groundwater

Amber-colored water is found in the Deep Aquifer (600 to 2,000 feet below ground surface). Natural organic material from ancient, buried plant and wood material gives the water an amber tint and a sulfur odor. Although this water is of high quality, its color and odor produce negative aesthetic qualities that require treatment before use as drinking water.

Two facilities currently treat colored groundwater in Orange County for potable supply. In 2001, Mesa Water District opened its Colored Water Treatment Facility capable of treating 5.8 mgd. This facility was replaced in 2012 by the 8.6-mgd Mesa Water Reliability Facility that uses nano-filtration membranes to remove color. OCWD provides a financial subsidy to Mesa Water District in the form of a BEA exemption to help offset the treatment costs. The second facility is

the Deep Aquifer Treatment System (DATS), a treatment facility owned and operated by the IRWD since 2002 that uses nano-filtration membranes. This facility purifies 7.4 mgd of amber-colored water.

PFAS Treatment Systems

In 2020 OCWD as the groundwater basin manager, executed a multi-party agreement with the impacted groundwater producers to fund and construct the necessary treatment systems for production wells impacted by PFAS compounds. The PFAS treatment projects include the design, permitting, construction, and operation of PFAS treatment systems for impacted production wells. Each well treatment system will be evaluated for use with granular activated carbon (GAC), ion exchange (IX), or an alternative novel sorbent for the removal of PFAS compounds. These treatment systems utilize vessels in a lead-lag configuration to remove PFOA and PFOS to less than 2 ppt, the current laboratory detection limit. These PFAS treatment systems are designed to ensure the groundwater supplied by producer wells can be served in compliance with current and future PFAS regulations. The groundwater producers will own the treatment systems once they are completed; with financial assistance from OCWD, the groundwater producers will operate and maintain the new treatment systems once they are constructed.

To minimize alternative water supply expenses and provide maximum protection to the public water supply, OCWD initiated design, permitting, and construction of the PFAS treatment projects on a schedule that allows rapid deployment of treatment systems. As of September 2021, construction contracts have been awarded for treatment systems for production wells owned by the cities of Orange (Phase 1) and Garden Grove, Serrano Water District, and Yorba Linda Water District. The City of Anaheim has also awarded a design-build contact (Phase A) for 8 impacted wells, that will be reimbursed by OCWD. The City of Fullerton's well KIM-1A treatment system has been completed and is in operation. Additional construction contracts are anticipated to be awarded for impacted wells operated by the cities of Fullerton (Main Plant), Orange (Phase 2), Santa Ana, and Tustin; Irvine Ranch Water District; and East Orange County Water District by early 2022. OCWD expects the treatment systems to be constructed for the approximately 60 impacted wells within the next 2 to 3 years. Figure 11-5 shows locations of wells affected by and to be treated for PFAS.

As monitoring continues and additional wells are anticipated to be taken off-line due to PFAS detections reported at or near the current RL (or future MCL), OCWD will continue to partner with the affected groundwater producers and take action to design and construct necessary treatment systems to bring the impacted wells back online as quickly as possible.

Groundwater production in WY2020-21 was expected to be approximately 325,000 acre-feet but declined to 282,000 acre-feet primarily due to PFAS-impacted wells being turned off around February 2020. OCWD projects groundwater production to be approximately 250,000 acre-feet in WY2021-22 due to the currently idled wells and additional wells being impacted by PFAS and turned off. As PFAS treatment systems are constructed, OCWD expects total annual groundwater production to increase back to levels similar to years prior to PFAS impacts.

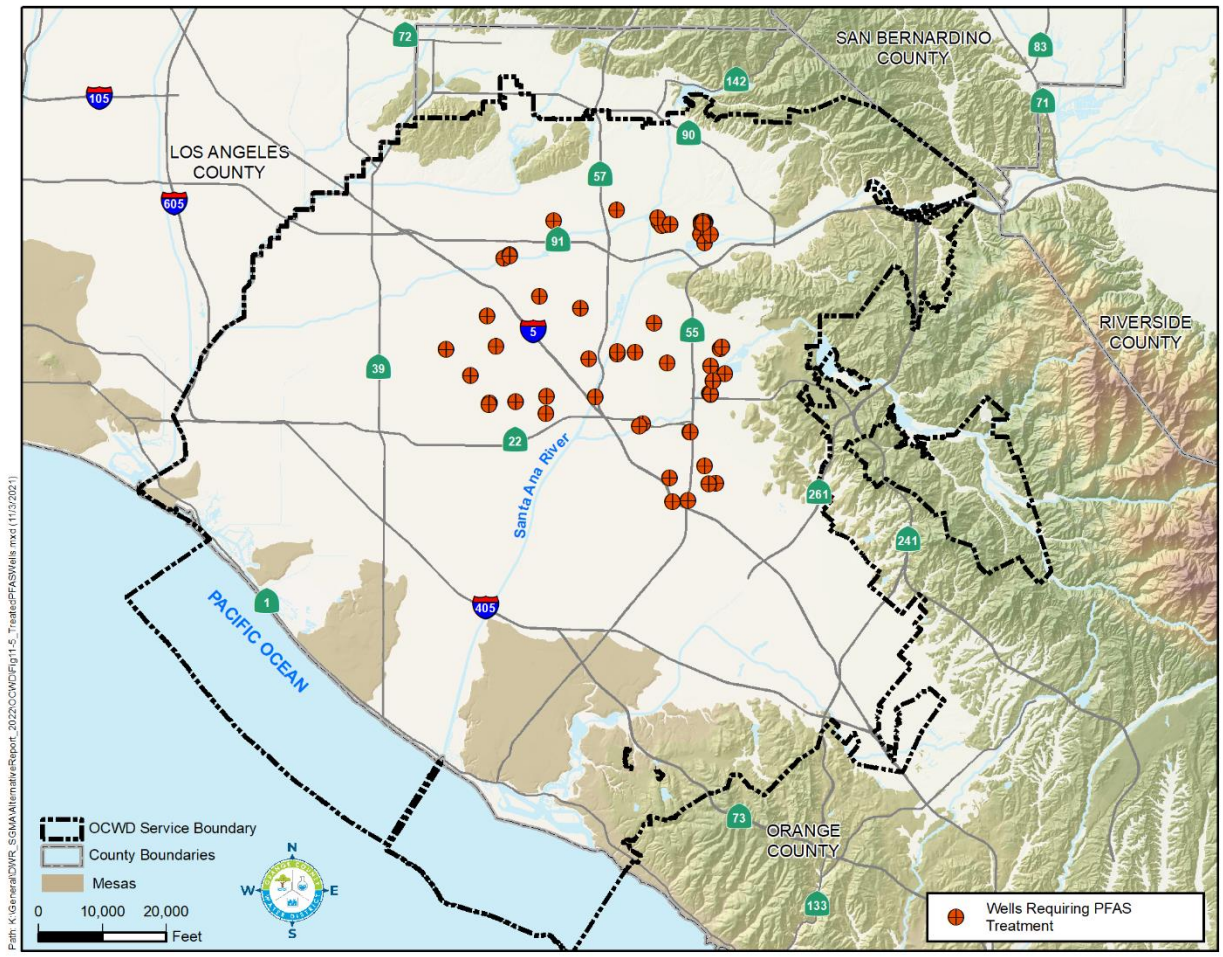


Figure 11-5: Production Wells to be Treated to Remove PFAS

BEA Exemption for Water Quality Improvement Projects

In some cases, OCWD encourages the pumping of groundwater that does not meet drinking water standards in order to protect water quality. This is achieved by using a financial incentive called the Basin Equity Assessment (BEA) Exemption. The benefits to the basin include promoting beneficial uses of poor-quality groundwater and reducing or preventing the spread of poor-quality groundwater into non-degraded aquifer zones.

OCWD uses a partial or total exemption of the BEA to compensate a qualified participating groundwater producer for the costs of treating poor-quality groundwater. These costs typically include capital, interest and operations and maintenance (O&M) costs for the treatment facilities.

Using this approach, OCWD has exempted all or a portion of the BEA for pumping and treating groundwater for removal of nitrates, TDS, VOCs, and other contaminants. Water quality improvement projects that currently are receiving BEA exemptions are listed in Table 11-3.

Table 11-3: Summary of BEA Exemption Projects

Project Name	Project Description	BEA Exemption Approved	Average 5-Year Pumping (afy)	Max Production Above BPP (afy)	OCWD BEA Subsidy
Irvine Desalter	Remove nitrates, TDS, and VOCs	2001	6,990	10,000	Exemption
Tustin Desalter	Remove nitrates and TDS	1998	2,240	3,500	Exemption
Tustin Nitrate Removal	Remove nitrates	1998	170	1,000	Exemption
Mesa Water Colored Water Removal	Remove color	2011	4,605	8,700	Exemption
IRWD Wells No. 21 and 22	Remove nitrates	2012	2,420	7,000	Exemption
Huntington Beach Well No. 9	Remove odor	2018	1,680 (3 yrs)	3,000	Partial exemption

DEFINITION OF SIGNIFICANT AND UNREASONABLE DEGRADATION OF WATER QUALITY

Three elements must be considered when evaluating the impact of groundwater quality degradation with regard to SGMA undesirable results.

The first element is considering the causal nexus between groundwater management activities and groundwater quality. For example, groundwater contamination due to improper handling of toxic materials impacts groundwater quality; however, this water quality degradation is not caused by groundwater management activities.

The second element is the beneficial uses of the groundwater and water quality regulations, such as MCLs and other potable water quality requirements.

The third element that must be considered is the volume of groundwater impacted by quality degradation. If small volumes are negatively affected that do not materially affect the overall use of the aquifer or basin for its existing beneficial uses, then this would not represent a

significant and unreasonable degradation of water quality. However, if the impacted volume grows, then it could reach a level that it becomes significant and unreasonable.

When considering all three elements, “significant and unreasonable degradation of water quality” is defined as degradation of groundwater quality attributable to groundwater production or recharge practices in the OCWD Management Area and to the extent that a significant volume of groundwater becomes unusable for its designated beneficial uses.

11.4 DETERMINATION OF MINIMUM THRESHOLDS

The minimum thresholds for groundwater quality are exceedances of MCLs or other applicable regulatory limits that are directly attributable to groundwater management actions in the OCWD Management Area that prevent the use of groundwater for its designated beneficial uses.

SECTION 12 SUSTAINABLE MANAGEMENT RELATED TO SEAWATER INTRUSION

In the coastal area of the Orange County groundwater basin, the primary source of saline groundwater is seawater intrusion through permeable aquifer sediments underlying topographic lowlands or gaps between the erosional remnants or mesas of the Newport-Inglewood Uplift. The susceptible locations from north to south are the Alamitos, Sunset, Bolsa, and Talbert gaps as shown in Figure 3-20.

OCWD's policy regarding control of seawater intrusion is implemented through a comprehensive program that includes operating seawater intrusion barriers, monitoring and evaluating barrier performance, monitoring and evaluating susceptible coastal areas, and coastal groundwater management. These programs enable OCWD to sustainably manage groundwater conditions in the basin in order to prevent significant and unreasonable seawater intrusion.

12.1 TALBERT GAP

The Talbert Gap, also referred to as the Santa Ana Gap, is shown in Figure 12-1. The furthest seaward mergence zone between the Talbert and Lambda aquifers in the vicinity of Adams Avenue is a primary pathway by which seawater can potentially migrate inland and downward within the Talbert Gap.

OCWD monitoring well M26 is a key monitoring well for evaluating barrier injection requirements versus seawater intrusion potential and is used to assess whether protective groundwater elevations are being achieved in the Talbert Gap. The well is strategically located seaward of the barrier in the middle of the Talbert Gap and is screened within the merged Talbert and Lambda aquifers (see Figure 12-2). At the location of well M26, the protective groundwater elevation is approximately 3.5 feet above mean sea level (msl), as explained below.

The protective groundwater elevation is based on the Ghyben-Herzberg relation (Ghyben, 1888; Herzberg, 1901; Freeze and Cherry, 1979, pp. 375-376), which takes into account the depth of the Talbert aquifer at a given location along with the density difference between saline and fresh groundwater. Using this relation, for every 40 feet that the bottom of the aquifer is below sea level, there should be about one foot of head of fresh water above sea level to overcome the density effect of seawater. In the case of well M26, the bottom of the merged Talbert-Lambda aquifer is approximately 140 feet below sea level. Therefore, the freshwater head (protective elevation) should be approximately 140 feet divided by 40 which equals 3.5 feet above sea level. Achieving this protective elevation at well M26 is OCWD's goal to prevent brackish water in the Talbert aquifer from migrating down into the Lambda aquifer that is tapped by inland production wells.

Figure 12-2 shows the historical interrelationship between coastal groundwater production, Talbert Barrier injection, and groundwater elevations at well M26 from 2008 to 2021. This figure

shows that groundwater elevations at well M26 have consistently been maintained at or above protective elevations since 2010 with the exception of brief periods related to GWRS shutdowns.

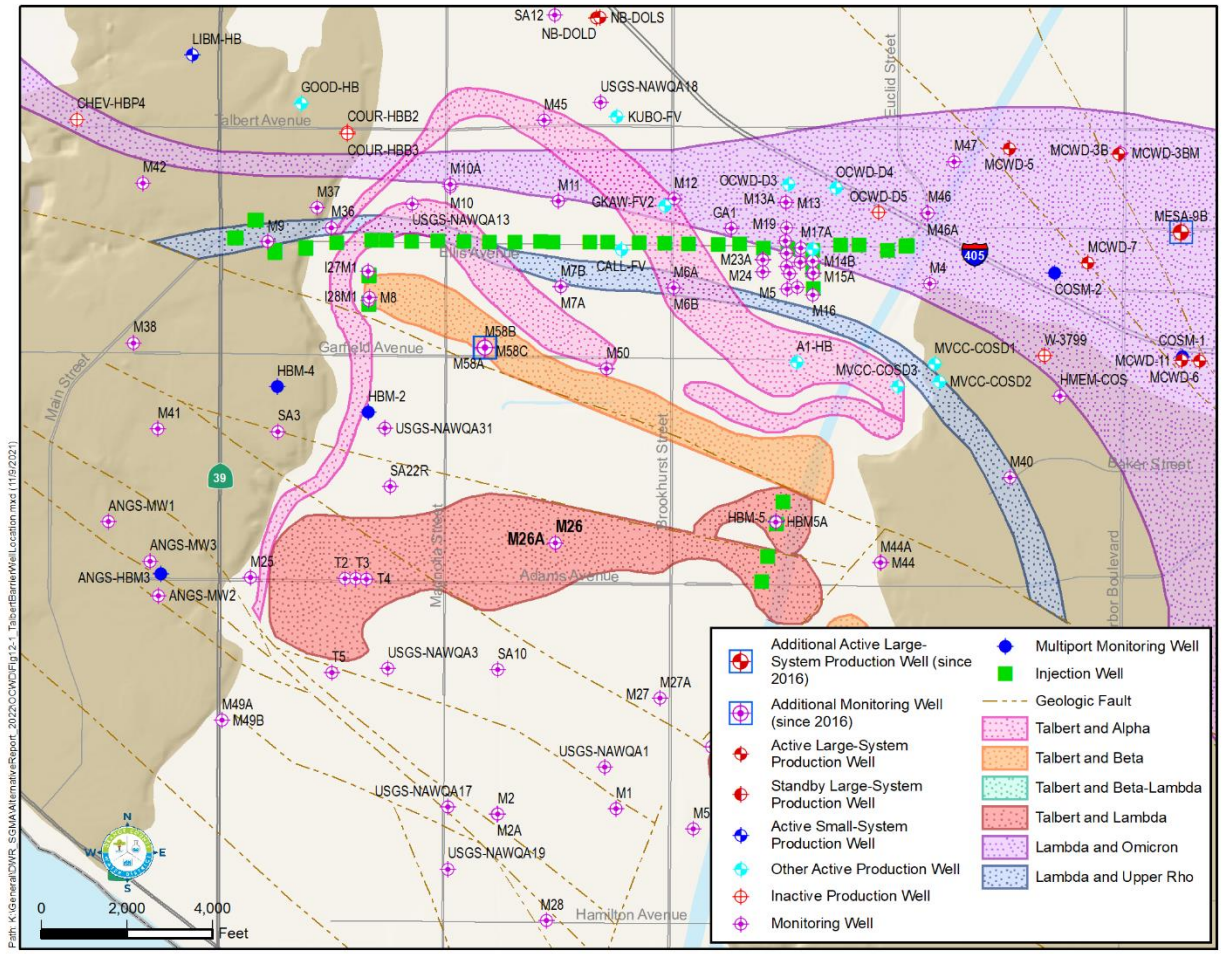
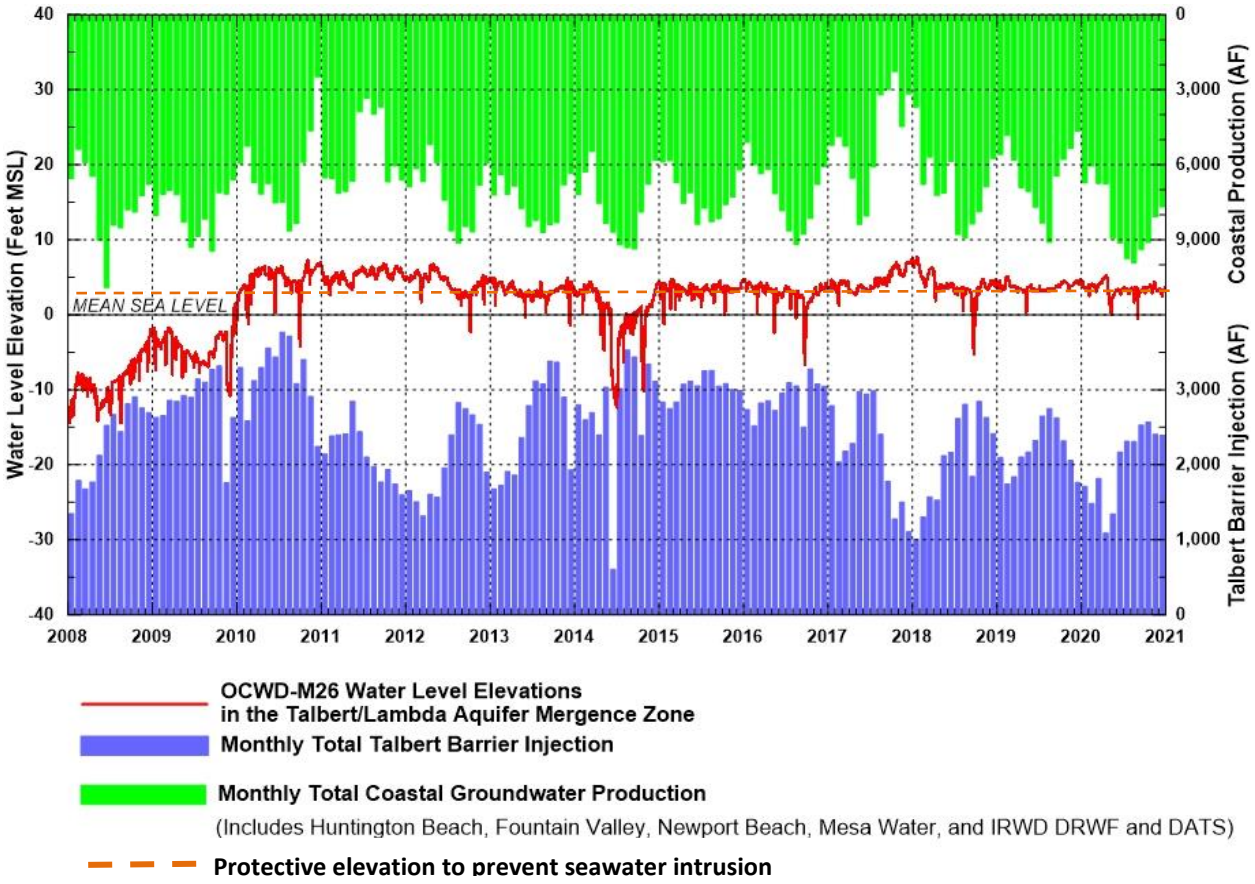


Figure 12-1: Talbert Gap – Seawater Intrusion Barrier

Figure 12-3 shows the 250 mg/L chloride concentration contour in the Talbert and Bolsa gaps and adjacent mesas for 1993, 1998, 2008, and 2020. The 250 mg/L chloride contour is used to delineate the inland extent of intrusion because this is above ambient (non-intruded) groundwater quality and is equal to the secondary drinking water standard. Native fresh groundwater in this area typically has a chloride concentration well below 100 mg/L, while the GWRS injection supply has a chloride concentration of approximately 10 mg/L. This figure shows that the 250 mg/L chloride contour has remained relatively unchanged from 2008 to 2020, indicating that the barrier and other basin management programs are keeping seawater intrusion from taking place.



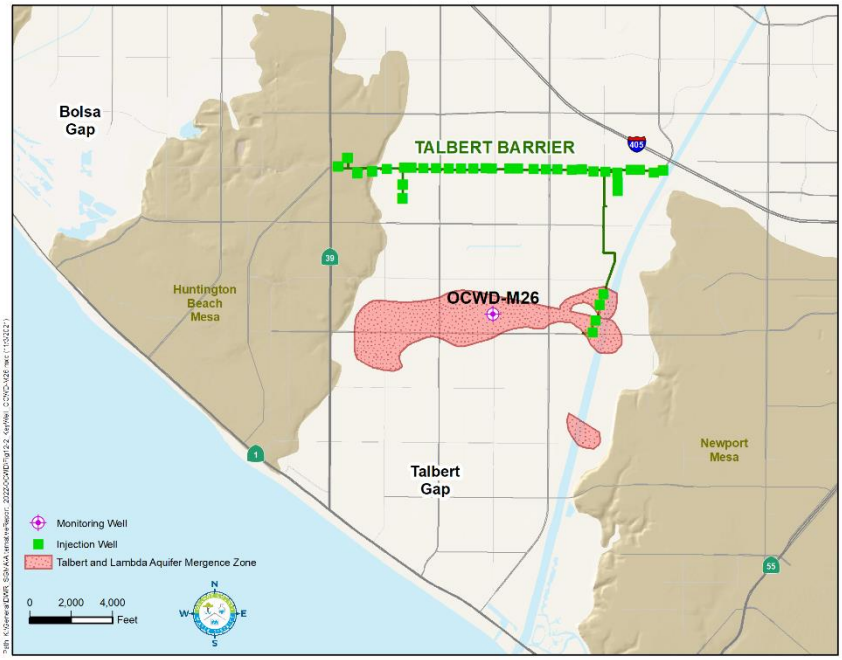


Figure 12-2: Key Well OCWD-M26 Groundwater Levels, Talbert Barrier Injection, and Coastal Pumping

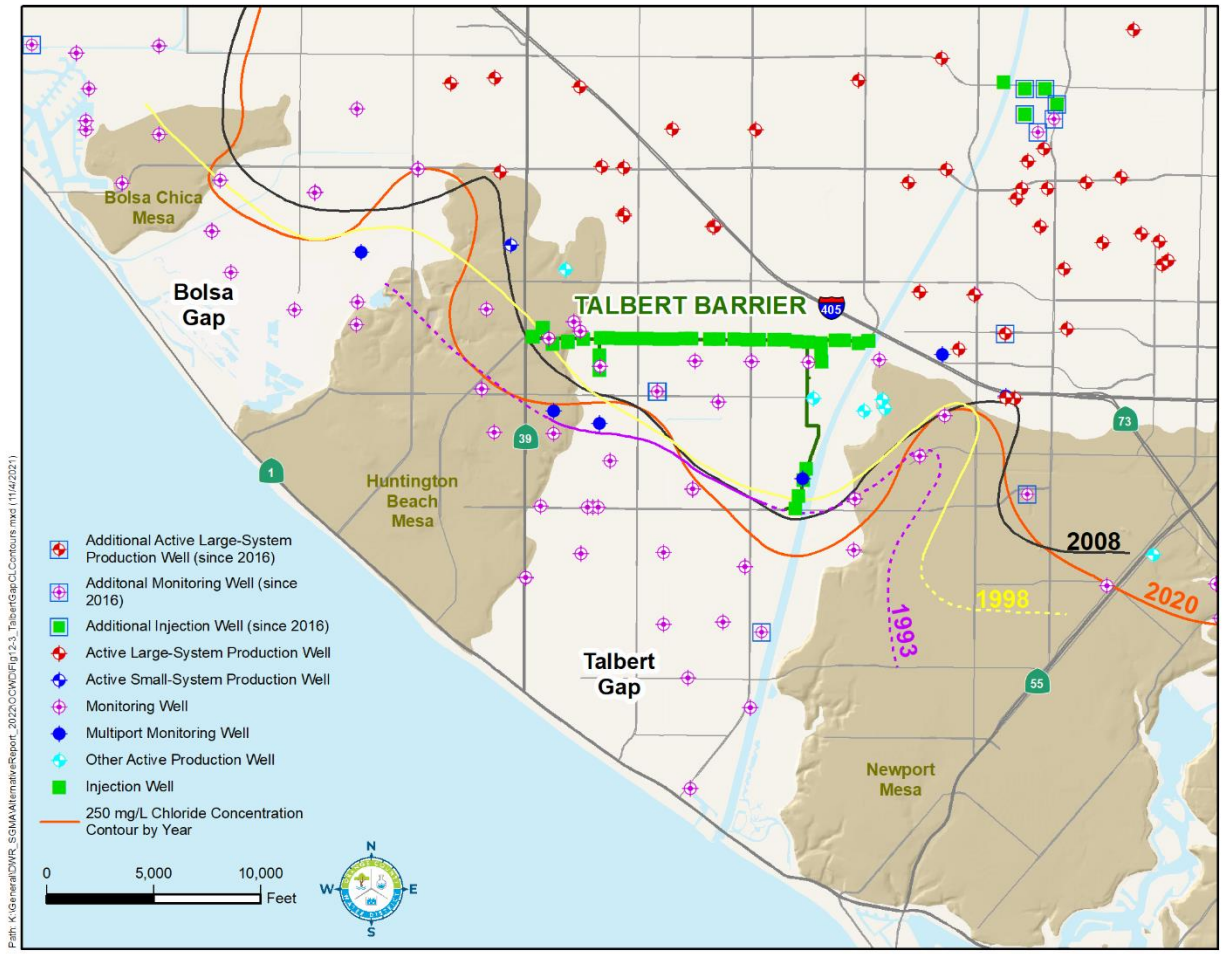


Figure 12-3: Talbert Gap 250 mg/L Chloride Concentration Contours for Selected Years

12.1.1 Talbert Barrier Groundwater Model

OCWD has developed a calibrated MODFLOW groundwater model of the Talbert Barrier and surrounding area (Talbert Model). In addition to helping to guide the planning, location, and hydraulic effectiveness of the supplemental injection wells for the Talbert Barrier during pre-GWRS planning activities, the Talbert Model was also used to estimate the general groundwater flow paths and subsurface residence time of barrier injection water by using the USGS particle tracking code MODPATH (Pollack, 1994). This modeling work provided the basis for delineating a recycled water retention buffer area surrounding the Talbert Barrier at a distance of 2,000 feet and one-year travel distance. No new drinking water production wells are allowed within this buffer area, as required by the California Department of Public Health requirements contained within the original permit to operate GWRS (RWQCB, 2004; OCWD, 2005). For more information on the Talbert Model, see the 2017 Alternative.

12.2 ALAMITOS GAP

The Alamitos Barrier Project was initially constructed in 1964 and became operational in 1965 to manage seawater intrusion in the Alamitos Gap. The barrier has been expanded over time to include the construction of additional injection and monitoring wells (Figure 12-4).

Similar to the Talbert Barrier, the Alamitos Barrier consists of both nested and cluster-type injection wells screened discretely in each aquifer in order to control the injection rate and injection pressure into each targeted aquifer independently since each aquifer has different physical characteristics and groundwater levels.

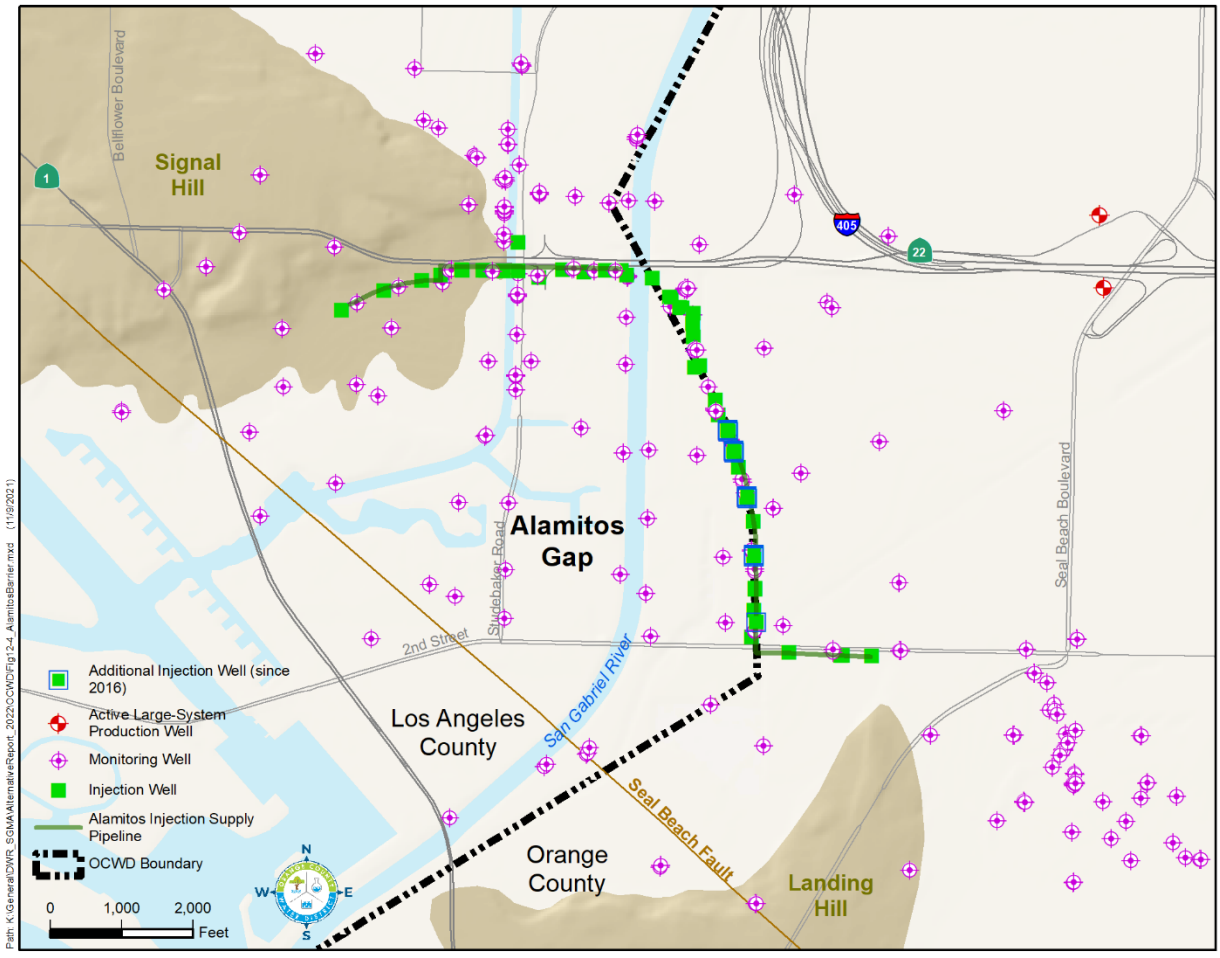


Figure 12-4: Alamitos Gap – Seawater Intrusion Barrier

The pathways for intrusion in Alamitos Gap are similar to the Talbert Gap with the uppermost Recent aquifer connected to the Pacific Ocean. Once seawater migrates inland within the Recent aquifer past the Seal Beach Fault, the brackish water can then migrate downward into the C, B, A, and I aquifers via areas of hydraulic mergence with the Recent aquifer where the intervening low-permeability aquitards are absent. These susceptible Pleistocene aquifers were

warped upward by the Newport-Inglewood Fault Zone and then during Recent geologic time were eroded away and subsequently overlain by the Recent aquifer river deposits. The aquifers susceptible to intrusion are generally thinner and finer-grained than their counterparts in Talbert Gap. Therefore, per-well injection capacity in the Alamitos Barrier is about half that of the Talbert Barrier and thus requires more injection wells and denser spacing to achieve sufficient injection for creating a continuous pressure ridge that achieves protective elevations.

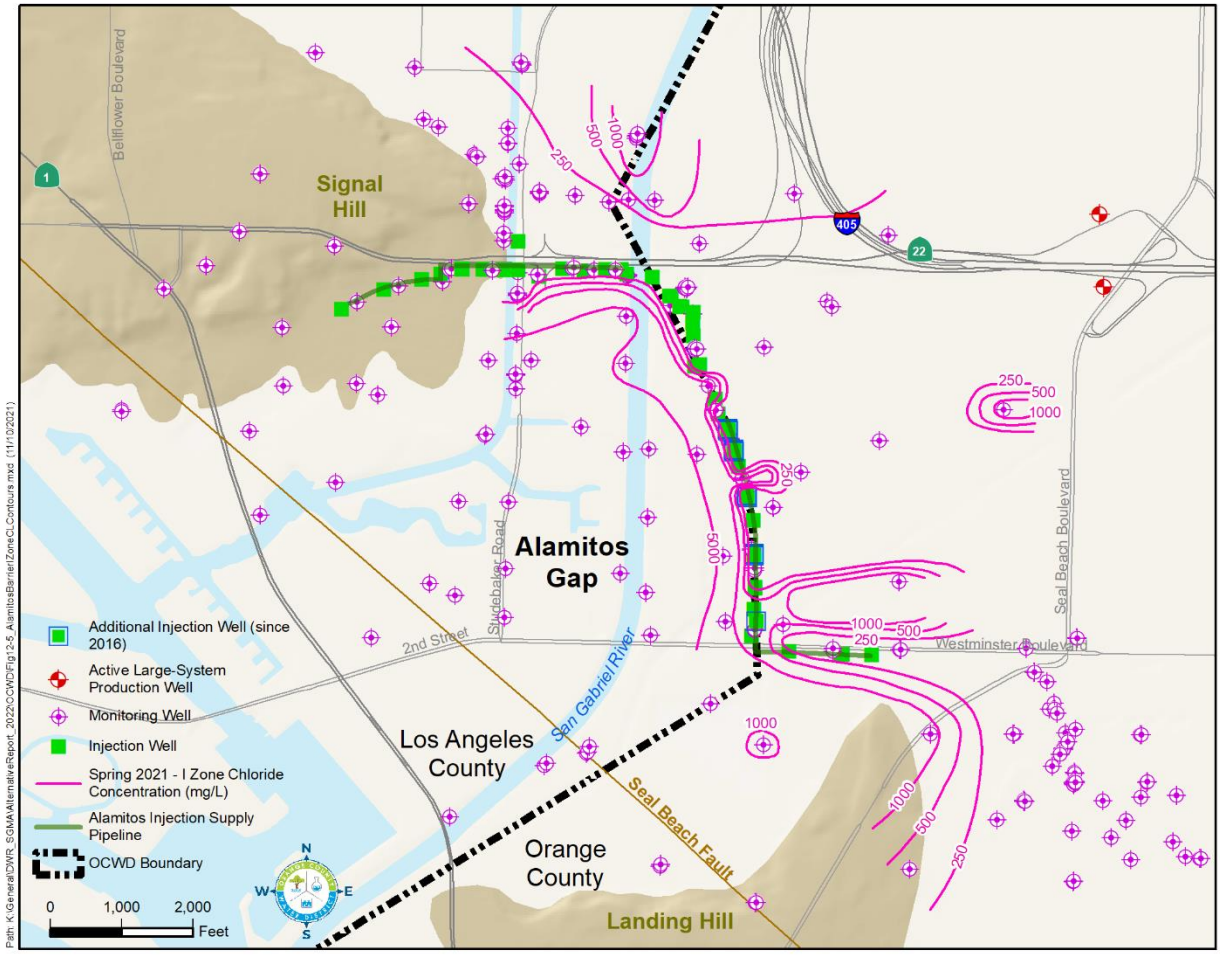


Figure 12-5: Alamitos Gap I Zone Chloride Concentration Contours, 2021

Additional injection wells were constructed as part of the Alamitos Barrier Improvement Project to control the identified breaches through the barrier and to address barrier deficiencies along the north-south reach where injection well spacing was too large and injection well capacity too small. In addition, four monitoring wells and two piezometer were installed to improve monitoring near the barrier. Figure 12-5 shows the extent of chlorine intrusion in the I zone in 2021.

Since the completion of the Alamitos Barrier Improvement Project in 2018, freshwater injection capacity along the north-south barrier alignment has improved with the even distribution of injection flow through the added new wells and water levels along this barrier reach have

achieved and maintained protective elevations, a first since the barrier was constructed over 50 years ago.

LACPW continues to operate and maintain the existing and new barrier facilities as OCWD will continue to work alongside LACPW to monitor the water levels and the barrier performance along the stretch affecting Orange County.

12.2.1 Alamitos Barrier Groundwater Model

A transient groundwater flow and solute transport model of the Alamitos Barrier area was developed and calibrated in 2010 by Intera, Inc. with oversight and cost sharing from OCWD, LACPW, and WRD. The model was developed to provide a useful tool to evaluate the existing barrier's effectiveness, determine barrier expansion requirements, evaluate migration of saline intrusion as well as migration of recycled injection water towards production wells for regulatory purposes, and optimize existing barrier operations. For more information on this model, see the 2017 Alternative.

12.3 SUNSET GAP

Sunset Gap was historically considered to be a much lesser seawater intrusion threat compared to the Talbert and Alamitos Gaps. Recent monitoring data, however, indicate that seawater intrusion is occurring in Sunset Gap, as shown schematically in a cross-section in Figure 12-6. Figure 12-7 shows the location of this cross-section.

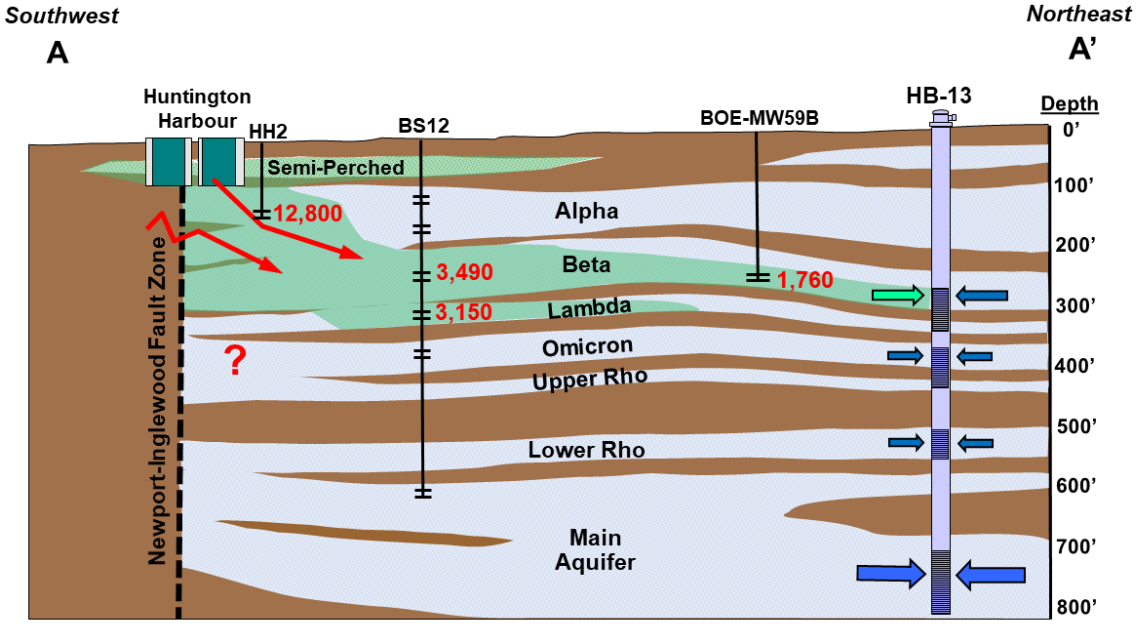


Figure 12-6: Schematic Geologic Cross-Section from Huntington Harbor through Sunset Gap (Fall 2020 Chloride Concentrations, mg/L)

Three potential seawater intrusion source areas appear likely:

- Intrusion from Alamitos Gap south of Alamitos Barrier moving in an easterly direction
- Intrusion moving north-northeasterly from the Huntington Harbor Marina where dredged canals may have breached through the shallow aquitard overlying the shallow-most potable aquifer
- Lateral leakage across the Newport/Inglewood Fault Zone (Seal Beach Fault) in the Landing Hill area in one or more of the Upper Pleistocene aquifers

In the southeast portion of Sunset Gap, dredging associated with construction of the boat canals in Huntington Harbor during the 1960s was the subject of several studies at that time regarding the potential for causing saline intrusion. Conclusions of these studies were inconsistent and inconclusive. Studies done by the USGS (1967) and DWR (1968) found that seawater intrusion into the semi-perched aquifer (generally the uppermost 50 feet) associated with the harbor development was occurring, but this was considered to be of little to no significance due to the lack of beneficial use of this near-surface water-bearing zone.

Approximately 10 years after construction of Huntington Harbor, chloride concentrations began to rise during the mid-1970s at OCWD monitoring well HH2 screened in the shallow-most Pleistocene Alpha aquifer at a depth of 85-95 ft bgs and located just inland of the Bolsa-Fairview Fault in the Huntington Harbor area. The Bolsa-Fairview Fault is the farthest inland branch of the Newport-Inglewood Fault Zone in the area. Chloride concentrations at this well rose steadily over time to very brackish levels today, suggesting an inland gradient and active pathway for inland intrusion.

In 2004, elevated chloride concentrations ranging from 300 to 800 mg/L were discovered at two monitoring wells owned by the Boeing Company (BOE-MW16 and BOE-MW17) screened in the Beta aquifer. OCWD commissioned a geophysical survey in 2010 at the Seal Beach Naval Weapons Station to investigate the extent and depth of intrusion and to help guide the number and location of proposed monitoring wells necessary to sufficiently define the extent of intrusion.

One large system production well (HB-12) was shut down and destroyed due to impacts from advancing intrusion in Sunset Gap. From 2012 to 2016, OCWD constructed seven multi-depth monitoring wells to depths up to 1,000 feet in Sunset Gap to better define the source areas, pathways, and overall inland extent of seawater intrusion as the first step towards identifying feasible remedies.

In 2021, OCWD began a project to install 11 monitoring wells clustered at five locations: one site in Seal Beach (BS25) and four in Huntington Beach (BS23, BS26, BS27 and BS28). Figure 12-7 shows the location of new wells installed in the last five years and the wells being installed in 2021. The multiple wells at each site will allow for the measurement of groundwater levels and collection of groundwater samples for water quality analyses in specific aquifers at different depths. The information from these monitoring wells may be used to determine if the groundwater flow model needs refinement before finalizing recommendations regarding a potential new seawater barrier in Sunset Gap (e.g., locations and number of injection wells and their injection rates).

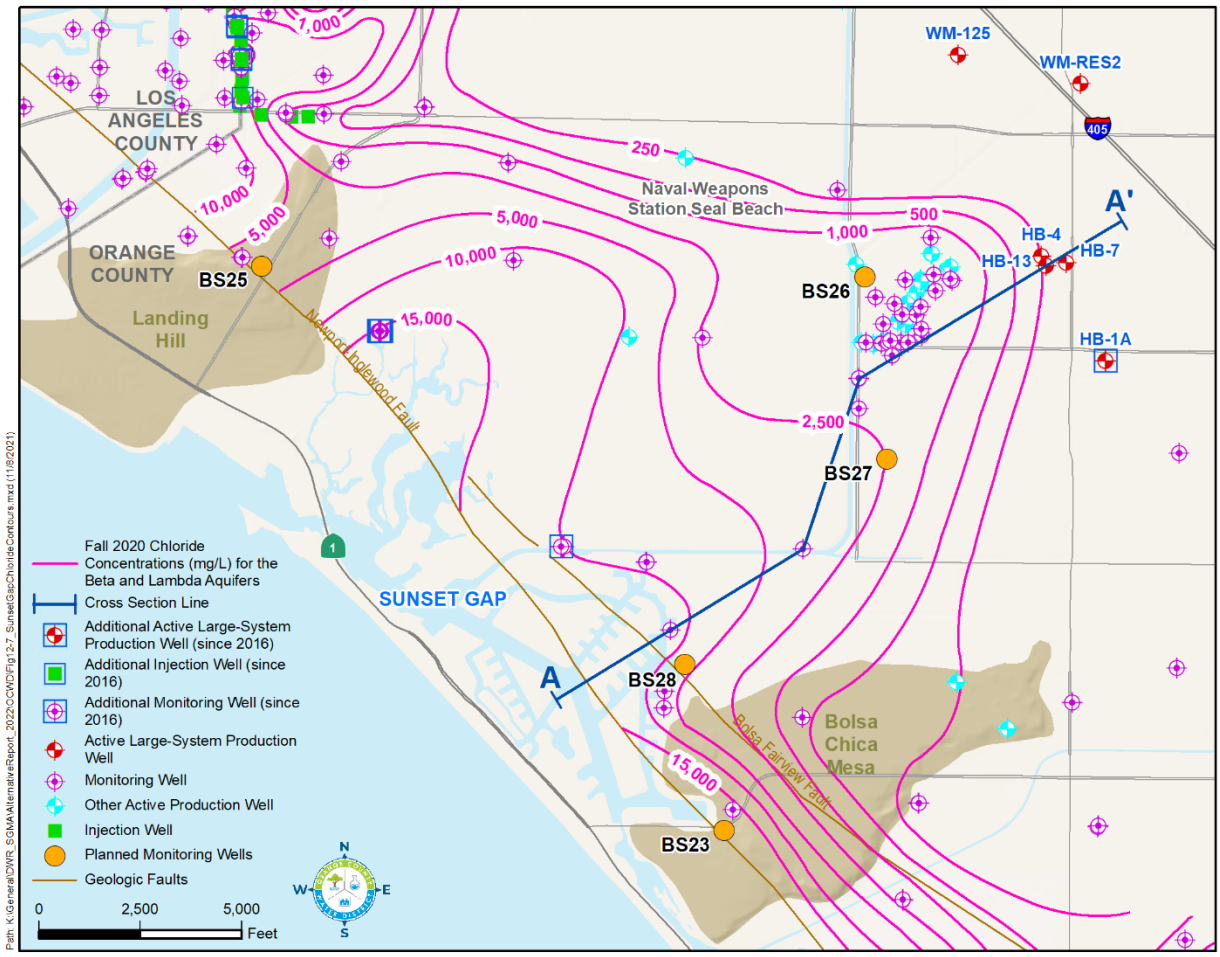


Figure 12-7: Sunset Gap Chloride Concentrations, 2020

12.3.1 Evaluation of Sunset Gap Alternatives

The Alamitos Barrier groundwater flow and transport model was recently updated and expanded to include the Sunset Gap area and thereby utilize data from newer OCWD monitoring wells on the Naval Weapons Station Seal Beach (NWSSB). The Alamitos-Sunset Gap model boundaries are shown in Figure 12-8.

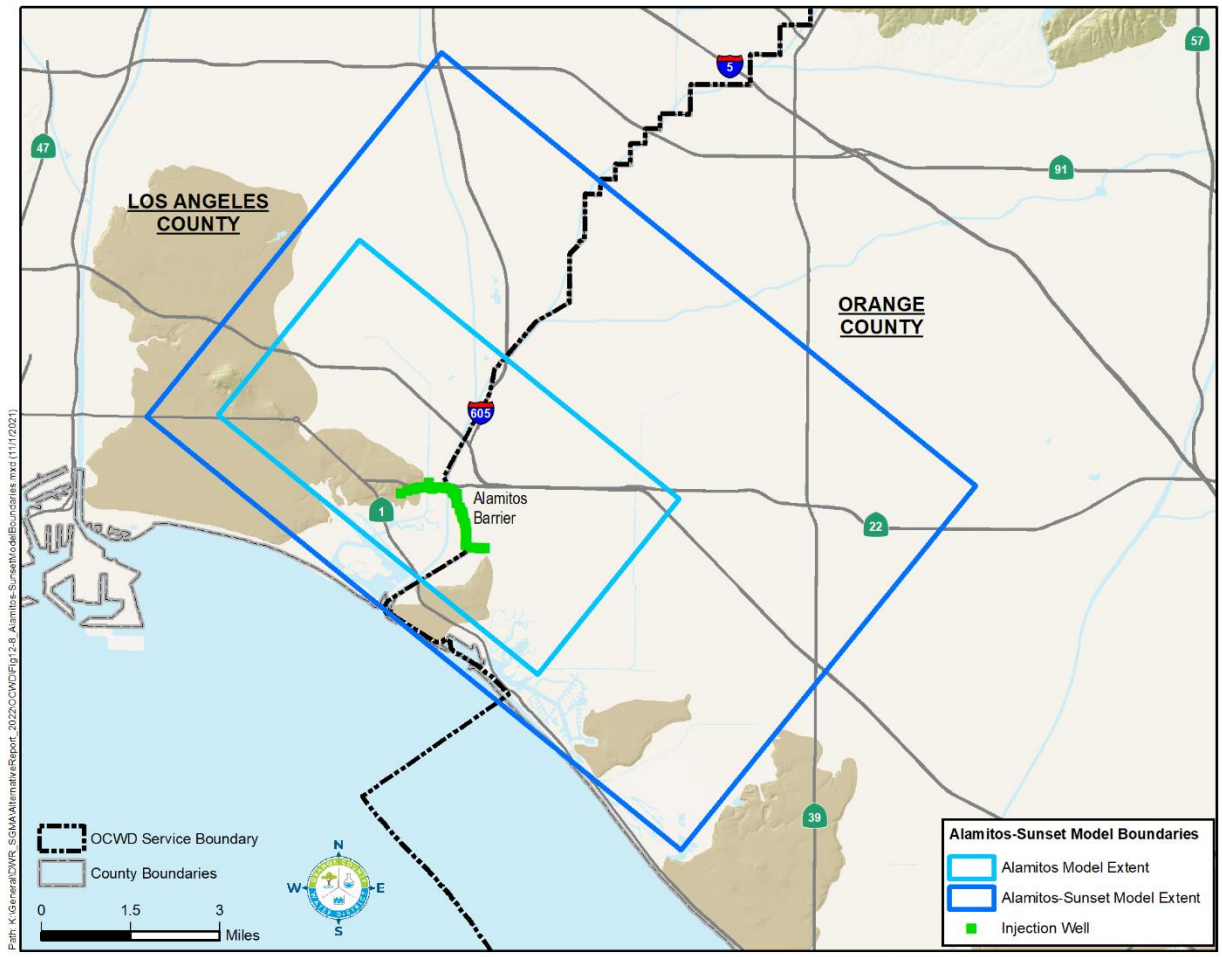


Figure 12-8: Alamitos-Sunset Gap Groundwater Model Boundaries

To date, the calibrated Alamitos-Sunset Gap model has been used to evaluate the effectiveness of five alternatives for a potential seawater intrusion barrier. These and other alternatives will be evaluated with the goal of halting the inland movement of seawater intrusion without significantly raising or lowering groundwater levels in the environmentally sensitive tidal marsh on the NWSSB. The effects, if any, of the simulated alternatives on nearby contaminant plumes will also be evaluated. Other factors to evaluate once the additional predictive scenarios are modeled will include feasibility, constructability, injection water supply, brackish extraction disposal/reuse, and cost.

The number of injection and extraction wells, well spacing, and injection volumes were varied from scenario to scenario to determine the preferred barrier scenario that prevents seawater intrusion by maintaining a seaward gradient without significantly raising or lowering groundwater levels in the environmentally sensitive tidal marsh on the NWSSB. Additionally, the model will run a series of no-barrier predictive scenarios to evaluate the potential maximum future inland extent of seawater intrusion and associated impacts and measures that would likely occur as a result, e.g., groundwater production well loss and/or inland groundwater desalters.

Preliminarily and subject to further analysis, the most favorable approach based on the five predictive scenarios completed so far includes a dual injection/extraction barrier, with an L-shaped injection well alignment around the perimeter of the NWSSB (Figure 12-9). A potential Sunset Gap Barrier Project (SGBP) would be designed to prevent the inland advancement of seawater intrusion near the NWSSB and the Huntington Harbor areas, thus protecting production wells in the cities of Huntington Beach, Seal Beach, and Westminster.

The preliminary favorable injection alignment would include approximately 20 injection well sites spaced approximately 1,500 to 2,000 feet apart (subject to further analysis). Total modeled injection was 13 mgd, with the majority being injected into the Beta and Lambda aquifers.

The preliminary favorable extraction alignment would include three single-point extraction wells screened across the Beta and Lambda aquifers. Total modeled extraction was 3 mgd, or 1 mgd per well. The three potential extraction wells were strategically located just outside (inland) of the Seal Beach National Wildlife Refuge perimeter to provide ample distance from the injection wells while also remaining outside of the NWSSB ordnance areas. Initially, the extracted brackish groundwater would be expected to have a chloride concentration ranging from 5,000 to 15,000 mg/L.

Depending on extracted water disposal/use feasibility and cost, a groundwater treatment plant may be appropriate to remove the high salinity from the groundwater produced by the barrier extraction wells. Reverse osmosis would be the likely treatment process. The technical and economic viability of this supply option would need to be evaluated as part of the future technical work described below.

To provide the injection wells with high-quality fresh water, the several water supply alternatives will be considered, including: (1) Groundwater treatment plant (brackish extraction wells and/or Deep aquifer amber-colored water wells); (2) Satellite wastewater treatment plant; (3) GWRS water via new pipeline; and (4) Imported water.

Future technical analysis that would need to be conducted as part of the feasibility study includes the following:

- Evaluate injection water supply alternatives
- Perform siting study for pipelines and wells
- Evaluate extraction well discharge alternatives
- Identify hydrogeologic data necessary to design, construct, and monitor the performance of barrier facilities
- Develop preliminary project design to support CEQA evaluation
- Estimate staffing needs for barrier operation and maintenance (O&M)
- Provide capital and O&M cost estimate

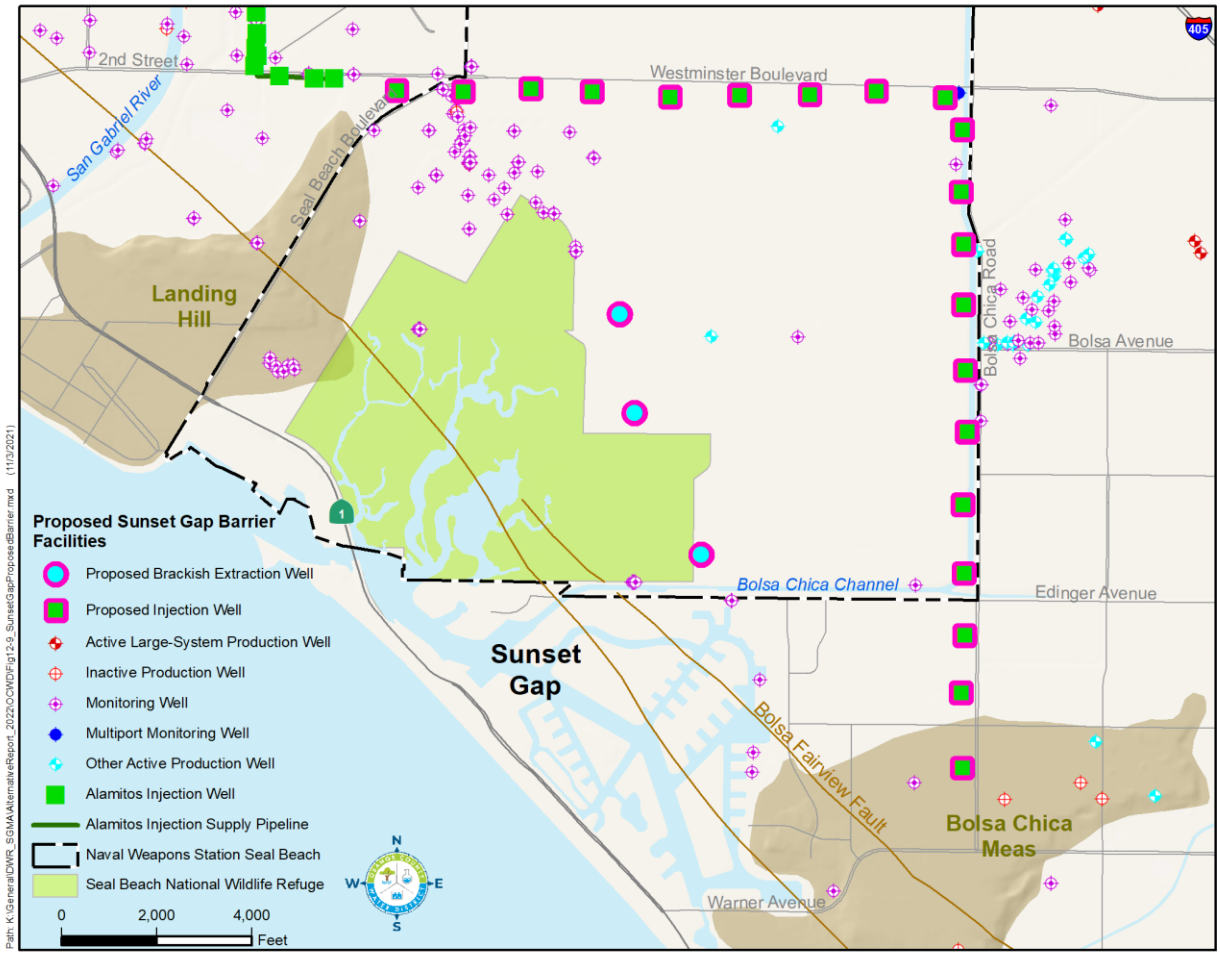


Figure 12-9: Potential Sunset Gap Barrier Project Facilities

12.4 BOLSA GAP

In the Bolsa Gap, seawater intrusion extends approximately 1.3 miles inland from the Pacific Ocean. Groundwater monitoring data show that the highest chloride concentrations in Bolsa Gap have remained seaward of the Bolsa-Fairview Fault, which is the farthest inland branch of the Newport-Inglewood Fault Zone in that area. Therefore, the saline groundwater appears to be largely restricted from migrating inland across the Bolsa-Fairview Fault within the Bolsa aquifer under normal basin conditions, as the Bolsa aquifer zones of mergence with the underlying Pleistocene aquifers are all inland of the Bolsa-Fairview Fault. An area of slightly elevated salinity has existed beneath the Huntington Beach Mesa for many years and is thought to be due to past disposal practices of oil field brines in the early 1900s rather than active seawater intrusion from the ocean. This area of saline groundwater is being pushed westerly into Bolsa Gap due to increased injection at the west end of the Talbert Barrier but is not expected to be a threat to active production wells or groundwater resources.

12.5 NEWPORT MESA

Chloride concentrations in the Beta/Lambda aquifers beneath the Newport Mesa east of the Talbert Gap have either remained stable or decreased over the last 10 years even though groundwater elevations have typically been below sea level in these aquifers in this area. Chloride concentrations in the underlying Main aquifer in this area have either decreased or have remained relatively stable for the last 10 years. A proposed extension of the Talbert Barrier eastward along Adams Avenue onto the Newport Mesa has been preliminarily evaluated and modeled by OCWD staff using the Talbert Model. Such a project would serve to provide insurance against future intrusion in the Beta/Lambda and Main aquifers under lower basin conditions and would thus protect production wells owned by Mesa Water District in addition to replenishing the basin. Based on the stability of chloride concentrations in the Newport Mesa, there is no need to advance this project at this time.

In 2014, OCWD constructed four new multi-depth monitoring wells (M51, M52, M53, MRSH) farther east on the Newport Mesa, as shown on Figure 12-10. These four well sites are now a part of OCWD's coastal monitoring program for both groundwater levels and seawater intrusion sampling. The East Newport Mesa area is at the southern margin of the groundwater basin, which geologic formations (including the aquifers with them) have been faulted, uplifted, and eroded. It has been a data gap in which the aquifer stratigraphy and groundwater flow patterns were not well understood. To further characterize this complex portion of the basin, OCWD plans to install a multi-depth cluster of monitoring wells east of John Wayne Airport in early 2022.

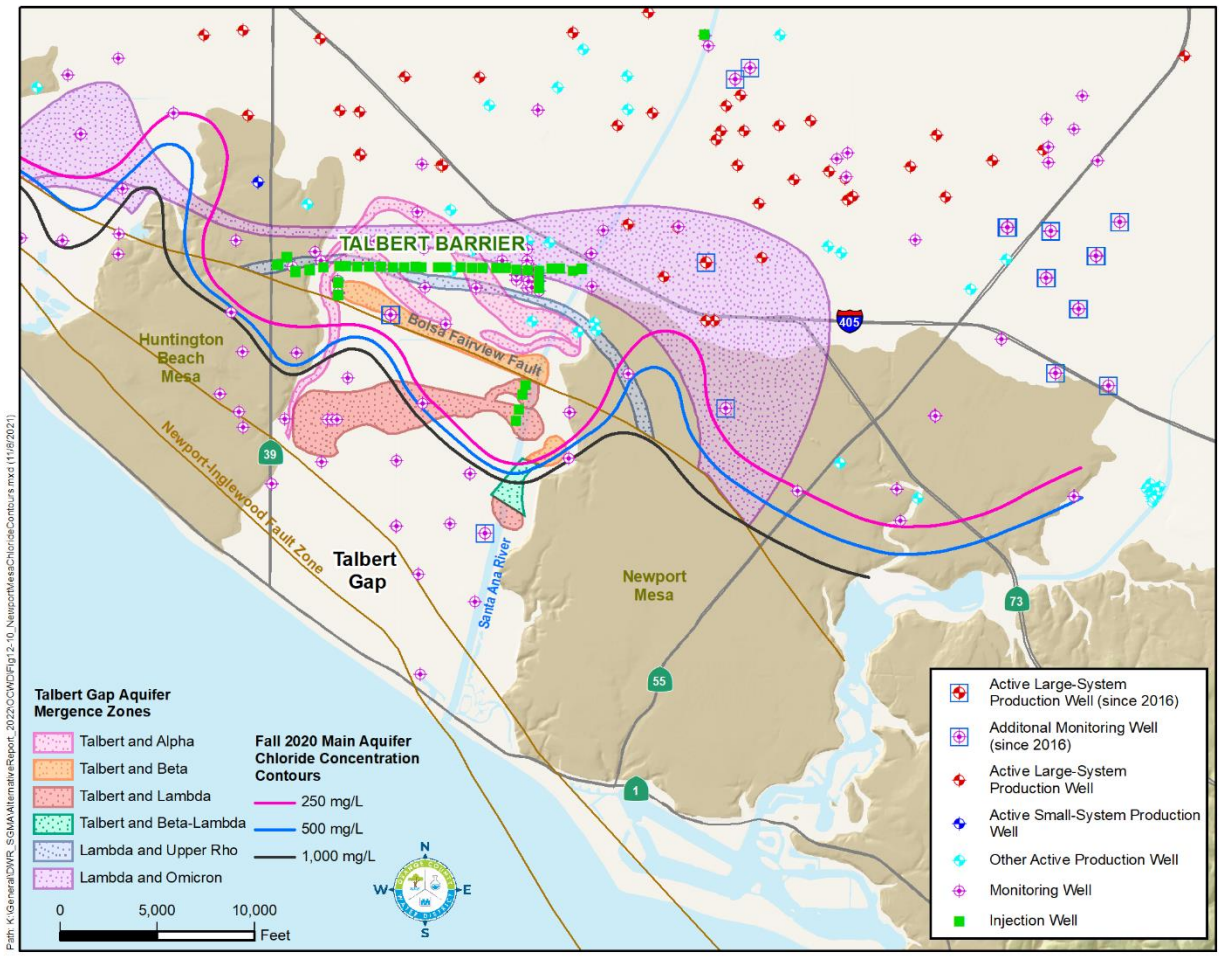


Figure 12-10: Newport Mesa Chloride Contours, 2020

12.6 IMPLEMENTATION OF SEAWATER INTRUSION PREVENTION POLICY

Implementation of OCWD's seawater intrusion prevention policy is summarized below. These programs enable OCWD to continue sustainably managing the groundwater basin to prevent significant and unreasonable seawater intrusion.

12.6.1 Effective Barrier Operations

The effective operation of the Talbert and Alamitos barriers is critical to the protection of the basin aquifers from seawater intrusion. This program includes, but is not limited to, the following activities:

1. Injection of sufficient water quantities combined with other basin management programs, such that protective groundwater elevations are established and maintained, where applicable, based on local hydrogeologic characteristics.
2. Regular maintenance of injection facilities to provide sufficient injection quantities. Such maintenance includes backwashing, redevelopment, and replacement (if necessary) of injection wells and operational fitness checks/repairs of flow meters, pressure reducing valves, and telemetry equipment.
3. Regular communications and coordination between operations, hydrogeology, and engineering staff on barrier operations and activities.
4. Annual reporting on barrier facilities status and operations. The reports include recommendations, as necessary, for barrier improvements to achieve policy objectives.

12.6.2 Barrier Performance Monitoring and Evaluation

Monitoring and evaluating barrier performance provides the basis on which to determine if the barriers are preventing seawater intrusion from occurring. This program consists of the following activities:

1. Semi-annual sampling and testing of designated monitoring wells in the vicinity of the seawater barriers. Testing includes parameters such as TDS, chloride, and electrical conductivity as indicators of seawater intrusion. Wells have been designated to provide adequate spatial coverage, particularly near likely seawater pathways and near the interface between seawater and freshwater.
2. Quarterly water level measurements at designated monitoring wells in the vicinity of the seawater barriers. More frequent measurements will be collected as needed at key locations.
3. Installation of monitoring wells in areas where it is determined that data gaps exist near the seawater barriers that may allow seawater intrusion to go undetected or would otherwise significantly impede the ability to assess barrier performance.
4. Annual evaluation and reporting of barrier performance based on surrounding groundwater level and quality data.

12.6.3 Susceptible Coastal Area Monitoring and Evaluation

This program addresses the assessment and ongoing monitoring of the coastal gaps and other areas that are not currently protected from seawater intrusion by the Talbert and Alamitos barriers. These areas include the Bolsa and Sunset gaps and adjacent mesas. This program includes the following activities:

1. Semi-annual sampling and testing of designated monitoring wells. Testing includes parameters such as TDS, chloride, and electrical conductivity as indicators of seawater

intrusion. Wells have been designated to provide adequate spatial coverage, particularly near likely seawater pathways.

2. Quarterly water level measurements at designated monitoring wells. More frequent measurements will be collected as needed at key locations.
3. Installation of monitoring wells in areas where it is determined that data gaps exist that may allow seawater intrusion to go undetected or would significantly impede the ability to understand the location of and trends in seawater intrusion.
4. Annual evaluation and reporting of the coastal area monitoring program, including recommendations, as needed, for further investigation or other potential actions to address seawater intrusion.

12.6.4 Coastal Groundwater Management

In addition to operating the seawater barriers, OCWD has implemented other basin management activities to lessen the potential for seawater intrusion. These activities have included the Coastal Pumping Transfer Program, Coastal In-Lieu Program, and maintaining basin storage levels within the operating range. Each of these activities shall continue to be considered and implemented as deemed necessary along with other potential actions to complement and enhance the OCWD seawater prevention program.

12.7 DEFINITION OF SIGNIFICANT AND UNREASONABLE SEAWATER INTRUSION

As explained above, OCWD conducts comprehensive programs to protect the groundwater basin from the undesirable effect of significant and unreasonable seawater intrusion. Seawater intrusion in the OCWD Management Area would be considered significant and unreasonable if a significant and continuing reduction in usable storage volume in the groundwater basin occurs as a result of increased salinity due to seawater intrusion.

12.8 DETERMINATION OF MINIMUM THRESHOLDS

The minimum threshold for seawater intrusion that defines an undesirable result is (1) the shutdown of active large system production wells due to seawater-derived salinity, and (2) continuing loss of a significant amount of basin storage due to seawater-derived salinity.

SECTION 13 SUSTAINABLE MANAGEMENT RELATED TO LAND SUBSIDENCE

Management of the groundwater basin by maintaining storage levels within OCWD's established operating range has prevented significant and unreasonable land subsidence that substantially interferes with surface uses. Within the OCWD Management Area there is no evidence of continuing irreversible land subsidence, nor is there evidence that land subsidence has interfered with surface uses. Therefore, the undesirable result of "significant and unreasonable land subsidence that substantially interferes with surface uses" is not present and is not anticipated to occur in the OCWD Management Area in the future.

Subsidence due to changes in groundwater conditions in the Orange County groundwater basin is variable and does not show a pattern of irreversible permanent lowering of the ground surface. Some subsidence may have occurred before OCWD began refilling the groundwater basin in the late 1950s after storage conditions reached a historic low (Morton, et al., 1976); however, the magnitude and scope of this subsidence is uncertain, and it is not clear if this subsidence was permanent. Since this time OCWD has operated the groundwater basin within the established operating range.

More recent data show a consistent pattern of the ground surface rising and falling in tandem with groundwater levels and overall changes in basin groundwater storage. This is referred to as elastic subsidence. Interferometric Synthetic Aperture Radar (InSAR) data collected from satellites and data collected by the Orange County Surveyor (Surveyor) show that ground surface elevations in Orange County both rise and fall in response to groundwater recharge and withdrawals. InSAR data during the period 1993-1999 shows temporary seasonal land surface changes of up to 4.3 inches (total seasonal amplitude from high to low) in the Los Angeles-Orange County area and a net decline of approximately 0.5 inch/year near Santa Ana over the period 1993 to 1999, which happened to coincide with a period of a net decrease in groundwater storage in the basin (Bawden, 2001; 2003).

The 2017 Alternative presented GPS data collected by the Orange County Surveyor's office. These data showed that ground surface elevation changes at selected sites from 2002 to 2014 correlate well with changes in groundwater storage.

Recently, as part of DWR's SGMA technical assistance to provide important SGMA-relevant data to Groundwater Sustainability Agency's (GSAs) for Groundwater Sustainability Plan (GSP) development and implementation, DWR contracted with TRE ALTAMIRA, Inc. to provide vertical displacement estimates derived from InSAR data that are collected by the European Space Agency (ESA) Sentinel-1A satellite.

The DWR-commissioned dataset represents measurements of vertical ground surface displacement in more than 200 of the high-use and populated groundwater basins across the California between January 2015 and October 2020. InSAR data coverage began in late 2014 for parts of California, and coverage for the entire study area began on June 13, 2015. Included

in this dataset are point data that represent average vertical displacement values for 100 square meter areas, as well as GIS rasters that were interpolated from the point data; rasters for total vertical displacement relative to June 13, 2015, and rasters for annual vertical displacement rates with earlier coverage for some areas, both in monthly time steps. The level of accuracy is approximately 0.05 feet.

To show subsidence in Basin 8-1, OCWD used the used a layer showing the total land subsidence since the start of the InSAR data on 6/13/2015 and ending on 7/1/2020, which corresponds to the end of the OCWD water year. The GIS layer used was: https://gis.water.ca.gov/arcgisimg/rest/services/SAR/Vertical_Displacement_TRE_ALTAMIRA_v2020_Total_Since_20150613_20200701/ImageServer

Figure 13-1 shows the total land displacement in Basin 8-1 from June 2015 to July 2020. During this time period as shown on Figure 1-3, basin storage increased from 381,000 acre-feet below full conditions to 200,000 acre-feet below full conditions; that is, basin storage increased by 181,000 acre-feet. In addition to increasing groundwater levels, this rise in groundwater storage manifests itself as a rise in ground surface elevation over much of the basin, particularly in the center of the basin where there was as much as 0.15 feet of rise.

A localized area of downward (negative) displacement was observed in Tustin centered around production well T-ED. This is a relatively new well that came on-line in October 2016. Due to pumping of this well, water levels in the Principal Aquifer in the vicinity of the well declined by approximately 60 feet from June 2015 to July 2020. The small decline in ground surface in the vicinity of this well is not surprising given that it is a new well and the relatively fine-grained nature of the aquifer sediments in the area. As with other locations in the basin, we expect the impact of this well to stabilize with future displacements expected to be small.

Finally, there is little potential for future widespread permanent, irreversible subsidence given OCWD's commitment to sustainable groundwater management and policy of maintaining groundwater storage levels within a specified operating range. Nevertheless, OCWD will continue to review InSAR data and other data sources to evaluate ground surface fluctuations within OCWD's service area. If irreversible subsidence was found to occur in a localized area in relation to groundwater pumping patterns or groundwater storage conditions, OCWD would coordinate with local officials to investigate and develop an approach to address the subsidence. This could include OCWD managing the basin at higher groundwater storage levels.

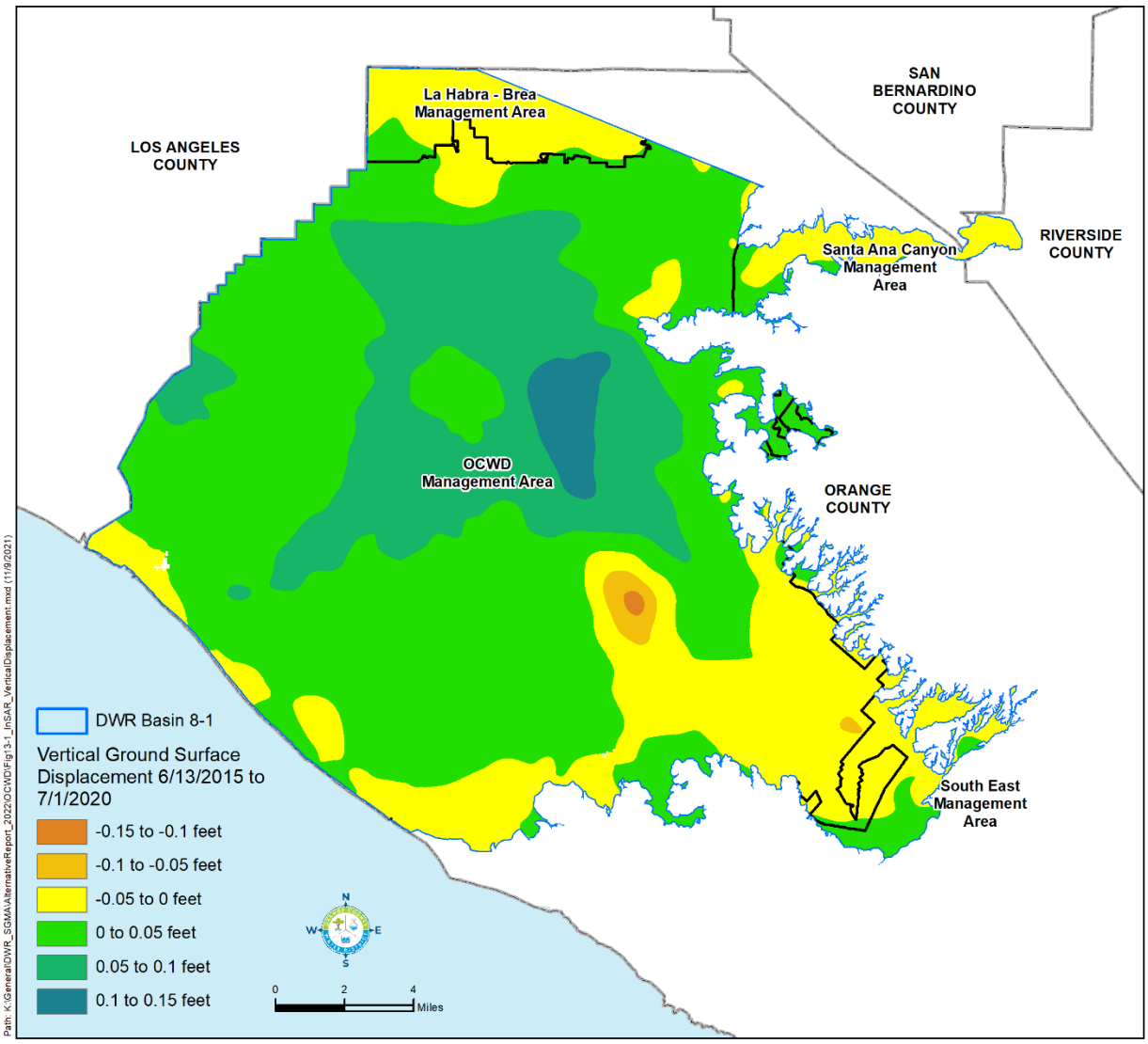


Figure 13-1: Total Vertical Ground Surface Displacement from June 2015 to July 2020

13.1 DEFINITION OF SIGNIFICANT AND UNREASONABLE LAND SUBSIDENCE THAT SUBSTANTIALLY INTERFERES WITH SURFACE USES

As stated above, data indicates that there is no inelastic land subsidence within the OCWD Management Area due to changes in groundwater elevation or groundwater storage levels. Land subsidence would be considered to be significant and unreasonable if ground surface elevation changes are determined to be inelastic over a significant period of time, these elevation changes are attributed to declines in groundwater storage, and these changes are likely to significantly interfere with surface uses.

13.2 DETERMINATION OF MINIMUM THRESHOLDS

The minimum threshold for land subsidence that defines an undesirable result is a sustained lowering of ground surface elevation that is attributable to lowering of groundwater storage in the basin and is likely to significantly interfere with surface uses.

SECTION 14 SUSTAINABLE MANAGEMENT RELATED TO GROUNDWATER DEPLETIONS IMPACTING SURFACE WATER

There are no surface water bodies within the OCWD Management Area that are interconnected and dependent on groundwater basin conditions. Therefore, the undesirable result of "depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water due to groundwater conditions occurring throughout the basin" is not present and in the future is not anticipated to occur in the OCWD Management Area due to OCWD's management programs.

The two main surface water sources in Orange County are the Santa Ana River and Santiago Creek. The Santa Ana River in Orange County flows through a highly urbanized environment. Flood protection infrastructure has constrained the flow of the river with engineered levees along most of its course. Santiago Creek, a major tributary of the Santa Ana River, is the primary drainage for the northwest portion of the Santa Ana Mountains. Under natural conditions, the creek is ephemeral, with dry conditions predominant during most of the year. Additional information on these sources can be found in the 2017 Alternative.

SECTION 15 PROTOCOLS FOR MODIFYING MONITORING PROGRAMS

Protocols that trigger a change in a monitoring program include:

- a recommendation by the GWRS Independent Advisory Panel for resampling or increased monitoring of a particular constituent of concern;
- a recommendation by the Independent Advisory Panel that reviews OCWD use of Santa Ana River water for groundwater recharge and related water quality;
- a change in regulation or anticipation of a change in regulation;
- a constituent in a sample approaches or exceeds a regulatory water quality limit or Maximum Contaminant Level, notification level, or first-time detection of a constituent;
- the computer program built by OCWD to validate water quality data prior to transfer to the WRMS data base flags a variation in historical data that may indicate a statistically significant change in water quality;
- analysis of water quality trends conducted by water quality, hydrogeology, or recycled water production staff indicate a need to change monitoring; or
- OCWD initiates a special study, such as quantifying the removal of contaminants using treatment wetlands or testing the infiltration rate of a proposed new recharge basins.

SECTION 16 EVALUATION OF POTENTIAL PROJECTS

As described in the 2017 Alternative, OCWD regularly evaluates potential projects, conducts studies and prepares reports and plans (e.g., Long Term Facilities Plan) to continue to sustainably manage the groundwater basin and advance the mission of OCWD. Described below are a few of the key projects and activities OCWD has undertaken over the last five years.

Key activities/projects that were completed in the last five years include:

- Four deep mid-basin injection wells were constructed in Santa Ana (MBI wells). The wells are injecting approximately 8-10 mgd of GWRS water into the center of the basin where groundwater levels tend to be the lowest.
- Alamitos Barrier Improvement Project: 17 new injection wells were constructed at the Alamitos Seawater Barrier to reduce the spacing between wells to improve barrier performance. The additional 1.4-mgd of injection capacity has raised water levels near or at protective elevations.
- Shallow geophysical exploration of the Lower Off-River Channel to characterize the shallow subsurface sediments. This data will be useful in assessing whether or not it is feasible to remove areas of fine-grained sediments to increase facility recharge rates.
- Continued testing of the Riverbed Filtration System (RFS), which is a shallow underdrain system designed to filter SAR water prior to delivery to a recharge basin. Testing conducted thus far shows it has the potential to double the capacity of a receiving basin. Work is also ongoing on how to potentially expand the RFS to the main SAR channel.
- Geophysical evaluation of deeper sediments in the lower SAR to assess the potential of installing a horizonal collector well (e.g., Ranney well) that would be used for recharge of GWRS water. Modeling was also conducted to assess the potential recharge capacity of a “Ranney” type well.

Key activities/projects that are underway include:

- Final expansion of the GWRS to 130 mgd capacity. This is scheduled to be complete in 2023. This project will provide OCWD 30 mgd of new water supply.
- Construction of water treatment facilities at production wells currently impacted by PFAS is ongoing. This is scheduled to be complete by 2024.
- Continued assessment of potential seawater intrusion in the Sunset Gap, including installation of additional monitoring wells, modeling, and feasibility studies.
- Completion of the Integrated Santa Ana River Watershed Model (ISARM), which is the integration of several surface and groundwater models in the upper SAR watershed above Prado Dam. This model will assist OCWD and other upper SAR

watershed stakeholders in determining potential future SAR flows arriving at Prado Dam and the potential impact of future projects on these flows.

- A study to examine the use of Forecast Informed Reservoir Operations (FIRO) at Prado Dam. A Preliminary Viability Assessment (PVA) was completed in July 2021, which showed that FIRO is viable at Prado Dam and able to provide an average of up to 7,000 acre-feet of water depending on how much water can be temporarily impounded (Ralph et al., 2021). Work on the Final Viability Assessment (FVA) is underway and scheduled for completion in mid-2023. In parallel to the FVA is work with the US Army Corps of Engineers to test FIRO at Prado Dam (through a minor deviation from the approved Water Control Plan) for a five-year period, starting in fall 2023.

Future anticipated activities and projects:

- Additional treatment systems may need to be constructed on production wells based on water quality results or changes in regulations.
- Projects may need to be constructed to improve water quality during recharge, such as sorbents to remove contaminants during recharge.
- Projects may needed to facilitate implementation of FIRO at Prado Dam or at Santiago Basins.
- Additional groundwater monitoring wells may need to be constructed to fill data gaps, including the Sunset Gap, and other areas in the basin.
- Design and construction of a potential seawater barrier at the Sunset Gap.
- Implementation of a groundwater contamination remedy in the South Basin area.

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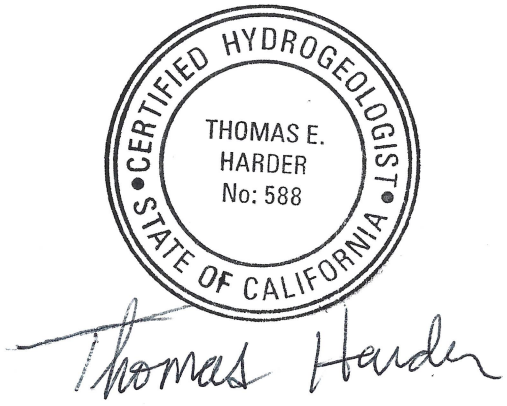
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Irvine Ranch
WATER DISTRICT

Five Year Update to:

Basin 8-1 Alternative

South East Management Area



Prepared for the Department of Water Resources, pursuant to Water Code §10733.6(b)(3)

January 1, 2022

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SECTION 1. EXECUTIVE SUMMARY

The South East Management Area is located in the south east portion of the Coastal Plain of Orange County Groundwater Basin (Basin 8-1). The South East Management Area consists of several small, fringe areas south east of the Orange County Water District (OCWD) Management Area. These areas fall within the boundaries of the Irvine Ranch Water District (IRWD), El Toro Water District (ETWD) and the City of Orange service areas. Figure 1-1 shows the IRWD, ETWD and City of Orange areas within the boundaries of the South East Management Area along with the OCWD Management Area.

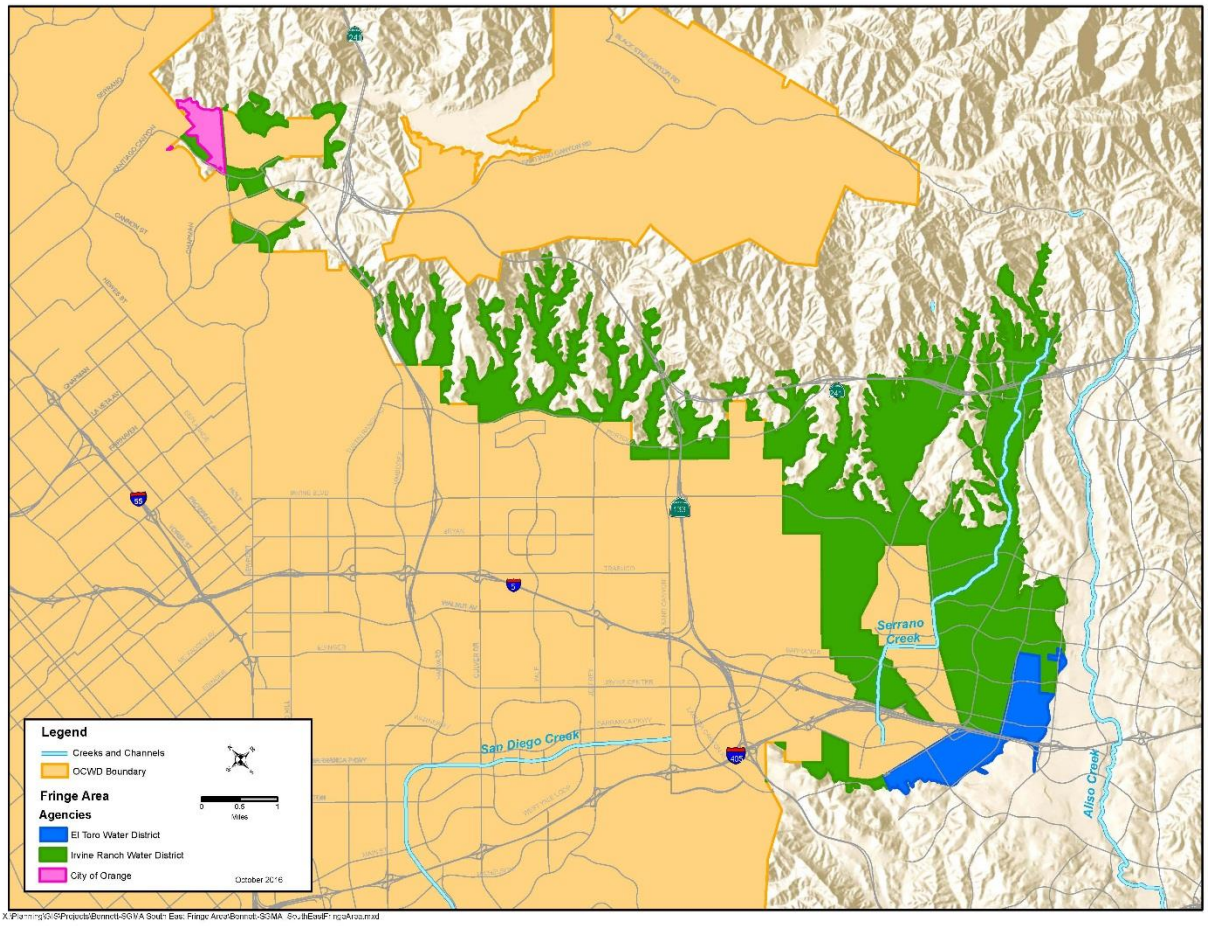


Figure 1-1: Agencies in the South East Management Area

Table 1-1 shows the area (in acres) associated with each agency within the South East Management Area. The South East Management Area covers approximately 4.4 percent of Basin 8-1, which has a total area of 223,600 acres.

Table 1-1: Agencies in South East Management Area and Area Covered

Agency	Area (acres)
Irvine Ranch Water District	8,870
El Toro Water District	762
City of Orange	134
Total Area	9,766

Update to 2017 Alternative

This document provides any updates to the 2017 Alternative for the South East Management Area plan, submitted by OCWD on December 2, 2016. The 2017 Alternative, including the South East Management Area was reviewed by the State of California Department of Water Resources (DWR) in July 2019. Based on DWR's assessment, the 2017 Alternative was found to meet the requirements under SGMA and was approved.

Approved alternatives are required to submit annual reports to DWR on April 1 of each year. Annual reports for Basin 8-1 were submitted to DWR as follows:

- Water Year 2016-17, Submitted on March 29, 2018
- Water Year 2017-18, Submitted on March 29, 2019
- Water Year 2018-19, Submitted on March 30, 2020
- Water Year 2019-20, Submitted on March 30, 2021

According to Water Code §10733.8, "At least every five years after initial submission of a plan pursuant to Section 10733.4, the department shall review any available groundwater sustainability plan or alternative submitted in accordance with Section 10733.6, and the implementation of the corresponding groundwater sustainability program for consistency with this part, including achieving the sustainability goal. The department shall issue an assessment for each basin for which a plan or alternative has been submitted in accordance with this chapter, with an emphasis on assessing progress in achieving the sustainability goal within the basin. The assessment may include recommended corrective actions to address any deficiencies identified by the department."

This document represents the first five-year update, which is due January 1, 2022.

Important Note:

For purposes of this report, the Basin 8-1 Alternative submitted on December 22, 2016, will be referred to as the 2017 Alternative. The first five-year update will be referred to as the 2022 Update for ease of reference. The 2017 Alternative was a comprehensive document showing that Basin 8-1 had been managed sustainably for more than 10 years. For the 2022 Update, the focus is on documenting that the basin has been continued to be sustainably managed during the five years since the 2017 Alternative was submitted and to present any new information from the last five years. As such, the 2017 Alternative is considered a key reference document with background information that is not duplicated in the 2022 Update.

The water resources in the South East Management Area include surface water from Serrano Creek and numerous smaller tributaries, groundwater and imported water. Serrano Creek provides surface waters that flow into and/or out of the IRWD's Lake Forest portion of the South East Management Area (Boyle, 2002). Historically, groundwater production has been a minor source of water supply for the South East Management Area and there has been no groundwater production since February 2018. Imported water received through the Metropolitan Water District of Southern California is the primary water supply source to meet the water demands within the South East Management Area.

Historically, IRWD has produced groundwater from six wells located in the city of Lake Forest. Groundwater production within the South East Management Area has historically represented less than 2 percent of the potable water supply for IRWD's Lake Forest area and less than 0.2 percent of IRWD's overall potable water supply. Due to the relatively low yield of the Aquifer in the South East Management Area, groundwater production is expected to remain a relatively insignificant water supply source for the area.

None of IRWD's six wells have been active since February 2018. At the time of the preparation of the Basin-8 Alternative, IRWD was pumping groundwater from only one active well (Well LF-2) in the South East Management Area. In early 2018, due to poor water quality of the well water, IRWD ceased well pumping and the well has been inactive since. IRWD has plans to rehabilitate Well LF-2 and resume groundwater production in the future. In addition, in February 2020, well LF-5 was destroyed due to low water production and high salinity and to also make way for a new pump station on the site where the well was located. While no plans are currently in place, placement for a potential new well was included with the pump station siting.

The five remaining wells within IRWD's Lake Forest portion of the Management Area are currently monitored for groundwater levels on a monthly basis. There are no other programs in the South East Management Area responsible for managing or monitoring groundwater resources at this time. As of the beginning of 2018, the monthly water quality monitoring of the operational well was halted temporarily due to lack of production. Sampling and water quality monitoring will resume at this well when the planned well rehabilitation project is completed. In addition, two wells are to be designated as

groundwater level monitoring wells (LF-1 and LF-4) and added to the Basin 8-1 SGMA monitoring program. The groundwater levels at these wells will be monitored on a monthly basis with the results transmitted to DWR as part of the Basin 8-1 monitoring program.

The approach to sustainably managing the South East Management Area is to continue to monitor groundwater levels and production to ensure that groundwater pumping does not lead to significant and unreasonable conditions such as (1) chronic lowering of groundwater levels, (2) chronic reduction in storage, (3) groundwater quality degradation, (4) inelastic land subsidence or (5) unreasonable adverse effect on surface water resources. Descriptions of these undesirable results can be found in Sections 8 through 14.

SECTION 2. AGENCY INFORMATION

2.1 HISTORY OF AGENCIES IN SOUTH EAST BASIN MANAGEMENT AREA

No update since the 2017 Alternative – See 2017 Alternative.

2.2 GOVERNANCE AND MANAGEMENT STRUCTURE

No update since the 2017 Alternative – See 2017 Alternative.

2.3 LEGAL AUTHORITY

No update since the 2017 Alternative – See 2017 Alternative.

2.4 BUDGET

The budget required to monitor and report groundwater information for the South East Management Area has not been defined. As part of its standard operations, IRWD regularly collects and maintains information on its groundwater production, groundwater levels and water quality testing. Funding for well monitoring, operation, and rehabilitation where applicable is defined in the IRWD's operating or capital budgets. Since the preparation of the 2017 Alternative, there continues to be no groundwater production within ETWD or City of Orange areas of the South East Management Area, therefore these agencies are not be responsible for monitoring and reporting groundwater information.

For this 2022 update, it should be noted that two monitoring wells (LF-1 and LF-4) will be designated to report on monthly water levels which will be transmitted to DWR as part of the Basin 8-1 SGMA monitoring program.

SECTION 3. MANAGEMENT AREA DESCRIPTION

3.1 SOUTH EAST SERVICE AREA

No update since the 2017 Alternative – See 2017 Alternative.

3.1.1 Jurisdictional Boundaries

No update since the 2017 Alternative – See 2017 Alternative.

3.1.2 Land Use Designations

No update since the 2017 Alternative – See 2017 Alternative.

3.2 GROUNDWATER CONDITIONS

Groundwater level trends in the South East Management Area are relatively stable, or rising, consistent with the limited recent groundwater production in the area. Of the six groundwater production wells IRWD has in the area, only one is active and that well is currently not pumping due to groundwater quality issues and required maintenance (see Figure 3-1). As there is no current groundwater pumping and only limited planned future groundwater development, the stable or rising groundwater level trends are expected to continue.

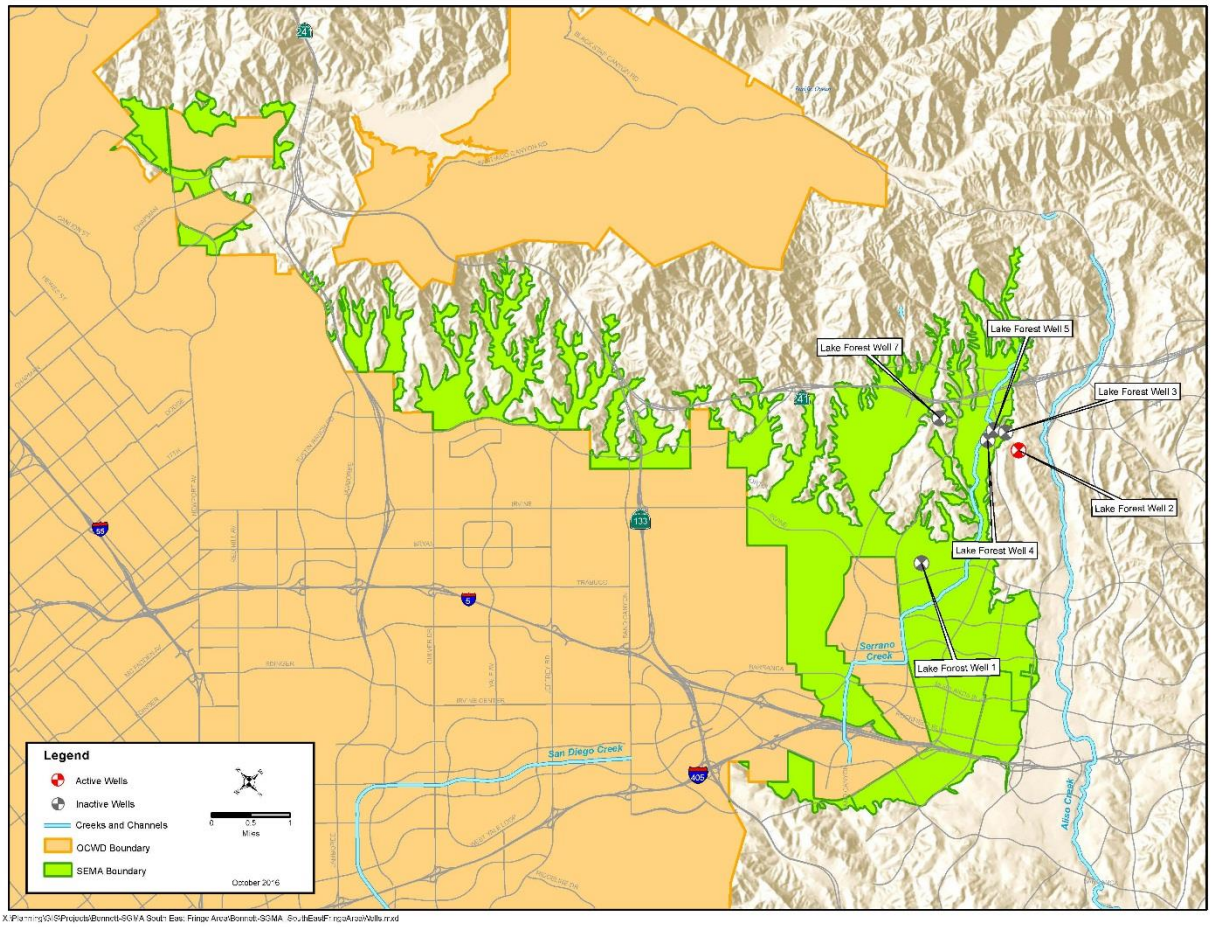


Figure 3-1: Groundwater Production Wells (Active and Inactive)

A study completed in 2002 assessed the potential of the development of future wells in the IRWD Lake Forest area, which is located in the eastern portion of the South East Management Area. It was noted that based on available well driller's logs there was considerable clay in the alluvium and that the specific capacity of these wells is very low. Based on the very low specific capacity results, it appears that the alluvium is characterized by low permeability. This seems to be reflected in the low production capacity of the wells (Boyle 2002).

Since the preparation of the 2017 Alternative, only well LF-2 was operational up through January 2018. Due to water quality issues related to iron and manganese, well LF-2 was taken offline in early 2018 and IRWD plans to rehabilitate the well and construct treatment for the removal of iron and manganese. The rehabilitation project is planned to be performed in late 2022 and depending on the performance and water quality testing results from the well, IRWD may construct a treatment facility to remove iron and manganese. While well LF-2 has not been active in the last few years, it is shown as

"active" on Figure 3-1 because IRWD plans to put well LF-2 back into production once it is rehabilitated and treatment facilities are constructed.

In 2020, well LF-5 was destroyed to make way for a new planned pump station on the site. Well LF-5 was previously used to supplement water in IRWD's recycled water system. However, due to continual poor water production and high salinity, IRWD ceased the operation of well LF-5, and in February 2020, IRWD destroyed the well. At the site, IRWD plans to construct a new recycled water pump station. Although construction and operation of a new well is not a currently planned project, space is being allocated on the existing site adjacent to the pump station to accommodate a potential new well in the future.

3.2.1 Groundwater Levels

The range of observed groundwater levels in the South East Management Area from 2016 to 2021 are summarized in Figure 3-2. It is noted that no groundwater level data exists in the ETWD and City of Orange portions of the South East Management Area. Historic and estimated groundwater levels from 1991 to 2021 for IRWD's Lake Forest wells are shown in Figure 3-2. Historic groundwater level data is available from 1991 through 2001, after which there is no data available until 2015. More recent groundwater level data is available from 2015 to present. Monthly groundwater levels from IRWD's Lake Forest wells for 2020 to 2021 are shown in Figure 3-3.

In all IRWD wells, groundwater levels are the same or higher in 2021 than they were in 2017. With the exception of LF-1, groundwater levels show a rising trend, indicating that recharge to the area exceeds the discharge. Well LF-1 shows a stable groundwater level trend.

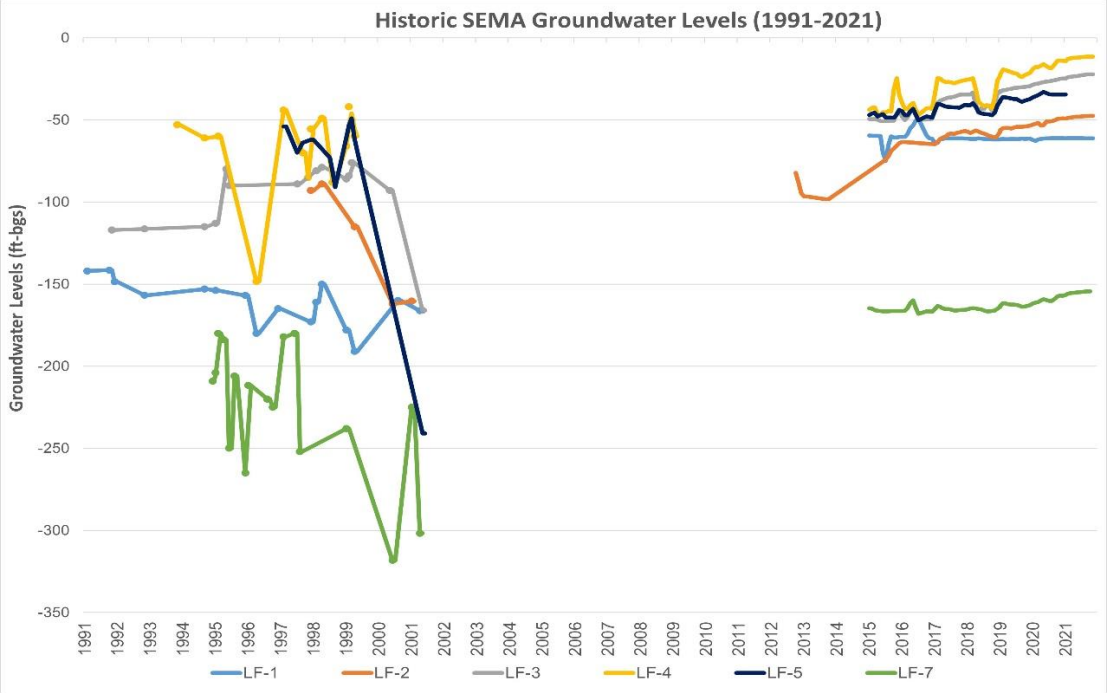


Figure 3-2:Historic Groundwater Levels in South East Management Area, 1991-2021

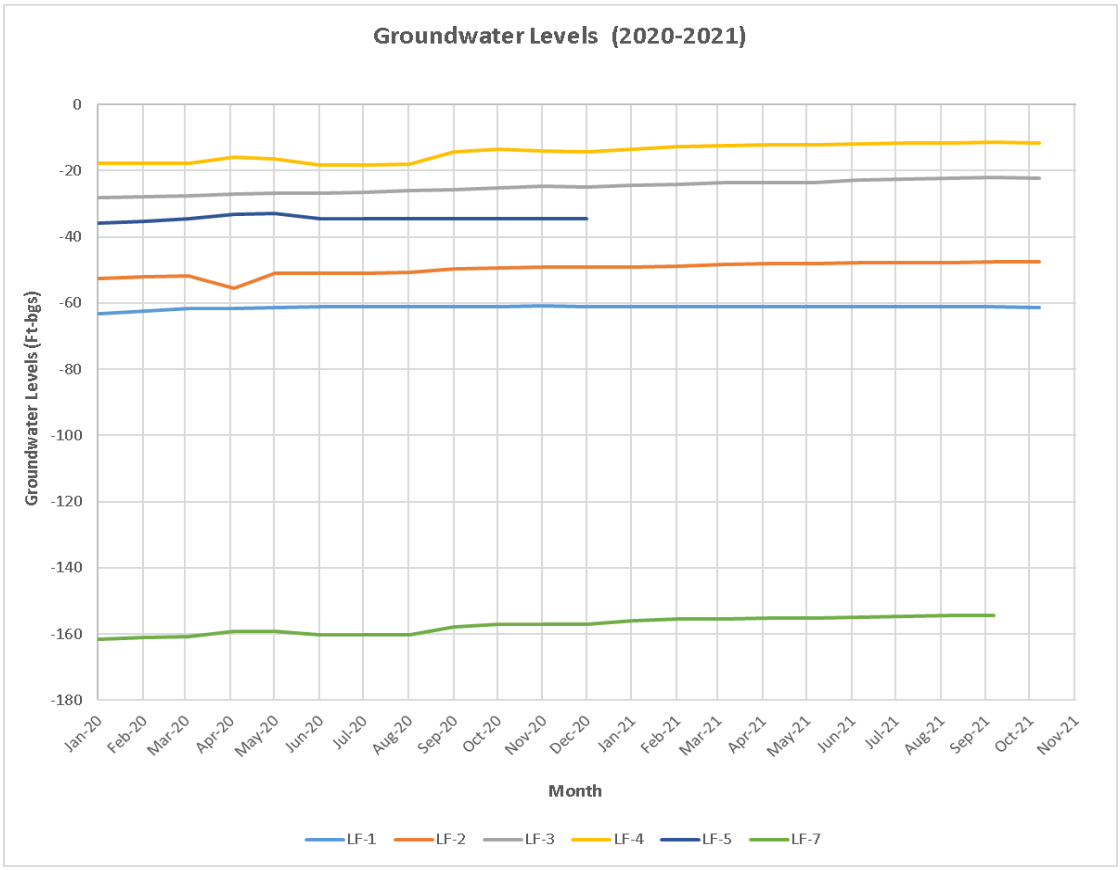


Figure 3-3: Current Groundwater Levels in South East Management Area, 2020-21

3.2.2 Regional Pumping Patterns

Table 3-1 summarizes information on all of the wells that are known to exist within the South East Management Area by agency. As presented, well design flows range from 125 to 350 gallons per minute (gpm) and well depths range from 675 to 1,000 feet below ground surface (ft-bgs).

Table 3-1: Wells and Flow Data

Agency	Well	State Well No.	System	Status	Design Flow (gpm)	Drilled	Depth (ft-bgs)	Perforated Intervals (ft)
IRWD	LF-1	06S/08W-15A00	Nonpotable	Inactive	300	1989	800	200-790
IRWD	LF-2	06S/08W-12Q02	Potable	Inactive	300	1957, redrilled 2010	675	200-675
IRWD	LF-3	06S/08W-12J01	Potable	Inactive	350	1950	800	270-395; 400-785
IRWD	LF-4	06S/08W-12L02	Nonpotable	Inactive	200	1993	810	350-470 510-790
IRWD	LF-5	06S/08W-12A01	Nonpotable	N/A	140	1997	800	350-780
IRWD	LF-7	06S/08W-12E00	Potable	Inactive	125	1994	1000	430-980
ETWD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
City of Orange	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

For the 2022 Update, Table 3-2 summarizes average annual pumping from 2016-2021 within the South East Management Area by agency. As shown, ETWD and City of Orange did not pump any groundwater from the South East Management Area during this time period. In IRWD's portion of the South East Management Area none of the existing wells are currently active. Over the last 5 years, well LF-2 annual pumping ranged from 0 acre-feet to 389 acre-feet and averaged approximately 90 acre-feet.

Table 3-2: Annual Pumping Average 2016-2021

Agency	Average Annual Production (acre-feet/yr.)
IRWD	90
ETWD	0
City of Orange	0
Total	90

In the last five years, pumping from LF-2 occurred in 2016 and 2018, after which LF-2 was taken offline. Figure 3-4 shows monthly pumping patterns for LF-2 from 2016 to 2021. Figure 3-5 shows annual pumping by water year (October-September) for 2017 through 2021.

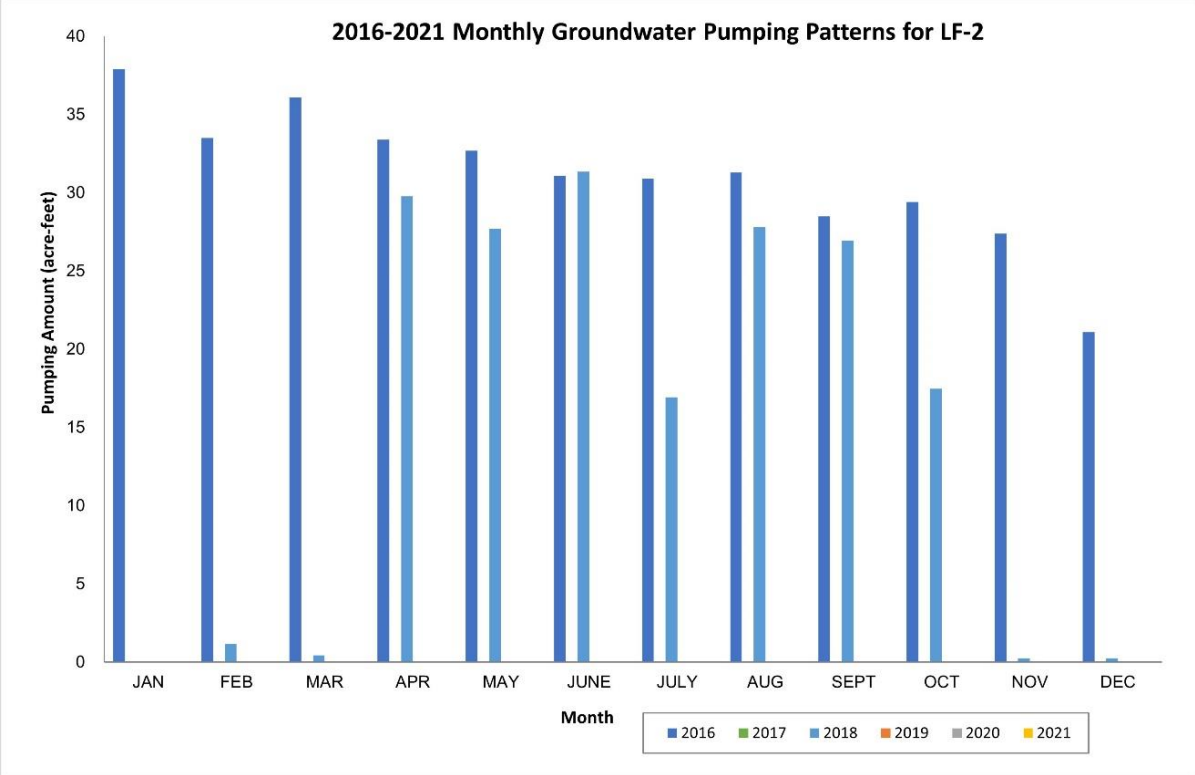


Figure 3-4: Monthly Groundwater Pumping Pattern in Well LF-2, 2016-2021

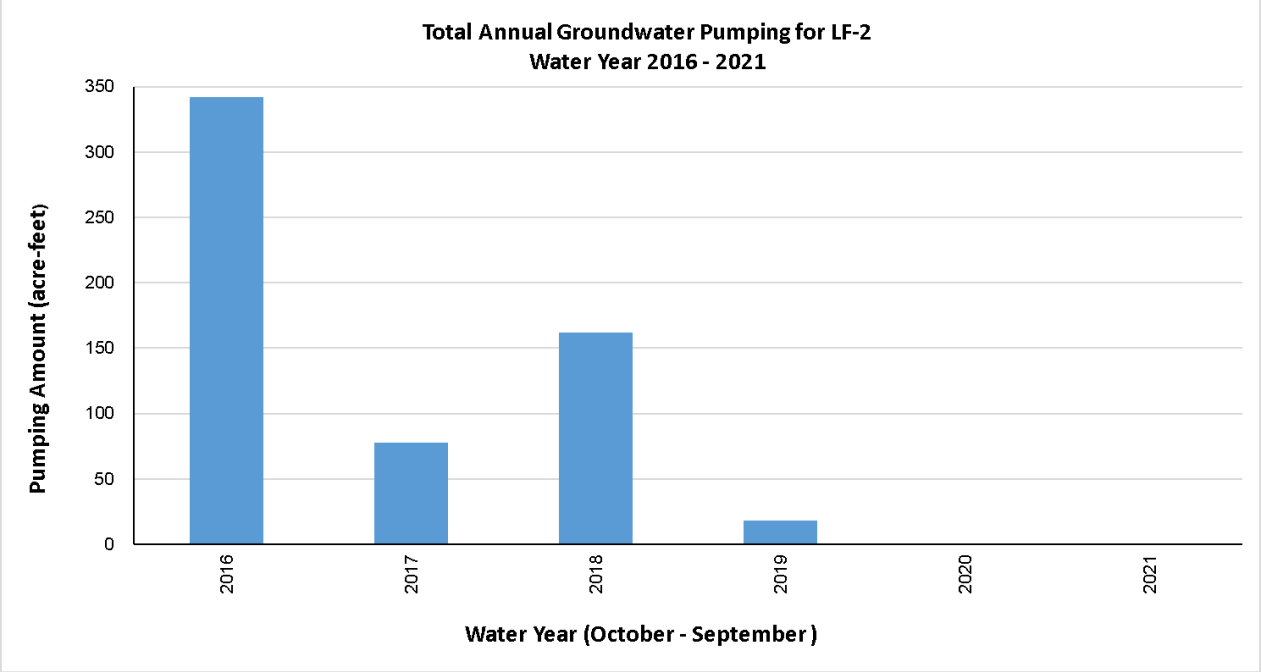


Figure 3-5: Total Annual Pumping for Well LF-2, (Water Year 2016-2021)[1]

1 All data shown for 2017 on this chart occurs between October and December 2016 of the water year.

3.2.3 Groundwater Storage Data

No update since the 2017 Alternative – See 2017 Alternative.

3.2.4 Groundwater Quality Conditions

Historically, only three of the six IRWD Lake Forest wells were permitted for potable use as the other three Lake Forest wells have had elevated levels of iron(Pb), manganese (Mn), electrical conductivity (EC) and total dissolved solids (TDS). Recent groundwater quality data for the South East Management Area which includes arsenic (As) is presented in Table 3-3. As presented, no other water quality data exists for the ETWD and City of Orange areas within the South East Management Area.

Table 3-3: Ground Water Quality in Selected Wells

Agency	Well Name	Well Use	Date Range	Avg TDS (#)[1] (mg/L)	Avg As (ug/L)	Avg Pb (ug/L)	Avg Mn (mg/L)
IRWD	LF-2	Production	2016-2018*	602	0.42	0.51	22.3
IRWD	LF-1	Production	1961-2000	>500 (21)			
IRWD	LF-4	Production	1993-2000	>500 (12)			
IRWD	LF-5	Production	1997-2001	>500 (5)			
IRWD	LF-3	Production	1991-1998	>500 (12)			
IRWD	LF-7	Production	1994-2001	<500 (12)			
City of Orange	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETWD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1 # = Number of Samples

* LF-2 Turned Offline in February 2018

3.2.5 Land Subsidence

Non-recoverable land subsidence has not been observed since 2015 in the South East Management Area (see Figure 3-6). The area is not susceptible to land subsidence given the following:

1. Minimal groundwater development exists in the South East Management Area.
2. Groundwater levels are stable or rising and have been for at least the last 10 years.
3. Low risk of future groundwater level declines due to limited planned groundwater production.

As shown in Figure 3-6, the South East Management Area experienced between -0.05 and 0.05 feet of vertical displacement across years 2015 to 2020 with an accuracy of approximately 0.05 feet in data readings.

Recently, as part of DWR's SGMA technical assistance to provide important SGMA-relevant data to Groundwater Sustainability Agency's (GSAs) for Groundwater Sustainability Plan (GSP) development and implementation, DWR contracted with TRE ALTAMIRA, Inc. to provide vertical displacement estimates are derived from InSAR data that are collected by the European Space Agency (ESA) Sentinel-1A satellite.

This dataset represents measurements of vertical ground surface displacement in more than 200 of the high-use and populated groundwater basins across the State of California between January of 2015 and October of 2020. InSAR data coverage began in late 2014 for parts of California, and coverage for the entire study area began in June 13, 2015. Included in this dataset are point data that represent average vertical displacement values for 100 meter by 100 meter areas, as well as GIS rasters that were interpolated from the point data; rasters for total vertical displacement relative to June 13, 2015, and rasters for annual vertical displacement rates with earlier coverage for some areas, both in monthly time steps. The level of accuracy is approximately 0.05 feet.

To show subsidence in Basin 8-1, the layer showing total land subsidence since the start of the InSAR data on 6/13/2015 and ending on 7/1/2020, which corresponds to the end of the water year was used. (GIS layer used: https://gis.water.ca.gov/arcgisimg/rest/services/SAR/Vertical_Displacement_TRE_ALTAMIRA_v2020_Total_Since_20150613_20200701/ImageServer.)

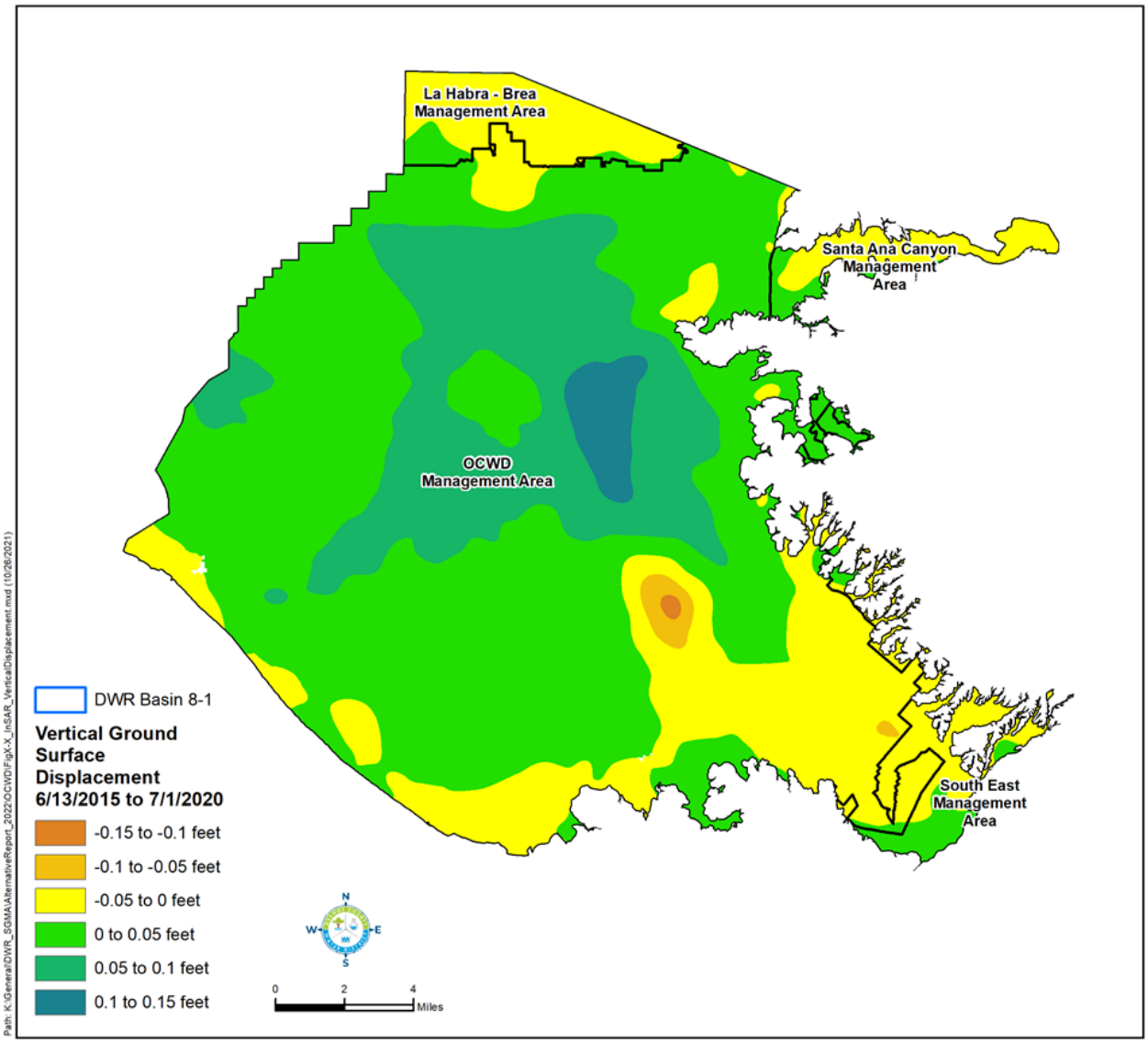


Figure 3-6: Total Vertial Ground Surface Displacement from June 2015 to July 2020

3.2.6 Groundwater and Surface Water Interactions and Groundwater Dependent Ecosystems

The primary surface water drainage in the South East Management Area is Serrano Creek. Serrano Creek is an intermittent stream that only flows during the rainy season following storm events. The predominant interaction between the surface flow in the creek and groundwater is percolation from the creek and recharge of the groundwater (see Boyle 2002 Groundwater Supply Evaluation study). Groundwater does not typically discharge at the land surface near the creek. Data from the California Department of

Water Resources (CDWR) NC dataset viewer indicates that there are some areas along Serrano Creek that are designated as groundwater dependent ecosystems (https://gis.water.ca.gov/app/NCDatasetViewer/).

Planned future groundwater pumping in IRWD's Lake Forest portion of the South East Management Area from Well LF-2 will not occur in areas of groundwater dependent ecosystems (GDEs). Some of IRWD's inactive wells are located near the Serrano Creek drainage, but outside the GDE areas. With the exception of Well LF-5, there are no plans to pump groundwater from any of these wells in the future. Well LF-2, which may be pumped in the future, is located outside the Serrano Creek drainage and is not expected to have an impact on GDEs within the Serrano Creek drainage. In the event that a replacement well is constructed near the existing Well LF-5, groundwater monitoring will be implemented to ensure the production from that well does not have an undesirable result on the GDE along Serrano Creek.

SECTION 4. WATER BUDGET

An average annual groundwater budget for the South East Management Area for the last 5 years is presented in Table 4-1. The simple water budget for the IRWD portion of the South East Management Area is based on measured groundwater production and the subsurface flow calculated by the numerical model for the OCWD Management Area (Basin 8-1 Alternative 2017). The development of individual components in the average annual groundwater budget are described in the following subsections.

4.1 BUDGET COMPONENTS

For IRWD's Lake Forest portion of the South East Management Area, the components of the groundwater budget are presented in Table 4-1 and described below. Groundwater Production includes an average from 2016-2021. As of 2018, the groundwater production is zero until the LF-2 well can be rehabilitated and placed back in service.

Table 4-1: Average Annual Groundwater Budget

South East Management Area Groundwater Budget 2016-2021 (acre-feet)	
Item	**Total (acre-feet)**
Recharge	2,900
Total Inflow	2,900
Groundwater Production	90
Subsurface Outflow	2,810
Total Outflow	2,900
Change in Storage	0

4.1.1 Recharge

Recharge includes infiltration from ephemeral creeks, precipitation and return flow recharge from irrigation. It was estimated to equal the total outflow as summarized in Table 4-1.

4.1.2 Groundwater Production

Groundwater production was taken from measured records by IRWD as summarized in Table 4-1. In the base period 2016 to 2021, groundwater production was only conducted by IRWD's Well LF-2. Groundwater production in this well ranged from 0 to 389 acre-ft/yr. from 2016 to 2021 with an average of approximately 90 acre-ft/yr.

4.1.3 Subsurface Outflow

Subsurface outflow from the South East Management Area into the OCWD Management Area was estimated using the OCWD groundwater flow model (Basin 8-1 Alternative 2017).

4.2 CHANGES IN GROUNDWATER STORAGE

Changes in groundwater storage within the South East Management Area since 2015 have been positive reflecting the rising groundwater levels measured in the wells. As indicated in Section 3.2.1, groundwater levels are the same or higher in 2021 than they were in 2017. With the exception of LF-1, groundwater levels show a rising trend, indicating that recharge to the area exceeds the discharge. Well LF-1 shows a stable groundwater level trend. These trends have persisted despite multiple years of below normal precipitation. As presented in Section 4.1, groundwater pumping in the South East Management Area is relatively minor and averages only 125 acre-feet per year over the previous 10 years (2006-2015), and 90 acre-feet in the last six years (2016-2021). The groundwater level and pumping data indicate groundwater production is below the sustainable yield of the basin.

4.3 WATER YEAR TYPE

No update since the 2017 Alternative – See 2017 Alternative.

4.4 ESTIMATE OF SUSTAINABLE YIELD

The sustainable yield of the South East Management Area is approximated by the volume of average annual recharge that is estimated to enter the basin (approximately 2,900 acre-ft), as shown in Table 4-1. Average annual groundwater production over the last 5 years, ranging from 0 acre-feet to 389 acre-feet and averaging approximately 90 acre-feet, is significantly below the sustainable yield, which is supported by rising groundwater levels in the area over the same time period. Due to production rate limitations and groundwater quality issues, it is unlikely groundwater production in the South East Management Area will ever increase to the sustainable yield.

4.5 CURRENT, HISTORICAL, AND PROJECTED GROUNDWATER BUDGET

IRWD does not plan any significant changes to groundwater use in the South East Management Area that would change the water budget. The historical water budget is

discussed in Section 4.1 and summarized in Table 4-1. Currently, there is no groundwater production in the South East Management Area. Future groundwater production could include bringing Well LF-2 online, replacing Well LF-5, and developing two new wells (see Section 16). No projected groundwater production is currently anticipated within the ETWD and city of Orange portions of the South East Management Area. Any future groundwater production will be managed within the sustainable yield of the aquifer system.

SECTION 5. WATER RESOURCE MONITORING PROGRAMS

5.1 OVERVIEW

This section describes surface and groundwater monitoring programs in the South East Management Area

5.2 GROUNDWATER MONITORING PROGRAMS

No groundwater development exists in the ETWD and City of Orange portions of the South East Management Area. In IRWD's Lake Forest portion of the South East Management Area the existing five wells (whether active or inactive) have been, and will continue to be, used to monitor the groundwater levels on a monthly basis. Section 3.2.1 provides information on the South East Management Area groundwater levels, and Figure 3-1 shows the locations of the Lake Forest wells within the South East Management Area.

5.3 OTHER MONITORING PROGRAMS

IRWD monitors groundwater quality in LF-2, when operating, as required by the California Code of Regulation (Title 22) and California Division of Drinking Water, Santa Ana District. In addition, as of 2021 two monitoring wells will be designated (LF-1 and LF-4) for the monitoring and reporting groundwater elevations in the South East Management Area which will be transmitted to the DWR under the SGMA monitoring program for Basin 8-1. DWR currently requires bi-annual reporting for well monitoring data.

SECTION 6. WATER RESOURCE MANAGEMENT PROGRAMS

IRWD works with ETWD and City of Orange on plans for groundwater development within the South East Management Area and updates demand projections and the water budget accordingly.

IRWD: The compilation of land use data is the basis for IRWD's water resource planning including its portion of the South East Management Area. Per IRWD's 2020 Urban Water Management Plan (UWMP), the land use data obtained from multiple jurisdictions in IRWD's service area is used in conjunction with IRWD's applied water use factors in order to estimate water requirements.

ETWD: ETWD's water resource planning is based on the 2020 UWMP demand projections. Regional demands are forecasted by the Municipal Water District of Orange County and are then tailored to ETWD's service area using available data for land use, population, and economic growth, intermixed with a trajectory of conservation, which includes both additional future passive measures and active measures.

City of Orange: The City of Orange's current UWMP (2020) provides the basis for water resource planning in Orange's water service area. The UWMP, in conjunction with applicable water use factors, form the basis for any potential water use estimates required for potential planning use in the service area.

SECTION 7. NOTICE AND COMMUNICATION

There are three agencies within the South East Management Area, as follows:

- IRWD
- ETWD
- City of Orange

On September 30, 2021, OCWD sent a letter via email to all of the Basin 8-1 agencies, including each of the agencies listed above to let them know that the 2017 Alternative was being updated and would be available for review and comment. No comments were received by any of the agencies contacted. The three South East Management Area agencies coordinated with OCWD and the other management areas to prepare the 2022 Update, in accordance with SGMA requirements.

A draft 2022 Update was presented to OCWD staff and posted on the OCWD website on November 17, 2021 to allow for public review and comment. The final 2022 Update was received and filed by the OCWD board in December 2021.

SECTION 8. SUSTAINABLE MANAGEMENT APPROACH

The Sustainable Management Approach for the South East Management Area is to continue monitoring sustainable conditions and monitor to ensure that conditions do not lead to significant and unreasonable (1) lowering of groundwater levels, (2) reduction in storage, (3) water quality degradation, or (4) inelastic land subsidence or (5) unreasonable adverse effect on surface water resources.

SECTION 9. SUSTAINABLE MANAGEMENT RELATED TO GROUNDWATER LEVELS

9.1 HISTORY

As shown on Figure 3-2 historical groundwater levels in the IRWD's Lake Forest portion of the South East Management Area have shown stable or rising trends and are, in all cases, at the same level or higher than they were in 2017. Because future groundwater pumping in the South East Management Area is expected to be limited, groundwater levels are expected to remain relatively steady in the future.

9.2 MONITORING OF GROUNDWATER LEVELS

Groundwater levels are currently monitored in the five wells located in IRWD's Lake Forest portion of the South East Management Area on a monthly basis. This monitoring will continue into the future.

9.3 DEFINITION OF SIGNIFICANT AND UNREASONABLE LOWERING OF GROUNDWATER LEVELS

Significant and unreasonable lowering of groundwater levels is defined as a long-term chronic lowering of groundwater levels, despite changes in precipitation patterns. No long-term reduction in groundwater levels in the South East Management Area is expected to occur.

9.4 DETERMINATION OF MINIMUM THRESHOLDS

It is not possible to determine a minimum threshold at this time since no undesirable effects due to groundwater levels have occurred in the past and are not foreseen in the future. Nevertheless, the South East Management Area well monitoring program is expected to continue to monitor water levels and groundwater quality in the future. If water levels start to show a consistent, long-term decline and undesirable results are observed, action would be taken and minimum thresholds would be evaluated and established as appropriate.

SECTION 10. SUSTAINABLE MANAGEMENT RELATED TO BASIN STORAGE

No groundwater development exists in the ETWD and City of Orange portions of the South East Management Area. The total volume of groundwater storage in IRWD's portion of the South East Management Area has been estimated to be approximately 360,000 acre-feet (see Section 3.2.3).

10.1 DEFINITION OF SIGNIFICANT AND UNREASONABLE REDUCTION IN STORAGE

No significant long-term reduction in groundwater storage is expected to occur in the South East Management Area because of the limited groundwater use. However, a decline in groundwater storage may be determined unreasonable if one more of the following occurred:

1. Significant loss of well production capacity.
2. Degradation of water quality that significantly impacts the use of groundwater.

10.2 DETERMINATION OF MINIMUM THRESHOLDS

A minimum threshold for the reduction of groundwater storage in the South East Management Area is not anticipated since no undesirable effects have occurred in the past and are not foreseen in the future. Nevertheless, IRWD's Lake Forest monitoring program continuously tracks water levels and groundwater quality. If water levels show a consistent decline, IRWD's Lake Forest monitoring program would be expanded to examine any potential impacts and action would be taken to identify minimum thresholds as appropriate.

SECTION 11. SUSTAINABLE MANAGEMENT RELATED TO WATER QUALITY

No groundwater development exists in the ETWD and City of Orange portions of the South East Management Area. Groundwater quality in IRWD's portion of the South East Management Area is affected by the quality of recharge from Serrano Creek and precipitation and incidental recharge from irrigation. Groundwater from subsurface inflow could contain naturally elevated concentrations of TDS and manganese. IRWD has the ability to utilize water produced from non-potable wells to supplement its extensive recycled water system which serves irrigation demands.

11.1 DEFINITION OF SIGNIFICANT AND UNREASONABLE DEGREDATION OF WATER QUALITY

There are three elements that must be considered when evaluating the impact of groundwater quality degradation.

The first element is considering the causal nexus between groundwater management activities and groundwater quality. For example, groundwater contamination due to improper handling of toxic materials impacts groundwater quality; however, this water quality degradation is not caused by groundwater management activities.

The second element is the beneficial uses of the groundwater and water quality regulations, such as Maximum Contaminant Levels (MCLs) and other potable water quality requirements.

The third element that must be considered is the volume of groundwater impacted by groundwater quality degradation. If small volumes are negatively affected that don't materially affect the use of the aquifer or basin for its existing beneficial uses, then this would not represent a significant and unreasonable degradation of water quality. However, if the impacted volume grows, then it could reach a level that it becomes significant and unreasonable.

When considering all three elements, the definition of significant and unreasonable degradation of water quality is defined as degradation of groundwater quality in the South East Management Area to the extent that a significant volume of groundwater becomes unusable for its designated beneficial uses.

11.2 DETERMINATION OF MINIMUM THRESHOLDS

The minimum thresholds for groundwater quality are exceedances of Maximum Contaminant Levels (MCLs) or other applicable regulatory limits that are directly attributable to groundwater management actions in the South East Management Area that prevents the use of groundwater for its designated beneficial uses

SECTION 12. SUSTAINABLE MANAGEMENT RELATED TO SEAWATER INTRUSION

The South East Management Area is located far from the ocean and thus there is no reason to consider the potential impact of seawater intrusion in this management area.

SECTION 13. SUSTAINABLE MANAGEMENT RELATED TO LAND SUBSIDENCE

Subsidence is not an issue for the South East Management Area given the following:

- Minimal groundwater development exists in the South East Management Area.
- Groundwater levels are stable or rising and have been for at least 10 years.
- Low risk of future groundwater level declines due to limited planned groundwater production.

As discussed previously in Section 3, the Basin 8-1 area will continue to be monitored for changes in InSAR data (via OCWD and consultants) to evaluate ground surface fluctuations within the service area. If irreversible subsidence was found to occur in a localized area in relation to groundwater pumping patterns or groundwater storage conditions, the South East Management Area managers would coordinate with local officials to investigate and develop an approach to address the subsidence.

SECTION 14. MANAGING GROUNDWATER DEPLETIONS IMPACTING SURFACE WATER

Although IRWD does not have immediate plans for groundwater pumping in areas of GDEs, in the event that replacement or new wells are constructed near sensitive areas, groundwater monitoring will be implemented to ensure the groundwater production does not have an undesirable result on the GDE along Serrano Creek.

SECTION 15. PROTOCOLS FOR MODIFYING MONITORING PROGRAMS

Protocols for modifying monitoring programs are based on changes from historical conditions or changes in water quality that begin to approach or exceed regulatory limits.

15.1 ESTABLISHMENT OF PROTOCOLS FOR WATER QUALITY

Protocols for modifying monitoring programs are described in the 2017 Alternative.

SECTION 16. PROCESS TO EVALUATE NEW PROJECTS

When new projects are proposed within the South East Management Area, the agency proposing the project will be responsible for preparing a CEQA document to ensure alternatives have been evaluated and any significant and unreasonable results are mitigated. Plans to rehabilitate the well are currently going out for construction bid with potential construction expected to start in fall of 2022. The project may include facilities to remove high levels of iron and manganese as needed to meet potable water quality requirements.

There are a number of potential well projects currently in development in the South East Management Area. These include:

- LF-1 and LF-4 designated monitoring well operations.
- LF-2 rehabilitation and water quality treatment planned construction in 2022.
- LF-5 (replacement) future projects may include the possible development of a new production well on or near the existing decommissioned site.
- General well rehabilitation and monitoring projects across the South East Management Area, with approved funding allocated in the capital budgets approved for 2021-2023.

In IRWD's Lake Forest portion of the South East Management Area, a 2002 study by Boyle Engineering Corporation and 2015 study by Dudek were performed in order to assess the potential for development of two future wells, LF-6 and LF-8, as well as the re-drilling of existing inactive wells. Although IRWD has no near-term plans to drill wells LF-6 and LF-8, it has included a capital project for the design, construction and equipping of LF-1.

A capital project for the design, construction and equipping of LF-1 has been included in IRWD's most recent capital budget, however, there are no plans to begin this specific project. IRWD also has no near-term plans to drill wells LF-6 and LF-8. In 2000, its last active year, LF-1 pumped approximately 230 acre-feet. Over the last 5 years well LF-2 annual pumping has ranged from 0 acre-feet to 389 acre-feet and averaged approximately 90 acre-feet including years of non-operation. It is expected that when LF-1 is redrilled, groundwater production from IRWD's southern portion of the South East Management Area could increase.

Water produced from LF-1 could be used to provide supply to the nearby lake which currently is supplied by untreated imported water. Water produced could also potentially be pumped and conveyed to the Baker Water Treatment Plant for

treatment if needed (Dudek, 2015). Due to the consistently lower yields from the aquifer in this area, it is expected that additional production from LF-1 will continue to be considered supplemental, and therefore insignificant in terms of IRWD's overall water supply for its Lake Forest area. As of 2021, LF-1 is still currently off line although there are future plans to potentially re-drill and rehabilitate the well in the future.

SECTION 17. REFERENCES

Following are references and technical studies for the South East Management Area.

- Basin 8-1 Alternative, 2017
- Communication with OCWD. Email dated November 28, 2016.
- Communication with OCWD. Email dated October 21, 2021.
- Communication with OCWD. Email dated November 17, 2021.
- Geohydrology and Acritical-Recharge Potential of the Irvine Area Orange County, California. J. A. Singer, January 8,1973.
- Groundwater Supply Evaluation for the Los Alisos System Phase 1. Boyle Engineering Corporation, July 2002.
- Ground Water Management, Irvine Area, Orange County, California. Harvey O. Banks, Consulting Engineer, Inc.
- Lake Forest Groundwater Conveyance Analysis Results. Dudek, November 5, 2015.
- 2015 Urban Water Management Plan, Irvine Ranch Water District, 2016
- 2020 Urban Water Management Plan, Irvine Ranch Water District, 2021

Basin 8-1 Alternative

Santa Ana Canyon Management Area

2022 Update

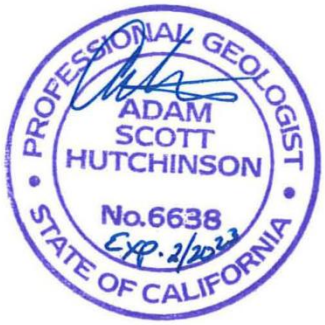
Prepared by: Orange County Water District

January 1, 2021

Basin 8-1 Alternative

2022 Update

Santa Ana Canyon Management Area



Adam Hutchinson, P.G., C.Hg.

Recharge Planning Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

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Table 5-1: Wells Monitored for Water Quality 5-3

SECTION 1. EXECUTIVE SUMMARY

The Santa Ana Canyon Management Area covers the easternmost extent of the Department of Water Resources (DWR) Basin 8-1, Coastal Plain of Orange County Groundwater Basin (Basin). This Management Area was created for this Alternative (under 23 CCR 354.20) because of the unique characteristics of the Santa Ana Canyon and the appropriateness of developing different management objectives and strategies for this portion of the Basin. These different objectives and management approaches, as described in this Section, account for the significant differences in groundwater use, geology, aquifer characteristics, and other factors which distinguish Santa Ana Canyon from other portions of the Basin. Figure 1-1 shows the extent of the Santa Ana Canyon Management Area and the agencies with jurisdiction in the Santa Ana Canyon Management Area. Table 1-1 lists the agencies shown on Figure 1-1.

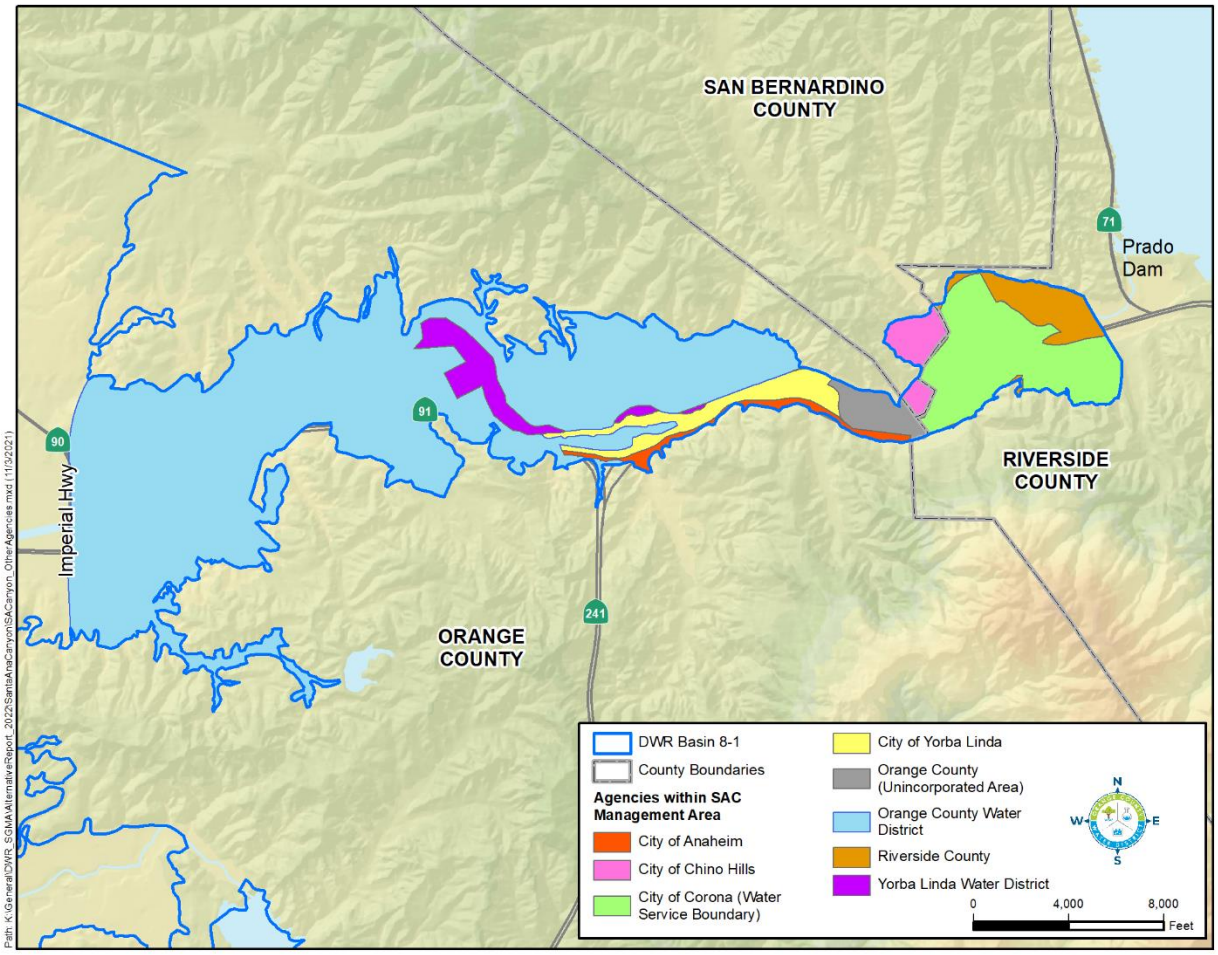


Figure 1-1: Agencies in the Santa Ana Canyon Management Area

The agencies within Basin 8-1 collaborated to prepare and submit an Alternative to a Groundwater Sustainability Plan (GSP). In accordance with Water Code §10733.6(b)(3), the Alternative presented an analysis of basin conditions that demonstrated that the Basin had operated within its sustainable yield over a period of at least 10 years. The Alternative was submitted to DWR on December 22, 2016. On July 17, 2019, DWR determined that the Alternative satisfied SGMA objectives and was therefore approved.

Agencies with approved alternatives are required to submit annual reports to DWR by April 1 of each year. Annual reports for Basin 8-1 were submitted to DWR as follows:

- Water Year 2016-17, submitted on March 29, 2018
- Water Year 2017-18, submitted on March 29, 2019
- Water Year 2018-19, submitted on March 30, 2020
- Water Year 2019-20, submitted on March 30, 2021

According to Water Code §10733.8, "At least every five years after initial submission of a plan pursuant to Section 10733.4, the department shall review any available groundwater sustainability plan or alternative submitted in accordance with Section 10733.6, and the implementation of the corresponding groundwater sustainability program for consistency with this part, including achieving the sustainability goal. The department shall issue an assessment for each basin for which a plan or alternative has been submitted in accordance with this chapter, with an emphasis on assessing progress in achieving the sustainability goal within the basin. The assessment may include recommended corrective actions to address any deficiencies identified by the department."

This document, called the 2022 Update, represents the first five-year update, which is due January 1, 2022.

For purposes of this report, the Basin 8-1 Alternative submitted on December 22, 2016, will be referred to as the 2017 Alternative. The first five-year update will be referred to as the 2022 Update for ease of reference. The 2017 Alternative was a comprehensive document showing that Basin 8-1 had been managed sustainably for more than 10 years. For the 2022 Update, the focus is on documenting that the basin has been sustainably managed during the five years since the 2017 Alternative was submitted and to present relevant new information from the last five years. As such, the 2017 Alternative is considered a key reference document with background information that is not duplicated in the 2022 Update.

The water resources in the Santa Ana Canyon Management Area include the Santa Ana River and limited groundwater. Groundwater is primarily located in a thin alluvial aquifer that is 90 to 100 feet thick and is a combination of infiltrated Santa Ana River water and subsurface inflow from the adjacent foothills. Groundwater produced from the alluvial aquifer is primarily used for irrigation, but some is also used for potable purposes. The volume of produced groundwater represents less than one percent of the total available water supply to the Santa Ana Canyon Management Area due to the significantly larger flow of the Santa Ana River as shown on Table 1-2. Even under projected dry conditions, groundwater production is expected to be less than

four percent of the total available water supply (see 2017 Alternative, Santa Ana Canyon Management Area).

Table 1-1: Agencies in Santa Ana Canyon Management Area

Agency
City of Anaheim
City of Chino Hills
City of Yorba Linda
City of Corona
Orange County Water District
County of Orange
Riverside County
Yorba Linda Water District

Table 1-2: Water Budget, 5-Year Average (2016-21)

Flow Component	5-Yr Avg: 2016-21 (afy)
INFLOW	
Santa Ana River Base Flow	76,860
Santa Ana River Storm Flow	78,750
Subsurface Inflow	6,000
TOTAL INFLOW	**161,610**
OUTFLOW	
Santa Ana River Base Flow	76,120
Santa Ana River Storm Flow	78,750
Evapotranspiration	740
Groundwater Production	1,000
Subsurface Outflow	5,000
TOTAL OUTFLOW	**161,610**

Per the monitoring discussed in Section 5, groundwater levels in the Santa Ana Canyon Management Area are relatively stable, having been consistently 20 to 30 feet below ground surface since 1991, indicating that the supply of subsurface inflow and surface water from the Santa Ana River is more than sufficient to sustain local groundwater production. Groundwater quality is suitable for irrigation and potable uses. Native groundwater from the surrounding foothills tends to have naturally elevated total dissolved solids (TDS) and manganese concentrations. Most wells in the canyon appear to produce a blend of infiltrated Santa Ana River water and native groundwater, with some wells producing more infiltrated Santa Ana River water than others.

The Orange County Water District (OCWD) monitors Santa Ana River flow and quality as well as groundwater levels, quality, and production in the Santa Ana Canyon Management Area (see Section 5). Moreover, OCWD has a wide variety of water resource management programs that cover the OCWD Management Area as well as programs in the upper Santa Ana River watershed to address Santa Ana River flow and quality (see Section 6). These programs are important in protecting the quality of the Santa Ana River, which has a significant influence on the groundwater quality in the Santa Ana Canyon Management Area.

The approach to managing the Santa Ana Canyon Management Area is for OCWD, in cooperation with the County of Orange, to continue monitoring groundwater levels and quality to ensure that no significant and unreasonable undesirable results occur in the future, both in the Santa Ana Canyon portion of the Basin and in the other hydrologically connected portions of the Basin.

Due to the conditions documented within the Santa Ana Canyon Management Area, it will not be difficult to prevent conditions that could lead to significant and unreasonable undesirable results due to the low risk of increased groundwater production, little available developable land, and continued high flows of the Santa Ana River relative to the amount of groundwater production. A summary of the applicable undesirable results that must be prevented under SGMA is presented below. A more detailed description of these can be found in Sections 8 to 13.

1. **Water Levels:** Long-term reduction in groundwater levels in the Santa Ana Canyon Management Area are not expected given the high volume of Santa Ana River flow relative to the amount of groundwater production and the ability of the shallow alluvial aquifer to be recharged as a result of continuous and abundant surface flow in the Santa Ana Canyon; however, if an unforeseen long-term reduction in groundwater levels were to occur, water levels could reach a significant and unreasonable level if one or more of the following occurred as a result of reduced groundwater levels:
    a. Significant loss of riparian habitat along the Santa Ana River.
    b. Significant loss of well production capacity (in the Santa Ana Canyon Management Area).
    c. Degradation of water quality that significantly impacts the beneficial uses of groundwater.
2. **Storage:** As with groundwater levels, long-term reduction in groundwater storage in the Santa Ana Canyon Management Area is not projected to occur; however, an unforeseen decline in groundwater storage could reach a significant and unreasonable level if such a decline caused one or more of the following:
    a. Loss of significant riparian habitat along the Santa Ana River.
    b. Significant loss of well production capacity.
    c. Degradation of water quality that significantly impacts the beneficial uses of groundwater.
3. **Water Quality:** The significant and unreasonable degradation of water quality is defined as the degradation of groundwater quality in the Santa Ana Canyon Management Area that is attributable to groundwater production or recharge practices within the Santa Ana

Canyon Management Area that cause a significant volume of groundwater to become unusable for its designated beneficial uses.

4. **Seawater Intrusion:** This does not apply to the Santa Ana Canyon Management Area because this area if far removed from the coastline.
5. **Subsidence:** No vertical changes have been noted using DWR-supplied InSAR data. It is unlikely that this will occur in the Santa Ana Canyon Management Area due to:
    a. The presence of shale and sandstone bedrock underlying the alluvial aquifer.
    b. The alluvial aquifer is thin, generally less than 100 feet, and comprised mainly of sand and gravel with little clay.
    c. Groundwater levels and groundwater storage are stable.
    d. Very low risk of substantial groundwater level declines due to a de minimis amount of groundwater production relative to the overall inflow of water to the Santa Ana Canyon Management Area.
6. **Groundwater Depletions Impacting Surface Water:** Due to hydrogeologic conditions and land use limitations, groundwater production in the Santa Ana Canyon Management area has had and is projected to have a de minimis effect on groundwater conditions and flows of surface water through the canyon. Therefore, this factor does not apply to the Santa Ana Canyon Management Area.

SECTION 2. AGENCY INFORMATION

2.1 HISTORY OF AGENCIES IN SANTA ANA CANYON MANAGEMENT AREA

As shown on Figure 1-1, eight agencies have jurisdiction within the Santa Ana Canyon Management Area. The footprint of the various agencies within the Santa Ana Canyon Management Area has not changed since the 2017 Alternative. Table 1-1 lists the agencies and the approximate area covered by each.

The Santa Ana Canyon Management Area covers 2.6 percent of Basin 8-1, which has a total area of 223,600 acres or 350 mi^2.

2.2 GOVERNANCE AND MANAGEMENT STRUCTURE

There are currently no groundwater withdrawals or plans for withdrawals within the portions of the Santa Ana Canyon Management Area that are within the City of Anaheim, City of Chino Hills, City of Yorba Linda, Riverside County, and the Yorba Linda Water District. Key reasons for the lack of significant groundwater production are the lack of demands in these areas, the relatively high mineral content of groundwater in the Santa Ana Canyon Management Area, and lack of developable land due to land use limitations. In addition, there are no groundwater withdrawals or plans for withdrawals by the City of Corona. Although there are existing groundwater withdrawals within the Corona service area, the wells are owned and operated by the County of Orange for golf course irrigation. As mentioned above, Corona delivers water from sources outside of the Santa Ana Canyon Management Area.

Accordingly, no additional groundwater governance and management structure is needed for the areas in the Santa Ana Canyon Management Area beyond the existing monitoring program that OCWD already carries out in accordance with its authorities under the OCWD Act, in cooperation with the other jurisdictional agencies. The governance and management structure of OCWD is described in the OCWD Management Area part of this report. As will be shown later in this section, groundwater withdrawals by the County of Orange and private well owner within the Santa Ana Canyon Management Area are de minimis compared to the overall flow of water through the Santa Ana Canyon Management Area, and they are expected to remain at current sustainable levels. As a result, there is no need for other agencies to establish groundwater governance or management in the Santa Ana Canyon Management Area beyond the existing groundwater production, level and quality data collection and reporting to DWR by OCWD per SGMA requirements.

2.3 LEGAL AUTHORITY

The legal authority of OCWD is described in the OCWD Management Area part of this report. As described in the OCWD Management Area part of the report, OCWD has obtained water rights from the State Water Resources Control Board (SWRCB) to all of the flows in the Santa Ana River arriving at Prado Dam. As a result, any future groundwater production within the

Santa Ana Canyon Management Area would be reviewed by OCWD and the SWRCB to ensure it does not interfere with OCWD's existing water rights. Moreover, though outside of OCWD's boundaries, OCWD currently monitors portions of Santa Ana Canyon pursuant to its authority under Section 2, subparagraphs 5, 6, 7 and 14, of the OCWD Act.

The Orange County Well Ordinance (County Ordinance No. 2607) requires that a permit be obtained from Orange County prior to the construction or destruction of any well. In unincorporated areas and in 29 of 34 Orange County cities, the Orange County Health Officer is responsible for enforcement of the well ordinance. In the remaining five cities (Anaheim, Buena Park, Fountain Valley, Orange and San Clemente), well ordinances are enforced by city personnel. Any plans for wells in areas covered by Riverside and San Bernardino Counties would be reviewed by OCWD to ensure they did not interfere with OCWD's rights to Santa Ana River flows.

2.4 BUDGET

OCWD's costs for data collection within the Santa Ana Canyon Management Area are contained within OCWD's budget for data collection in the OCWD Management Area, which is presented in the OCWD Management Area portion of this report. The County of Orange is responsible for costs associated with collecting production data from wells used to irrigate the County-owned Green River Golf Course. The other agencies within the Santa Ana Canyon Management Area do not incur any additional data collection costs since no further monitoring other that already undertaken by OCWD, and Orange County is believed needed in order to prevent undesirable results from occurring. As a result, an estimated budget for other agencies has not been prepared for the Santa Ana Canyon Management Area due to the minimal nature of the effort to collect and report groundwater production, level and water quality data.

SECTION 3. MANAGEMENT AREA DESCRIPTION

3.1 SANTA ANA CANYON MANAGEMENT AREA

The Santa Ana Canyon is a narrow east-west trending canyon between the Santa Ana Mountains to the south and the Chino Hills to the north near the intersection of Orange, San Bernardino and Riverside Counties. As shown on Figure 3-1, a key feature is the Santa Ana River. Just upstream of the Santa Ana Canyon is Prado Dam, which was constructed by the US Army Corps of Engineers in 1941 to reduce flood risks to Orange County.

Detailed geologic information, including cross sections, is presented in the 2017 Alternative.

The Santa Ana Canyon Management Area covers the area of alluvial deposits in the Santa Ana Canyon east of Imperial Highway (Hwy 90), as shown on Figure 3-1. Imperial Highway was selected as the western boundary of the Santa Ana Canyon Management Area because this is where the groundwater basin transitions from a relatively thin alluvial aquifer to a deep multi-layered alluvial basin. Moreover, Imperial Highway is the approximate boundary of OCWD's groundwater flow model, allowing subsurface outflows from the entire Santa Ana Canyon Management Area to be readily quantified for purposes of the water budget and monitoring groundwater in storage.

Previously published reports indicated that the alluvial deposits in Santa Ana Canyon ranged from 90 to 100 feet thick (USGS, 1964). Cross-sections presented in the 2017 Alternative using more recent data showed that the thickness of the alluvial deposits in the Santa Ana Canyon are consistent with those reported by the USGS (1964).

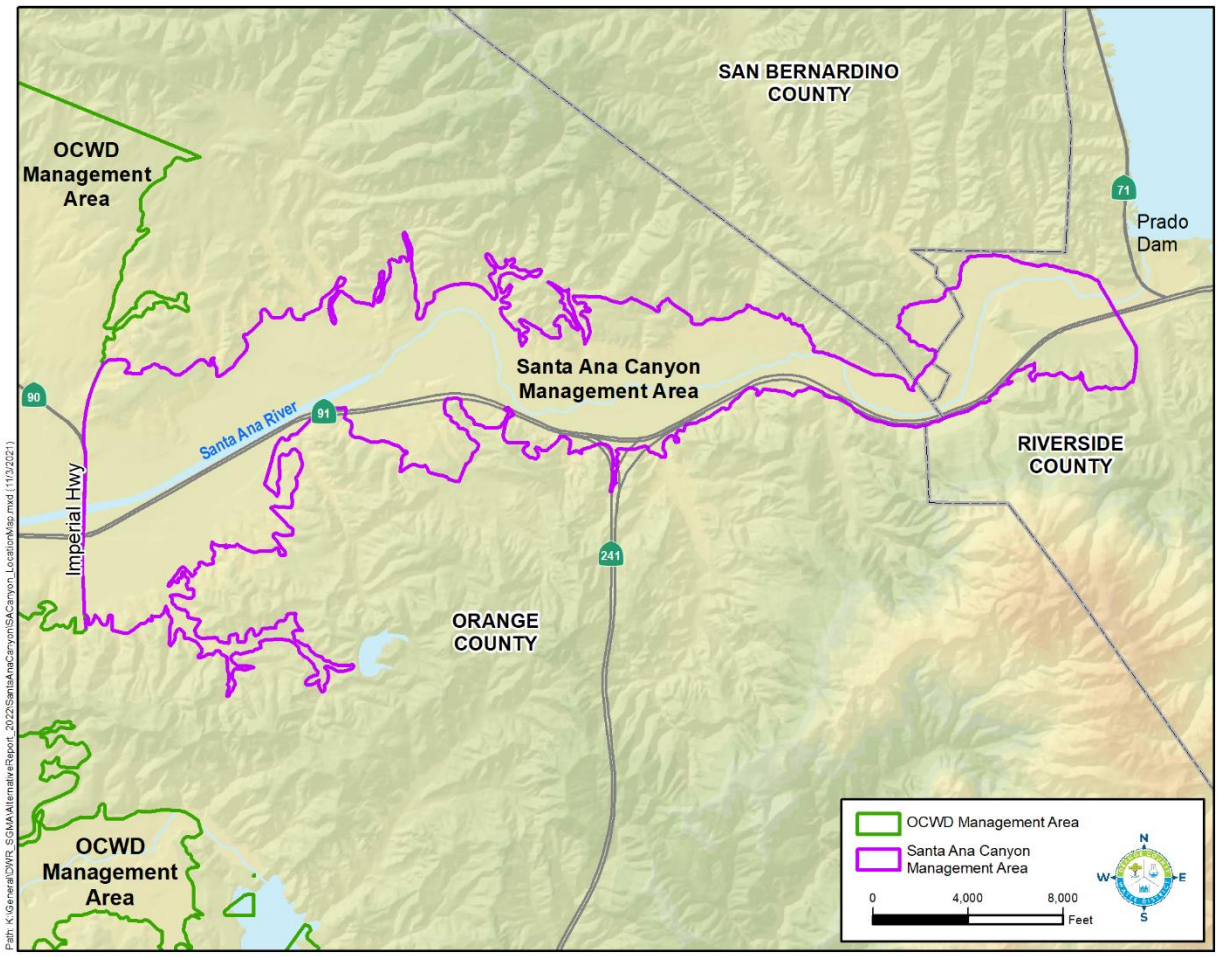


Figure 3-1: Boundary of Santa Ana Canyon Management Area

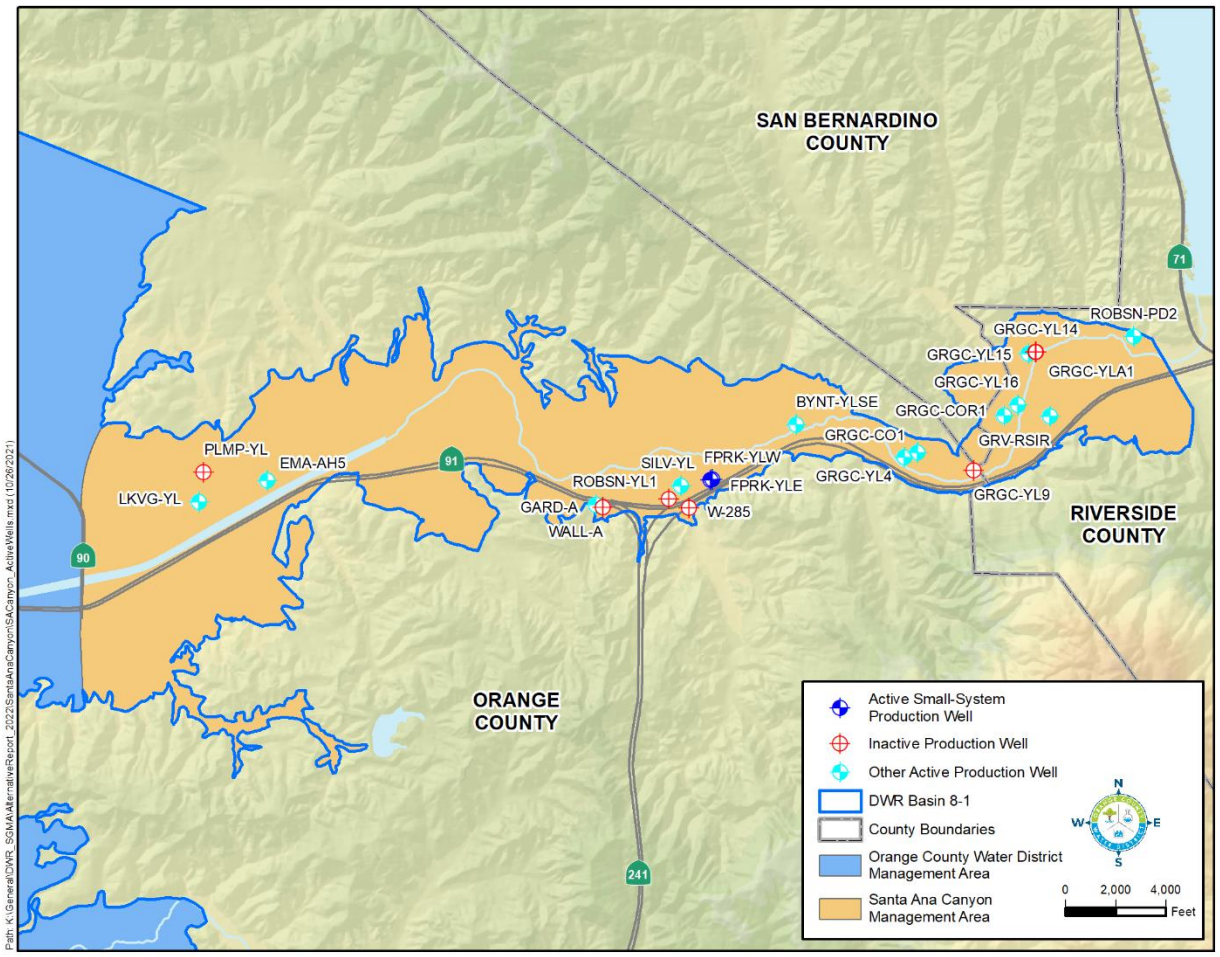


Figure 3-2: Groundwater Production Wells (Active and Inactive)

3.1.1 Jurisdictional Boundaries

As described in Section 2, there are eight agencies with jurisdiction in the Santa Ana Canyon Management Area as shown on Figure 2-1. The western boundary of the Santa Ana Canyon Management Area coincides with Imperial Highway and is within OCWD's jurisdiction.

3.1.2 Existing Land Use Designations

As described in the OCWD Management Area part of this report, much of the land use in Orange County is urban. The Santa Ana Canyon Management Area has some dedicated open-space due to the presence of the Santa Ana River and adjacent floodplain and the Chino Hills State Park, located in the far northeastern portion of the Santa Ana Canyon Management Area. The Green River Golf Club owned by the County of Orange covers approximately 220 acres along the river near the intersections of Orange, Riverside, and San Bernardino counties. Land use has remained essentially unchanged in the last five years.

3.2 GROUNDWATER CONDITIONS

Groundwater within the Santa Ana Canyon Management Area occurs in a narrow canyon within a relatively thin alluvial aquifer that is less than 100 feet thick in most places.

3.2.1 Groundwater Elevation

Groundwater elevations in the Santa Ana Canyon Management Area tend to be stable. Hydrographs from four wells show that water levels vary over a narrow range as shown on Figure 3-3. Well locations are shown on Figure 3-2 and cover the eastern (GRV-RSIR), south-central (FPRK-YLE/SILV-YL), and western (SCE-YLCS, EMA-AH5) areas of the Santa Ana Canyon Management Area.

Maximum water level elevations in many wells were recorded in 2004, which was a record-breaking wet year with very high sustained flows in the Santa Ana River. Low water levels appear to be primarily related to short-term local pumping. In the vicinity of all the wells, groundwater is approximately 20 to 30 feet below ground surface. Since the Santa Ana River channel is incised in some areas by 10 to 15 feet below the surrounding area, the depth to groundwater is even shallower directly beneath the river channel where it is not covered by the river itself.

The consistent, stable nature of groundwater elevations in the Santa Ana Canyon Management Area shows that the aquifer is generally full and at equilibrium, which is consistent with the finding that here are no measurable losses of flows between Prado Dam upstream and OCWD's diversion to its recharge system just below Imperial Highway.

Within the last five years, OCWD, in cooperation with the County of Orange, began collecting groundwater elevation data at selected wells at the Green River Golf Course to complement existing groundwater elevation monitoring data. Note that wells SILV-YL and SCE-YLCS were formerly monitored for the CASGEM program. Well SCE-YLCS was destroyed and replaced by well EMA-AH5. As a result, water level data from SILV-YL and EMA-AH5 will be included in annual reports required to comply with SGMA.

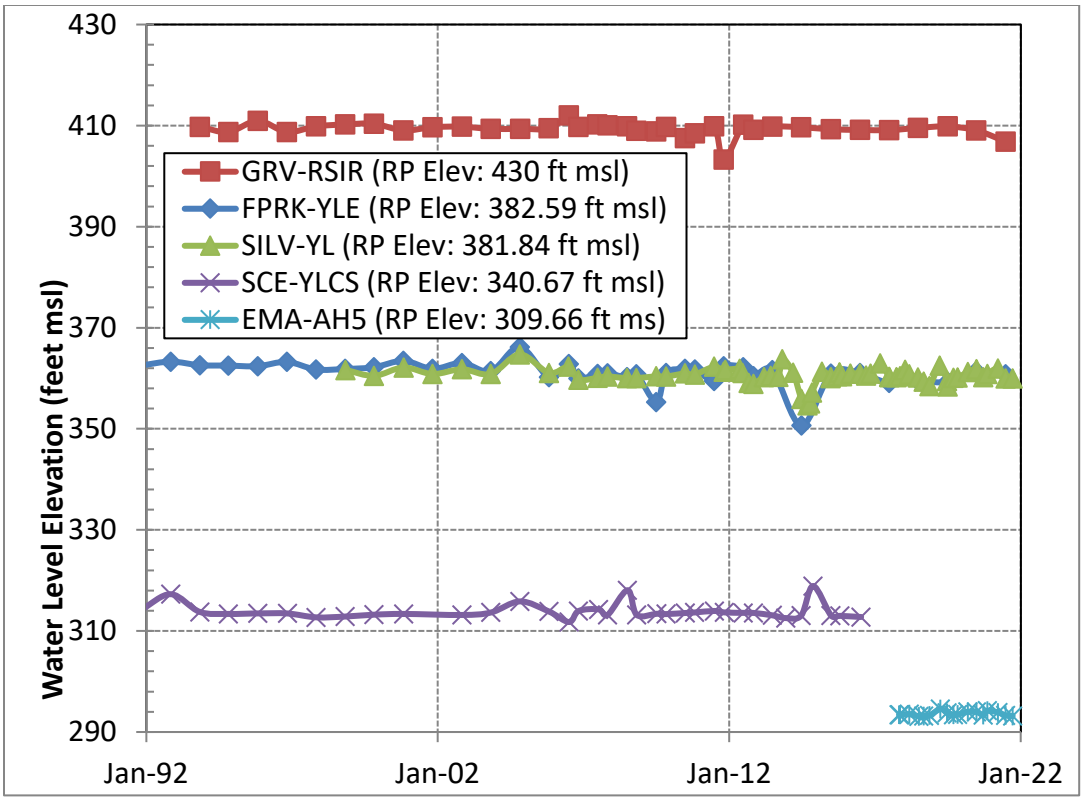


Figure 3-3: Water Level Hydrographs of Selected Wells

3.2.2 Groundwater Beneficial Uses and Regional Pumping Patterns

The Santa Ana Canyon Management Area is within the Santa Ana Region of the California Water Boards and is subject to the Santa Ana Region Basin Plan (January 24, 2014; updated July 2014). The Basin Plan designates zones related to groundwater management. The Santa Ana Canyon Management Area is included in the Orange County Management Zone. Within this Zone, groundwater has been designated for municipal, agricultural, and industrial (service supply and process) beneficial uses. Currently, local groundwater provides primarily irrigation supply with some residential drinking water (RV Park) and domestic uses.

There are 18 wells that can withdraw groundwater within the Santa Ana Canyon Management Area as shown on Figure 3-2; however, some of the wells shown are not currently being used (e.g., inactive). At the time the 2017 Alternative was prepared, some wells, namely those owned by the County of Orange to supply irrigation water to the Green River Golf Course, were not metered. OCWD worked with the County of Orange to have all their wells metered and production reported to OCWD. Prior estimates of pumping before meters were installed was on the order of 1,000 acre-feet per year (Personal Communication, Merrie Weinstock, County of Orange). Data collected in recent years shows that total production is less, averaging just over 600 acre-feet per year.

As shown on Table 3-1, total groundwater production within the Santa Ana Canyon Management Area over the last 5 years has averaged just over 1,000 acre-feet per year. Table

3-1 lists the production wells, meter status, and 5-year average production for wells located within the Santa Ana Canyon Management Area.

Table 3-1: Production Wells, Flow-Meter Status, and 5-Year Average Production

Well Name	Well Use	Owner	Metered	Production 5-Yr Avg 2016-21 (afy)*	Notes
BYNT-YLSE	IR	Neff Ranch, Ltd	Yes	69.8	
EMA-AH5	IR	County Of Orange	Yes	118.2	SGMA monitoring well.
FPRK-YLE	DW/IR	Canyon RV Park	Yes	79.5	
FPRK-YLW	DW/IR	Canyon RV Park	Yes	36.9	
GARD-A	IR	Kindred Outreach Ministries	Yes	1	
GRGC-CO1	IR	OCFCD	Yes	82.2	Monthly metering started Jan. 2019. Avg based on Jan. 2019-June 2021.
GRGC-COR1	IR	OCFCD	Yes	295.0	Monthly metering started Jan. 2019. Avg based on Jan. 2019-June 2021
GRGC-YL14	IR	OCFCD	Yes		Inactive
GRGC-YL15	IR	OCFCD	No		Inactive, only used for emergencies.
GRGC-YL16	IR	OCFCD	Yes	161.0	Monthly metering started Jan. 2019. Avg based on Jan. 2019-June 2021
GRGC-YL4	IR	OCFCD	Yes	75.5	Monthly metering started Jan. 2019. Avg based on Jan. 2019-June 2021
GRGC-YL9	IR	OCFCD	Yes		Inactive
GRGC-YLA1	IR	OCFCD	Yes		Inactive
GRV-RSIR	IR	Green River Village	Yes	6.2	
LKVG-YL	IR	Eastlake Village HOA	Yes	70.8	
ROBSN-PD2	IR	Robertson Ready Mix	Yes	5.4	Monthly metering started Jan. 2018. Avg based on Jan. 2018-June 2021
ROBSN-YL1	IR	Robertson Ready Mix	Yes		Inactive
WALL-A	DOM	Kindred Outreach Ministries	No		Inactive
			Total	**1,007**	

*Five-year average except where noted.
IR= Irrigation; DW=Drinking Water; DOM=Domestic
OCFCD = Orange County Flood Control District

3.2.3 Groundwater Storage Data

Groundwater storage in Basin 8-1 is estimated at 66 million acre-feet (OCWD, 2007), which does not include the Santa Ana Canyon Management Area. To estimate the amount of storage in the alluvial aquifer within Santa Ana Canyon Management Area, all well data were used and depths to bedrock estimated. The thickness of the alluvial deposits is assumed to be zero at the basin margin. Using a Topo to Raster Interpolation function in ArcGIS, the total volume of alluvial deposits was estimated at 174,000 acre-feet. Assuming a porosity of 25 percent gives a total potential groundwater storage volume of 43,500 acre-feet. The actual volume of groundwater in storage is smaller given that this estimate does not take into account that the depth to groundwater is typically 20 to 30 feet below ground surface.

3.2.4 Groundwater Quality Conditions

Groundwater quality in the Santa Ana Canyon Management Area is generally good and suitable to meet beneficial uses. Groundwater in the Santa Ana Canyon Management Area is a mixture of infiltrated Santa Ana River water and subsurface inflow. Detailed water quality information is presented in the 2017 Alternative. No substantive changes in groundwater quality have occurred within the last five years.

3.2.5 Land Subsidence

Land subsidence measurements derived from InSAR data provided by DWR show that land displacement in the Santa Ana Canyon Management Area from June 2015 to July 2020 is within the accuracy of the method (0 to 0.05 ft). This is not surprising given the following:

1. The presence of shale and sandstone bedrock underlying the alluvial aquifer is not thought to be sufficiently compressible to cause inelastic subsidence.
2. The alluvial aquifer is thin, generally less than 100 feet, and composed mainly of sand and gravel with only minor amounts of clay.
3. Groundwater levels and storage volumes have not changed significantly over the last five years.

3.2.6 Groundwater and Surface Water Interactions and Groundwater Dependent Ecosystems

Groundwater within the Santa Ana Canyon alluvial aquifer is consistently 20 to 30 feet below ground surface and even shallower in the incised portions of the Santa Ana River channel. As described in Section 4, Water Budget, the flow of surface water through the canyon dwarfs the documented groundwater production. As a result, groundwater production has a de minimis impact on groundwater conditions and flows of surface water through the canyon. This in turn demonstrates that groundwater production in the Santa Ana Canyon has little to no impact on local groundwater dependent ecosystems in the Santa Ana Canyon Management Area.

SECTION 4. WATER BUDGET

The water budget of the Santa Ana Canyon Management Area is dominated by surface flows of the Santa Ana River with a minor contribution of subsurface inflow, return flows from irrigation, and a small amount of groundwater production. Table 1-2 presents the water budget for the Santa Ana Canyon Management Area for the last five years. Additional water budget information was presented in the 2017 Alternative. The water budget contains both surface water and groundwater components and is not used to analyze change in groundwater storage. The purpose of presenting this water budget is to show the relative contributions of different sources in the Santa Ana Canyon Management Area.

Groundwater level data suggest that groundwater conditions in the Santa Ana Canyon Management Area are essentially at steady state conditions with inflow equaling outflow and no change in groundwater storage. Inflow to the shallow alluvial aquifer includes subsurface inflow and infiltrated Santa Ana River water. Outflow includes evapotranspiration, groundwater production and subsurface outflow. Table 4-1 presents the groundwater budget for the Santa Ana Canyon Management Area.

Table 4-1: Groundwater Budget, 5-Year Average (2016-21)

Flow Component	5-Yr Avg: 2016-21 (afy)
INFLOW	
Subsurface Inflow (1)	6,000
Infiltrated Santa Ana River Flow (2)	740
TOTAL INFLOW	**6,740**
OUTFLOW	
Evapotranspiration (3)	740
Groundwater Production	1,000
Subsurface Outflow to OCWD Management Area (4)	5,000
TOTAL OUTFLOW	**6,740**
NET CHANGE	0

(1) Subsurface inflow is estimated and includes irrigation return flow and areal recharge from precipitation.
(2) Estimated infiltration of Santa Ana River flow to balance outflow.
(3) Evapotranspiration is based on 370 acres of riparian habitat and a usage rate of 2 afy/acre of habitat per Santa Ana River Watermaster Reports.
(4) Subsurface outflow is based on OCWD's calibrated groundwater flow model.

4.1 BUDGET COMPONENTS

The components of the groundwater budget are described below.

4.1.1 Subsurface Inflow/Outflow

In the 2017 Alternative, the estimated subsurface outflow was 4,000 acre-feet per year based on the steady state groundwater flow model. More recent transient groundwater flow modeling using the period 1999 to 2017, showed that average outflow from the Santa Ana Canyon to the main basin to be approximately 5,000 acre-feet per year. As a result, the water budget tables have been updated accordingly.

Subsurface inflow is a combination of subsurface mountain front recharge, areal recharge from precipitation, and irrigation return flow. It is estimated to be approximately 6,000 acre-feet per year.

4.1.2 Infiltrated Santa Ana River Flow

Water quality data suggests that some of the groundwater produced from wells in the Santa Ana Canyon Management Area is a blend of subsurface inflow and infiltrated Santa Ana River water; however, there is not enough data to determine the relative contribution of each source. For purposes of the groundwater budget, the amount of infiltrated Santa Ana River flow is the amount necessary to balance the water budget assuming subsurface inflow is 6,000 acre-feet per year. If the assumed amount of subsurface inflow were to change, the amount of infiltrated Santa Ana River water needed to balance the water budget would change accordingly.

Evapotranspiration

Evapotranspiration is assumed to be due to riparian vegetation adjacent to the Santa Ana River. The County of Orange, as part of developing a Habitat Management Plan (HMP), established a baseline of 370 acres of riparian vegetation within the Santa Ana Canyon Management Area (County of Orange, 2016).

The Santa Ana River Watermaster reports that riparian vegetation consumes approximately 2 acre-feet per year per acre of vegetated area. Using this approach, the estimated evapotranspiration within the Santa Ana Canyon Management area is estimated to be 740 acre-feet per year.

4.1.3 Groundwater Production

As described in Section 3.2.2, there are 18 wells that can withdraw groundwater within the Santa Ana Canyon Management Area (Figure 3-2); however, some of the wells shown are not currently being used (e.g., inactive). Groundwater production from these wells is summarized in Table 3-1.

4.2 CHANGES IN GROUNDWATER STORAGE

As shown in Figure 3-3, groundwater levels in the Santa Ana Canyon Management Area are stable, indicating that the thin, alluvial aquifer is generally always in a near-full equilibrium condition. Therefore, any changes in groundwater storage are small and insignificant.

4.3 WATER YEAR TYPE

The water year type has little impact on the water budget in the Santa Ana Canyon Management Area given the minimal changes in groundwater level observed through time due to the ever-present Santa Ana River flow and subsurface inflow. Water budgets for wet and dry year water types are presented in the 2017 Alternative.

4.4 ESTIMATE OF SUSTAINABLE YIELD

As described in Table 4-1, average groundwater production over the last five years is less than one percent of the total inflow to the Santa Ana Canyon Management Area. This condition is the same as what was presented in the 2017 Alternative. It is clear the sustainable yield of the Santa Ana Canyon Management Area is much greater than current production levels. Nevertheless, there are no plans for additional wells or groundwater production in the Santa Ana Canyon Management Area, and it is highly unlikely that groundwater demands would rise to the level of changing the water budget of this area significantly. In terms of sustainable yield, it is more appropriate to look at Basin 8-1 as a whole.

4.5 CURRENT, HISTORICAL, AND PROJECTED WATER BUDGET

Current water budgets are presented in presented in Tables 4-1 and 4-2. Historical and projected water budgets, including Dry and Wet Year Water Budgets, are presented in the 2017 Alternative.

SECTION 5. WATER RESOURCE MONITORING PROGRAMS

5.1 OVERVIEW

This section describes OCWD's surface water and groundwater monitoring programs in the Santa Ana Canyon Management Area.

5.2 GROUNDWATER MONITORING PROGRAMS

OCWD monitors groundwater levels, quality and production in the Santa Ana Canyon Management Area. As shown on Figure 5-1, groundwater levels are monitored at six wells. Within the last five years, well SCE-YLCS was destroyed and replaced in the monitoring network by well EMA-AH5. Water level data from wells SILV-YL and EMA-AH5 will be reported annually to DWR in compliance with SGMA. In addition, OCWD worked with the County of Orange to install meters on wells used to supply Green River Golf Course and to begin collecting and reporting production data. Data provided in this report utilizes metered data for all wells that pump groundwater in the Santa Ana Canyon Management area.

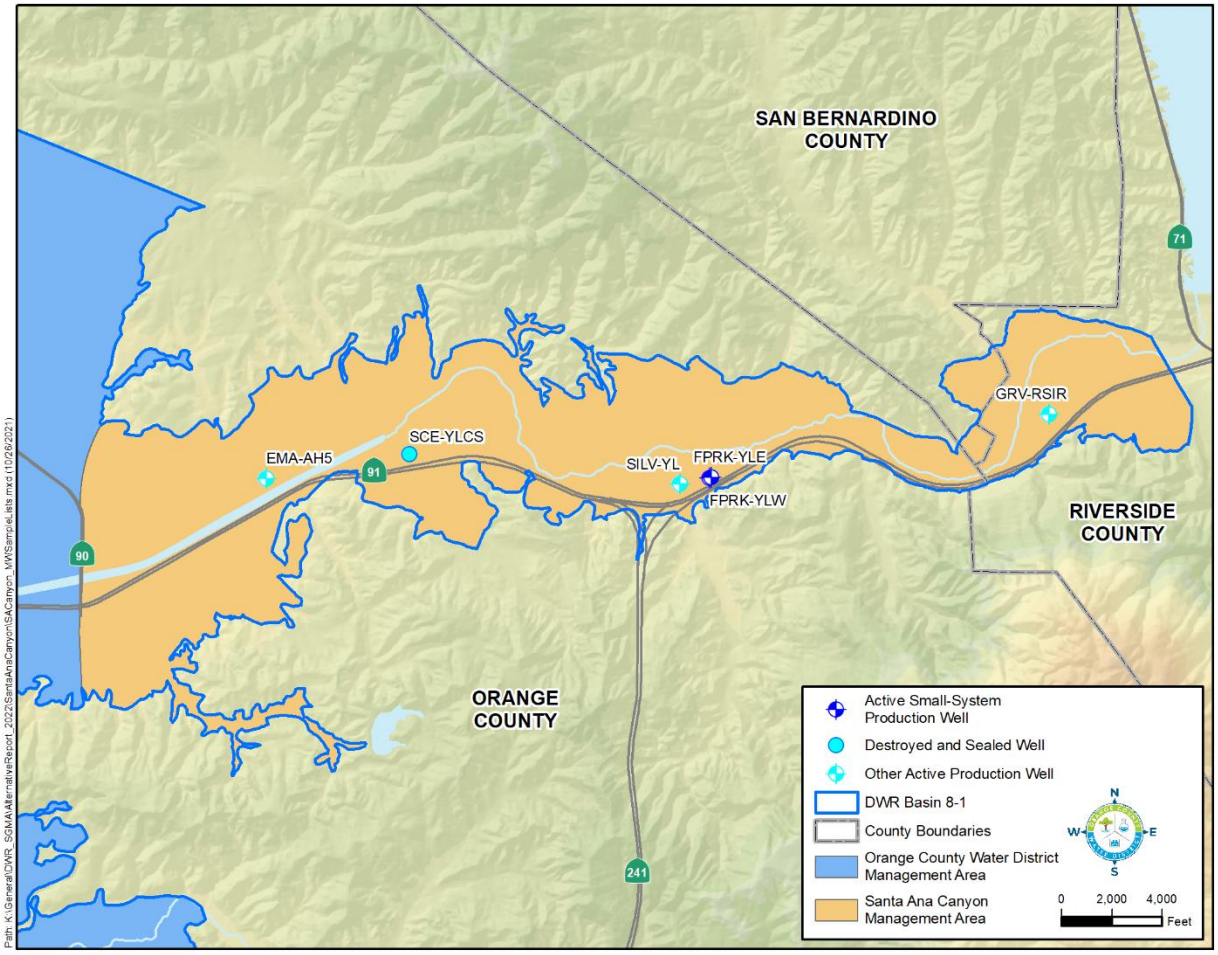


Figure 5-1: Wells Used to Monitor Groundwater Levels

For wells within OCWD's boundaries, groundwater production must be reported at a minimum frequency of every 6 months. Groundwater production volumes from the County of Orange's wells that supply the Green River Golf Course are now being collected monthly.

OCWD also monitors groundwater quality in selected wells in the Santa Ana Canyon Management Area. Table 5-1 lists the wells monitored and the groundwater quality monitoring program each well is part of, which is based on its use (e.g., irrigation, potable). Wells used for irrigation are sampled every year for volatile organic compounds (VOCs) and every three years for general minerals (major cations and anions), 1,4-dioxane, and perchlorate (ClO_4). The two wells in Featherly Park used for potable supplies are monitored in accordance with drinking water regulations.

Table 5-1: Wells Monitored for Water Quality

Well Name	Water Quality Monitoring Program
IRRIGATION WELLS BYNT-YLSE EMA-AH5 GARD-A GRGC-CO1 GRGC-COR1 GRGC-YL15 GRGC-YL16 GRGC-YL4 GRV-RSIR LKVG-YL ROBSN-PD2	Annual: Volatile Organic Compounds (VOCs) Every 3 yrs: General Minerals, 1,4-Dioxane, and ClO_4
POTABLE USE WELLS FPRK-YLE FPRK-YLW	Annual: NO_3, ClO_4, 1,4-Dioxane, Mn, TDS, EC Atrazine/Simazine: every 3 yrs Title 22 Inorganics: every 3 yrs CN: every 9 yrs CrIV: every 3 yrs Radioactivity: every 6 yrs (Gross Alpha, Uranium) Radioactivity: every 9 yrs (Radium 226 & Radium 228)

5.3 OTHER MONITORING PROGRAMS

OCWD monitors the quantity and quality of water in the Santa Ana River just below Prado Dam. The flow of the Santa Ana River below Prado Dam is measured by the United States Geological Survey (USGS) at station No. 11074000 (http://waterdata.usgs.gov/ca/nwis/dv/?site_no=11074000). In addition to flow, the USGS measures the electrical conductivity (EC) of the water as well as sampling the water two times per month for TDS. One use of these data is to calculate the flow-weighted average TDS of base and storm flow discharged from Prado Dam. The flow and quality data are collected for the Santa Ana River Watermaster, which was formed to implement the Stipulated Judgement in the case of Orange County Water District v. City of Chino, et al., Case No. 1172628-County of Orange, entered by the court on April 17, 1969. Copies of the watermaster reports can be found on OCWD's website at http://www.ocwd.com. In addition to OCWD, the Santa Ana River Watermaster is comprised of representatives from the Inland Empire Utilities Agency, San Bernardino Valley Municipal Water District, and Western Municipal Water District.

The significance of the 1969 Judgment is that it guarantees a minimum base flow at Prado Dam of 42,000 acre-feet per year; however, per the terms of the Judgment, the upstream agencies have received (and will continue to receive) credits when base flows exceed of 42,000 acre-feet at Prado. With these cumulative credits, the required minimum base flow is 34,000 acre-feet. As a point of reference, the base flow in Water Year 2020-21 was estimated to be 76,000 acre-feet (Note that this is an OCWD estimate to be finalized in a future SAR Watermaster Report).

OCWD also closely monitors the quality of water in the Santa Ana River before it is diverted into OCWD's recharge system below Imperial Highway. More information about this program can be found in Section 5 of the OCWD Management Area section of this report.

SECTION 6. WATER RESOURCE MANAGEMENT PROGRAMS

OCWD has a wide variety of water resource management programs that cover the main groundwater basin as well as the upper Santa Ana River watershed to address Santa Ana River flow and quality. These programs are important in protecting the quality of the Santa Ana River, which affects groundwater quality in the Santa Ana Canyon Management Area. These programs are described in detail in Section 6 of the OCWD Management Area part of the 2017 Alternative.

SECTION 7. NOTICE AND COMMUNICATION

There are eight stakeholder agencies within the Santa Ana Canyon Management Area, including the following:

- City of Anaheim
- City of Chino Hills
- City of Yorba Linda
- City of Corona
- Orange County Water District
- County of Orange
- Riverside County
- Yorba Linda Water District

On September 30, 2021, OCWD sent a letter via email to all of the Basin 8-1 agencies, including each of the agencies listed above to let them know that the 2017 Alternative was being updated and would be available for review and comment. No comments were received by any of the agencies contacted.

A draft of the 2022 Update was presented to the OCWD Board and posted on the OCWD website on November 18, 2021, to allow for public review and comment. The final 2022 Update was presented to the OCWD Board on December 15, 2021. At this board meeting, a resolution was adopted to support the submission of the 2022 Update to DWR.

SECTION 8. SUSTAINABLE MANAGEMENT APPROACH

The approach to sustainably managing the Santa Ana Canyon Management Area is to continue monitoring conditions to ensure that no significant and unreasonable results occur in the future.

SECTION 9. SUSTAINABLE MANAGEMENT RELATED TO GROUNDWATER LEVELS

9.1 HISTORY

As shown on Figure 3-3, groundwater levels in the Santa Ana Canyon Management Area have been steady over the last 20 years. Given the large amount of surface inflow to the Santa Ana Canyon Management Area relative to the amount of groundwater production, groundwater levels are expected to remain steady in the future.

9.2 MONITORING OF GROUNDWATER LEVELS

OCWD monitors groundwater levels at multiple wells in the Santa Ana Canyon Management Area and will continue to do so in the future.

Within the last five years, several wells at the Green River Golf Course were added to the OCWD monitoring network and destroyed well SCE-YLCS was replaced in the network by well EMA-AH5.

9.3 DEFINITION OF SIGNIFICANT AND UNREASONABLE LOWERING OF GROUNDWATER LEVELS

No long-term reduction in groundwater levels is foreseen in the Santa Ana Canyon Management Area; however, if that were to occur, a decline in groundwater levels could reach a significant and unreasonable level if one more of the following occurred as a result of reduced groundwater levels:

1. Significant and unreasonable loss of riparian habitat along the Santa Ana River.
2. Significant and unreasonable loss of well production capacity.
3. Degradation of water quality that significantly impacts the beneficial uses of groundwater.

9.4 DETERMINATION OF MINIMUM THRESHOLDS

It is not possible to determine a minimum threshold at this time since no undesirable effects due to water levels have occurred in the past and are not foreseen. Nevertheless, OCWD's monitoring program continuously tracks water levels and groundwater quality in the Management Area. If water levels started to show a consistent long-term decline, OCWD's monitoring program would be expanded to examine potential impacts to riparian habitat, well yields, and groundwater quality. If impacts were observed, action would be taken, and minimum thresholds would be evaluated and established as appropriate.

SECTION 10. SUSTAINABLE MANAGEMENT RELATED TO BASIN STORAGE

The total volume of groundwater storage in the OCWD Basin is estimated to be 66 million acre-feet (OCWD, 2007). The total potential storage volume in the Santa Ana Canyon Management Area is estimated to be 43,500 acre-feet, as described in Section 3.2.3.

10.1 DEFINITION OF SIGNIFICANT AND UNREASONABLE REDUCTION IN STORAGE

As with groundwater levels, no long-term reduction in groundwater storage is foreseen in the Santa Ana Canyon Management Area; however, if that were to occur, a decline in groundwater storage could reach a significant and unreasonable level if one more of the following occurred due to a reduction in storage:

1. Significant and unreasonable loss of riparian habitat along the Santa Ana River.
2. Significant and unreasonable loss of well production capacity.
3. Degradation of water quality that significantly impacts the beneficial uses of groundwater.

10.2 DETERMINATION OF MINIMUM THRESHOLDS

It is not possible to determine a minimum threshold at this time since no undesirable effects due to a change in groundwater storage levels have occurred in the past and are not foreseen in the future. Nevertheless, OCWD's monitoring program continuously tracks water levels, which is a proxy for groundwater storage, and groundwater quality in the Management Area. If water levels showed a consistent long-term decline, OCWD's monitoring program would be expanded to examine potential impacts to riparian habitat, well yields and groundwater quality. If impacts were observed, action would be taken, and minimum thresholds would be evaluated and established as appropriate.

SECTION 11. SUSTAINABLE MANAGEMENT RELATED TO BASIN WATER QUALITY

Groundwater quality in the Santa Ana Canyon Management Area is affected by the quality of Santa Ana River water and subsurface inflow from the surrounding foothills. As mentioned in Section 6, Water Resource Programs, OCWD is involved in multiple programs to protect and improve the quality of water in the Santa Ana River. Groundwater from subsurface inflow contains naturally elevated concentrations of TDS and manganese.

OCWD has an extensive groundwater monitoring program in the Santa Ana Canyon Management Area as described in Section 5, Water Resource Monitoring Programs.

11.1 DEFINITION OF SIGNIFICANT AND UNREASONABLE DEGRADATION OF WATER QUALITY

There are three elements that must be considered when evaluating the impact of groundwater quality degradation.

The first element is considering the causal nexus between local groundwater management activities and groundwater quality. For example, if subsurface inflow from the surrounding foothills increases during a wet period, TDS and manganese levels could increase; however, this increase is not caused by groundwater management activities, but by natural events. A similar situation applies to the quality of Santa Ana River water. Although OCWD is involved in many programs to protect and improve the quality of Santa Ana River water, there could be changes in water quality that are outside of the control of Santa Ana Canyon Management Area stakeholders.

The second element to consider is if the beneficial uses of the groundwater have been negatively affected and/or if water quality regulations, such as Maximum Contaminant Levels (MCLs) and other potable water quality requirements have been exceeded.

The third element that must be considered is the volume of groundwater impacted by groundwater quality degradation. If small volumes are negatively affected yet do not materially affect the use of the aquifer for its existing beneficial uses, then this would not represent a significant and unreasonable degradation of water quality. However, if the impacted volume grows, then it could reach a level that it becomes significant and unreasonable.

When considering all three elements, “significant and unreasonable degradation of water quality” is defined as degradation of groundwater quality in the Santa Ana Canyon Management Area that is attributable to groundwater production or recharge practices within the Santa Ana Canyon Management Area and to the extent that a significant volume of groundwater becomes unusable for its designated beneficial uses.

11.2 DETERMINATION OF MINIMUM THRESHOLDS

The minimum thresholds for groundwater quality are exceedances of Maximum Contaminant Levels (MCLs) or other applicable regulatory limits that are directly attributable to groundwater

production and recharge practices in the Santa Ana Canyon Management Area that prevents the use of groundwater for its designated beneficial uses.

SECTION 12. SUSTAINABLE MANAGEMENT RELATED TO SEAWATER INTRUSION

The Santa Ana Canyon Management Area is located far from the ocean and thus there is no reason to consider the potential impact of seawater intrusion in this management area.

SECTION 13. SUSTAINABLE MANAGEMENT RELATED TO LAND SUBSIDENCE

Recently, as part of DWR's SGMA technical assistance to provide important SGMA-relevant data to Groundwater Sustainability Agency's (GSAs) for Groundwater Sustainability Plan (GSP) development and implementation, DWR contracted with TRE ALTAMIRA, Inc. to provide vertical displacement estimates are derived from InSAR data that are collected by the European Space Agency (ESA) Sentinel-1A satellite.

This dataset represents measurements of vertical ground surface displacement in more than 200 of the high-use and populated groundwater basins across the State of California between January of 2015 and October of 2020. InSAR data coverage began in late 2014 for parts of California, and coverage for the entire study area began on June 13, 2015. Included in this dataset are point data that represent average vertical displacement values for 100 square meter areas, as well as GIS rasters that were interpolated from the point data; rasters for total vertical displacement relative to June 13, 2015, and rasters for annual vertical displacement rates with earlier coverage for some areas, both in monthly time steps. The level of accuracy is approximately 0.05 feet.

To show subsidence in Basin 8-1, OCWD used the used a layer showing the total land subsidence since the start of the InSAR data on 6/13/2015 and ending on 7/1/2020, which corresponds to the end of the OCWD water year. The GIS layer used was: https://gis.water.ca.gov/arcgisimg/rest/services/SAR/Vertical_Displacement_TRE_ALTAMIRA_v2020_Total_Since_20150613_20200701/ImageServer

Figure 13-1 shows the total land displacement in Basin 8-1 from June 2015 to July 2020. In the Santa Ana Canyon Management Area, vertical displacement is essentially unchanged and within the accuracy of the method (0 to 0.05 ft). This is not surprising given the following:

- The presence of shale and sandstone bedrock underlying the alluvial aquifer is not thought to be sufficiently compressible to cause inelastic subsidence.
- The alluvial aquifer is thin, generally less than 100 feet, and composed mainly of sand and gravel with only minor amounts of clay.
- Groundwater levels and storage volumes are stable.
- Substantial groundwater level declines are highly unlikely due to the de minimis amount of groundwater production relative to the overall inflow of water to the Santa Ana Canyon Management Area.

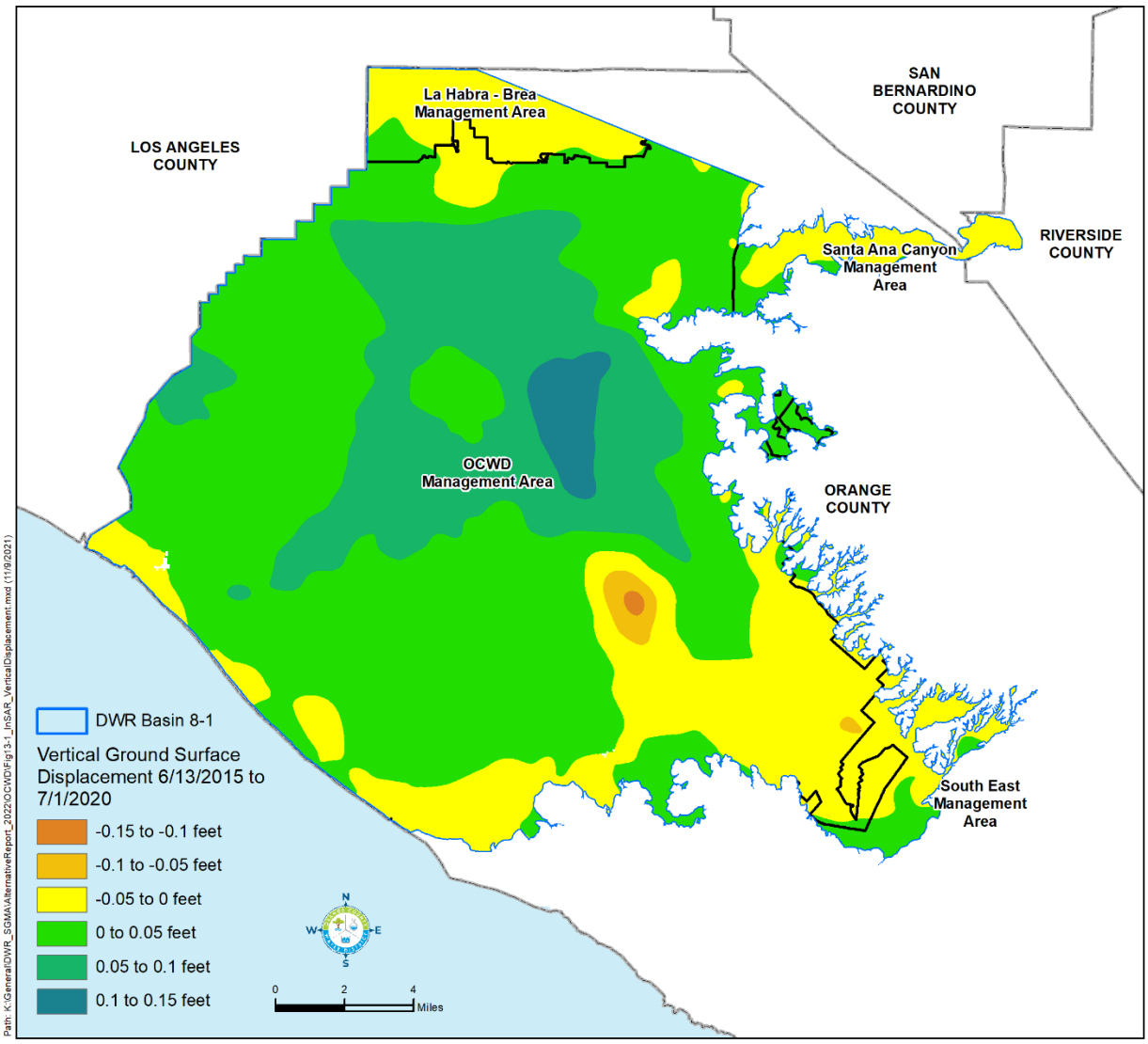


Figure 13-1: Total Vertical Ground Surface Displacement from June 2015 to July 2020

SECTION 14. MANAGING GROUNDWATER DEPLETIONS IMPACTING SURFACE WATER

The primary surface water feature in the Santa Ana Canyon Management Area is the Santa Ana River. In the Santa Ana Canyon Management Area, the Santa Ana River is a soft-bottomed channel that supports riparian habitat. Riparian habitat is dependent on river water released through Prado Dam, which is predominantly treated wastewater discharged in the upper watershed when storm flow is not present.

Groundwater within the Santa Ana Canyon alluvial aquifer is consistently 20 to 30 feet below ground surface and even shallower in the incised portions of the Santa Ana River channel. As described in Section 4, Water Budget, the flow of surface water through the canyon is two orders of magnitude larger than groundwater production. As a result, groundwater production has a de minimis impact on groundwater conditions and the flows of surface water through the canyon. This, in turn, means that groundwater production in the Santa Ana Canyon has a de minimis impact on the groundwater dependent ecosystems in the Santa Ana Canyon Management Area. Therefore, the undesirable result of “depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water due to groundwater conditions occurring throughout the basin” does not apply.

SECTION 15. PROTOCOLS FOR MODIFYING MONITORING PROGRAMS

Protocols for modifying monitoring programs are described in the 2017 Alternative.

SECTION 16. PROCESS TO EVALUATE NEW PROJECTS

For projects within OCWD, the process described in the OCWD Management Area part of this report applies. If new projects are proposed by others outside of OCWD's boundaries, OCWD would collaborate with the agency proposing the project to ensure that any proposed project would not cause significant and unreasonable results. Moreover, OCWD would review proposed projects through the CEQA process (i.e., reviewing and commenting on draft CEQA documents).

SECTION 17. REFERENCES

County of Orange, 2016. County of Orange, Santa Ana River Canyon and Brush Canyon Habitat Management Areas, 2016 Annual Monitoring Report, June 2016.

OCWD, 2007. Report on Evaluation of Orange County Groundwater Basin Storage and Operational Strategy, February 2007.

USGS, 1964. Geology and Oil Resources of the Eastern Puente Hills Area, Southern California. By D.L. Durham and R.F. Yerkes. USGS Professional Paper 420-B.

Attachment 1

Department of Water Resources (DWR) Comments on 2017 Alternative and Responses

Responses to DWR Comments on Alternative Plan

This section provides comments to DWR's Alternative Assessment Staff report, dated July 17, 2019. In addition, responses are provided for the four suggested recommended actions listed in the staff report (Section IV, B).

OCWD Comments on DWR Alternative Assessment Staff Report, July 17, 2019.

Page 7, Part IV, D, Basin coverage. DWR is correct in that the three agencies that collaborated in preparing the Alternative do not cover the entire basin; however, all other agencies with jurisdiction, such as the County of Orange, City of Corona, City of Yorba Linda, City of Anaheim and others were notified and offered the opportunity to be involved. No comments were received from any of the contacted agencies. It is our opinion, that through this process, OCWD, La Habra and IRWD did achieve complete coverage of Basin 8-1.

Page 14, Part V, B.2, Groundwater Conditions DWR staff mentioned that monitoring data showing that there are no depletions of interconnected surface water that will cause significant and unreasonable impacts on beneficial users of surface water is not provided, per Page 9 of the Alternative. Page 9 of the Alternative is part of the Overview of the entire report and does not contain detailed information Detailed monitoring information, including 10 years of water level data (Page 364), water budget information, etc. is presented in the Santa Ana Canyon Management Area section of the Alternative. The information presented in the Santa Ana Canyon Management Area section of the report supports the conclusion that there are no depletions of interconnected surface water that will cause significant and unreasonable impacts on beneficial users of surface water. Additional information has been provided below in response to Recommendation No. 1.

Page 16,. Part V, B.4, Management Areas. At the time the 2017 Alternative was submitted, the City of La Habra Groundwater Sustainability Agency (GSA) was contemplating preparing a GSP to be submitted in 2020. However, the City of La Habra GSA has elected to continue contributing to the Basin 8-1 Alternative.

Response to DWR's Recommended Actions.

Pages 32-33, Part IV, B, Recommended Actions.

> **DWR Recommended Action 1**. Staff recommend the Agencies clarify the basis for the determination that depletions of interconnected surface water in the Santa Ana Canyon Management Area are de minimis, while considering the volume of pumping, the extent of the interconnection between groundwater and surface water, and the beneficial users of the surface water.
>
> Staff recommend clarifying whether surface water bodies in the La Habra-Brea Management Area are interconnected with groundwater and whether groundwater-dependent ecosystems exist within the Santa Ana Canyon and La Habra Management Areas.

OCWD Response:

OCWD provided several lines of evidence for the determination that depletions of interconnected surface water in the Santa Ana Canyon area are insignificant (i.e., de minimis).

1. The large disparity in the supply of surface water to the Santa Ana Canyon area compared to the amount of pumping. The annual flow in the Santa Ana River is much greater than the amount of annual groundwater production. When the 2017 Alternative was prepared, some production wells in the Santa Ana Canyon were estimated, namely production wells supplying irrigation water to the Green River Golf Course. OCWD and Orange County Department of Public Works have worked together to install meters on wells supplying the Green River Golf Course. Now all production wells in the Santa Ana Canyon are metered. This effort resulted in a reduction in pumping as prior estimates were too high. For the 2022 Update, the 5-year water budget is presented in Table 1-2 in the Santa Ana Canyon section (reproduced below). This water budget is a combined surface and groundwater water budget for the Santa Ana Canyon Management Area. As shown on this table, groundwater production over this five-year period is approximately 0.6 percent of the total inflow to the canyon area.

Table1-2: Water Budget, 5-Year Average (2016-21)

Flow Component	5-Yr Avg: 2016-21 (afy)
INFLOW	
Santa Ana River Base Flow	76,860
Santa Ana River Storm Flow	78,750
Subsurface Inflow	6,000
TOTAL INFLOW	**161,610**
OUTFLOW	
Santa Ana River Base Flow	76,120
Santa Ana River Storm Flow	78,750
Evapotranspiration	740
Groundwater Production	1,000
Subsurface Outflow	5,000
TOTAL OUTFLOW	**161,610**

2. The second line of evidence is the stability of groundwater levels as shown in Figure 3-3 in the Santa Ana Canyon section of the report. This figure is reproduced below. The consistent, stable nature of groundwater elevations in the Santa Ana Canyon Management Area shows that the aquifer is generally full and at equilibrium, which is consistent with the finding that here are no measurable losses of flows between Prado Dam upstream and OCWD's diversion to its recharge system just below Imperial Highway.
3. The third line of evidence, mentioned above, is the finding that there are no measurable losses of flows between Prado Dam and OCWD's diversion at the Imperial Rubber Dam. The location of these two measuring locations is shown in the figure below. The measuring location below Prado Dam is operated by the United States Geological Survey (USGS) and is identified as US11074000, Santa Ana R BL Prado Dam, CA. The USGS carefully reviews data from this location and publishes it annually as it is of interest to multiple stakeholders, including OCWD, the US Army Corps of Engineers, and a number of agencies upstream of Prado Dam.

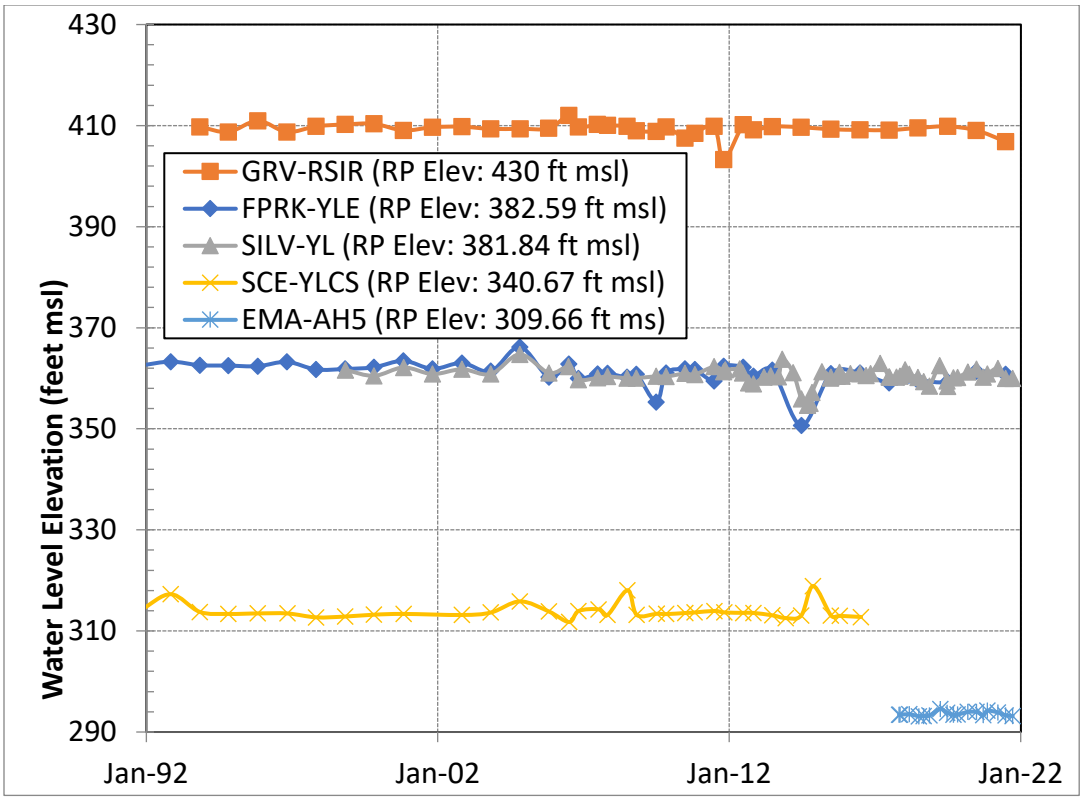
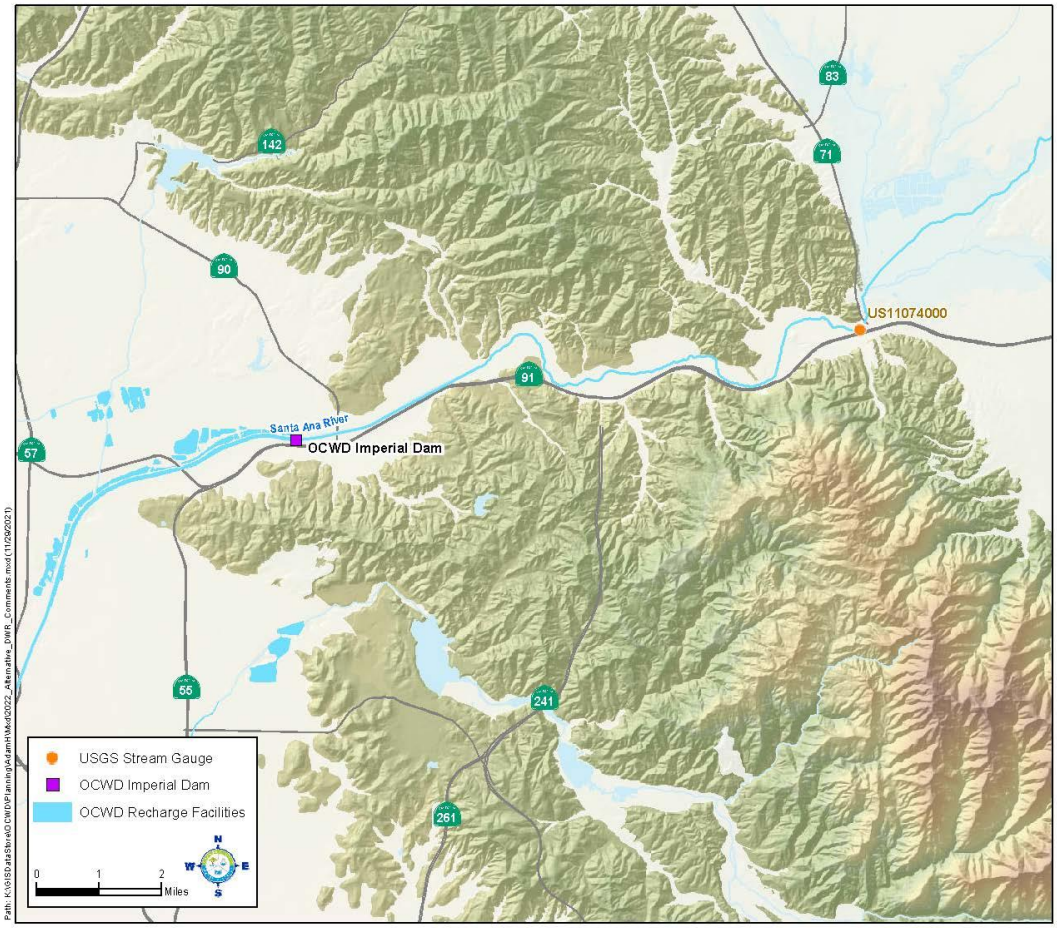


Figure 3-3: Water Level Hydrographs of Selected Wells

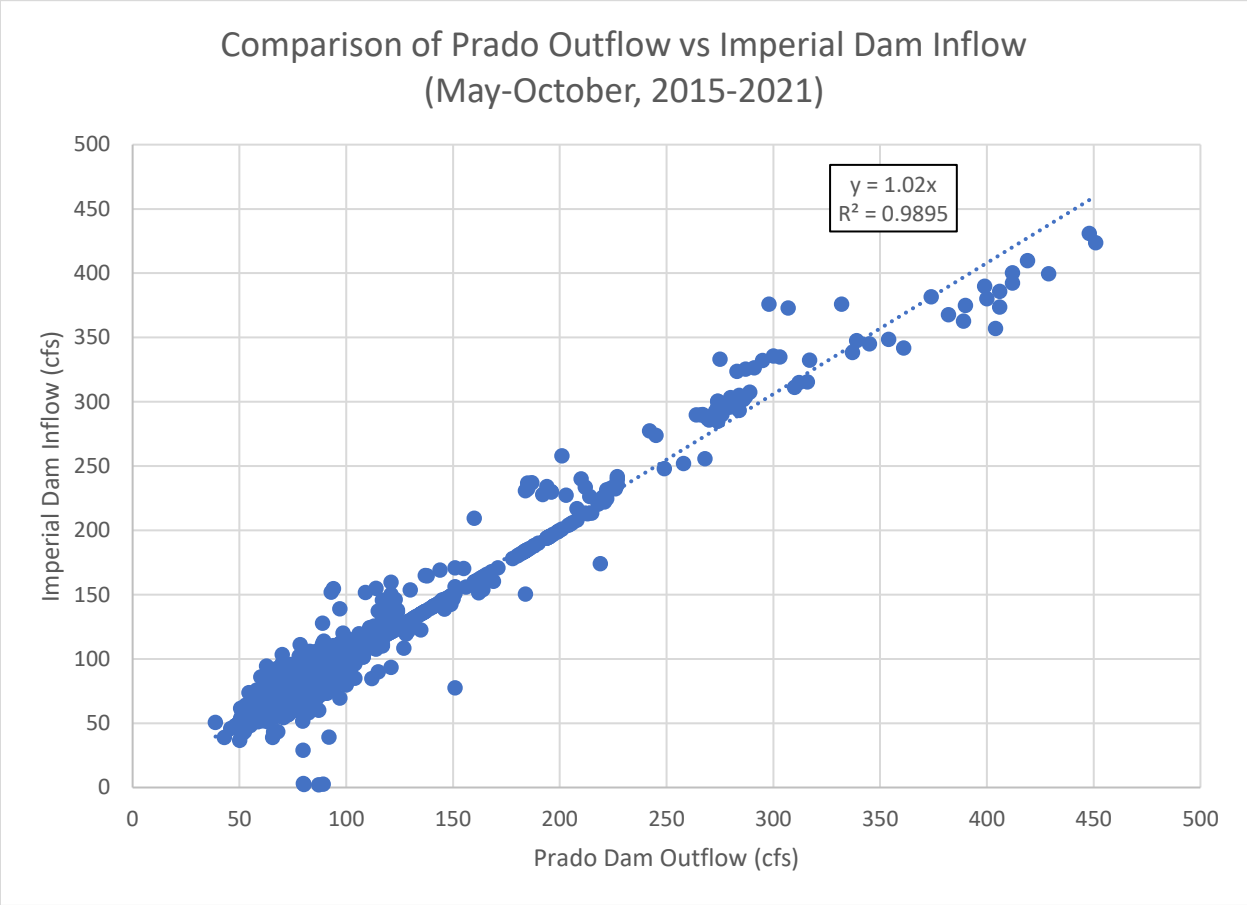


Location of USGS gauging station below Prado Dam and OCWD Imperial Rubber Dam

Inflow from the Santa Ana River to OCWD's recharge system is measured at the Imperial Rubber Dam (see figure). When flows are less than 1,000 cubic feet per second (cfs), the rubber dam remains fully inflated and all surface flows are either diverted from the river to downstream recharge basins or it is bypassed around the dam and placed back into the river channel. Flows that are diverted from the river pass through a Parshall flume, which measures the flow rate. Flows that are bypassed around the dam are measured using sonic flowmeters installed in the bypass pipelines. This arrangement ensures that all flows received by OCWD under 1,000 cfs are measured accurately. OCWD staff routinely check the accuracy of these two measuring stations. OCWD data from the Imperial Rubber Dam location provide data on total flow of the Santa Ana River on a daily basis.

OCWD compiled daily flow measurements for the USGS gauge below Prado Dam (11074000) and at OCWD's Imperial Rubber Dam for the period July 2015 to October 2021. During the winter months, there can be rainfall that occurs between Prado Dam and the Imperial Rubber Dam, resulting in ungauged inflow in this reach. To screen out these periods, the flow data for May through October is used and shown in the graph below. This graph shows there is very good agreement between the outflow at Prado Dam and what is received at the Imperial

Rubber Dam (r^2 =0.99). This demonstrates that there are no net losses in flow between these two locations, at least within the margin of error in the measurement accuracy. The conclusion is that the flow measurements at the two gauges are consistent with the water level data that show that the Santa Ana Canyon Management Area is in hydrologic equilibrium, and also that the volume of groundwater pumping is relatively small so as to not measurably reduce surface water volumes through the canyon.



DWR has made a dataset, called "Natural Communities Commonly Associated with Groundwater (NCCAG) Dataset" available at NC Dataset Viewer (ca.gov). This dataset shows that there is riparian vegetation located in the Santa Ana Management Area along the SAR channel. The evapotranspiration associated with the riparian vegetation was estimated to be 740 afy as shown in Table 1-2.

La Habra GSA Response:

Requested information on whether surface water bodies in the La Habra-Brea Management Area are interconnected with groundwater and whether groundwater-dependent ecosystems exist within the La Habra Management Area is included in the 2022 Update.

DWR Recommended Action 2. Staff recommend a basin-wide water budget utilizing inflow and outflow information from each management area or a water budget for each management area be provided in accordance with the GSP regulations (CCR 23 Section 354.18).

OWWD Response:

Over the years, OCWD has developed a comprehensive data collection system to characterize basin inflows and outflows. In an average year, approximately 80 percent of the inflow to the basin is measured and all of the groundwater production is measured and accounted for. In addition, every year, the change in groundwater storage is estimated based on water level changes in the three basin aquifers. This process defines the current storage condition in the basin and refines the net incidental (unmeasured) recharge portion of the water budget. Section 4 of the OCWD Management Area section of the Alternative describes the various elements of the water budget. The five-year water budget presented in the OCWD Management Area of the report is reproduced below.

Table 4-1: Water Budget, WY2016-17 to 2020-21 (OCWD Management Area)

FLOW COMPONENT	2016-17	2017-18	2018-19	2019-20	2020-21
INFLOW					
Santa Ana River baseflow	70,000	65,400	98,000	74,500	76,400
Santa Ana River stormflow	65,400	24,100	63,700	79,500	36,600
Recycled Water (GWRS/Alamitos Barrier)	98,000	106,400	97,200	99,700	101,700
Imported Water	50,400	66,100	40,300	18,100	0
Net Estimated Unmeasured or Incidental Recharge*	67,900	26,200	45,600	41,400	19,100
TOTAL INFLOW:	351,700	288,200	344,800	313,200	233,800
OUTFLOW					
Groundwater Production	300,700	237,200	303,800	277,200	281,800
TOTAL OUTFLOW:	300,700	237,200	303,800	277,200	281,800
CHANGE IN STORAGE:	51,000	51,000	41,000	36,000	(48,000)

The water budget presented in Table 4-1 is essentially the water budget for Basin 8-1, except for the La Habra Management Area. The water budget for the Santa Ana Canyon Management Area shows that this area provides a net source of water to the OCWD Management area that is captured in the surface

water recharge component and net estimated unmeasured recharge (via subsurface inflow). The water budget for the South East Management area is captured in the net unmeasured recharge (via subsurface inflow) minus any groundwater production in this area. Groundwater production in the South East Management area is so small, it is inconsequential in terms of the overall water budget.

Starting in April 2022, OCWD and other agencies within Basin 8-1 will be presenting the various water budget components as defined in CCR 23 Section 354.18 as part of the annual reporting process.

La Habra GSA Response:

Additional information regarding the water budget in the La Habra-Brea Management Area is included in the 2022 Update.

> **DWR Recommended Action 3**. Staff recommend that the Agencies provide the agreements among the different jurisdictions which commit the Agencies to conduct monitoring and implement the Alternative within their management areas. If no GSP is developed for the La Habra-Brea Management Area, the next Alternative update should provide additional explanation and quantification of the management approaches, sustainable management criteria, and evidence for the presence or absence of undesirable results for the La Habra-Brea Management Area.

Response:

The response to this recommended action comes in two parts. The first addresses the commitment of the Agencies to conduct monitoring and implement the Alternative within their management areas. The second addresses additional information requested for the La Habra-Brea Management Area.

Part 1: Commitment to Conduct Monitoring and Implement Alternative:

As part of the process of developing the Basin 8-1 Alternative, OCWD collaborated with the City of La Habra Groundwater Sustainability Agency and the Irvine Ranch Water District (IRWD). Both of these agencies committed resources to prepare their respective sections of the Alternative and submitted letters of support for the Alternative. The letters of support and OCWD's resolution of support were submitted to DWR along with the Alternative in December 2016. These same agencies have committed resources to updating the Alternative and OCWD has again adopted a resolution of support to submit the updated Alternative to DWR. This process demonstrates the continued commitment of the agencies to comply with SGMA and take necessary actions to continue sustainably managing Basin 8-1.

In terms of groundwater monitoring, OCWD has an extensive monitoring well network. A subset of these wells was part of the CASGEM program. As described in the 2022 Update, this well network was updated and is now part of the Monitoring Well Network (MWN), which has replaced CASGEM. Included in the MWN are two wells owned by IRWD that are located in the South East Management Area. As a result, water level data submitted twice a year by OCWD covers all of Basin 8-1 except for the La Habra-Brea Management Area. The City of La Habra GSA will be submitting water level data for their area separately.

In addition to groundwater level monitoring, the agencies are committed to continuing to conduct monitoring of water quality, groundwater production, subsidence, and any other monitoring that may be required to satisfy sustainable management criteria.

Part 2: Additional Information for La Habra-Brea Management Area

The City of La Habra GSA incorporated additional information into the La Habra-Brea Management Area section, including additional explanation and quantification of the management approaches, sustainable management criteria, and clarifying the evidence for the absence of undesirable results for the La Habra-Brea Management Area. Additionally, data gaps within the monitoring network are discussed in the 2022 Update, including steps currently being taken to address and fill the gaps.

> **DWR Recommended Action 4**. Staff recommend the Agencies explain the timeframe that the Basin can safely operate, without experiencing undesirable results, after exceeding 500,000 AF below full conditions (23 CCR Section 354.26(b)(2)) and clarify the wells used to calculate the change in groundwater in storage and the overall groundwater in storage.

Response:

It is important to reiterate that exceeding 500,000 acre-feet from full is a hypothetical situation and is not an intended action under normal basin management circumstances. Such a hypothetical situation is considered an extraordinary circumstance; for example, an extended drought that is exacerbated by a lengthy shutdown of imported water into southern California due to a catastrophic event such as a major earthquake. This hypothetical situation would not be expected to last more than one year; however, other worse hypothetical cases can be conceived. Because the cause(s) and magnitude of a hypothetical temporary storage exceedance beyond 500,000 acre-feet below full are unknown, it is difficult to quantify a precise timeframe that the Basin can operate without experiencing undesirable results. That said, a *cumulative* exceedance of no more than 200,000 acre-feet beyond 500,000 acre-feet below full conditions over five consecutive years is suggested as a general guideline. This means that the average exceedance would be no more than 40,000 acre-feet during a maximum five-year period. If the period of exceedance was two years, then the average exceedance would be 100,000 acre-feet. As a general guideline, limiting the magnitude and duration of the exceedance will lessen the potential for undesirable results, as described below:

1. The rate of inland movement of seawater intrusion with the basin at 500,000 acre-feet below full conditions and with the seawater barriers is expected to be on the order of 1-2 feet per day. Over a 5-year period, this could represent a brackish water encroachment of roughly ½ mile into some of the coastal gaps. While this encroachment could cause localized water quality degradation, it is unlikely to reach production wells which are farther inland. Once the storage exceedance ends, and the basin storage is within the established operating range, the seawater barriers' performance would be expected to recover to their design conditions and subsequently halt and reverse the brackish groundwater inland encroachment.

2. Reduction of pore pressures in and drainage of water from thick, compressible confining layers is a slow process due to the low permeability of the confining layers. Therefore, a maximum five-year period of basin storage exceeding 500,000 acre-feet from full would not be expected to cause significant inelastic land subsidence.

3. Lowering of groundwater levels could temporarily reduce or halt the production potential of an unknown number of water supply wells; however, assuming the distribution of lower groundwater levels is distributed across the Basin, the magnitude of reduced groundwater levels would be lessened, and the number of temporarily-impacted wells would likely be manageable.

Note that this discussion applies to the OCWD portion of the groundwater basin. Storage conditions in the La Habra-Brea Management Area are separate.

OCWD uses a large network of wells to obtain water levels in June every year, including:

1. OCWD owned wells (including multi-port monitoring wells)
2. Groundwater producer wells (must be turned off for 24 hours in advance)
3. Selected wells in Geotracker

The wells/monitoring points used for the June 2021 contour maps of the Shallow, Principal and Deep Aquifers are attached. For 2021, 350 wells/monitoring points were used for the Shallow Aquifer, 421 wells/monitoring points for the Principal Aquifer, and 61 wells/monitoring points for the Deep Aquifer. There may be small changes in this well/monitoring point list on an annual basis.

List of Wells/Monitoring Points Used for June 2021 Water Level Contour Map of Orange County Groundwater Basin (OCWD Management Area)

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Shallow Aquifer Wells (Model Layer 1)

STAID1	WELLNM	STAID	STANAME	OWNERNM	NAD83_X	NAD83_Y	GIS_SYMNM	PERF_ZONE	SHORTDATE	WLELEV_2021
19013	CSF-1	19127	CSF-1/1/WB1/MP1	CA. STATE UNIV., FULLERTON	6064343.084	2270822.497	Multiport Monitoring Well	MP1 (132)	<Null>	<Null>
1092	FPRK-YLE	1093	FPRK-YLE/1	CANYON RV PARK	6119133.638	2263083.811	Active Small-System Production Well	60-84	6/29/2021	360.79
1090	FPRK-YLW	1091	FPRK-YLW/1	CANYON RV PARK	6119044.248	2263049.927	Active Small-System Production Well	48-80	6/29/2021	359.55
1136	SULY-OA4	1137	SULY-OA4/1	CHANDLER'S SAND & GRAVEL	6094796.046	2243793.122	Inactive Production Well	-	<Null>	<Null>
23723	CHEV-MW15B	23724	CHEV-MW15B/1	CHEVRON MANAGEMENT COMPANY	6072572.119	2277343.802	Monitoring Well	90-130	<Null>	<Null>
15561	CNXT-NBES2	15562	CNXT-NBES2/1	CONEXANT SYSTEMS, INC.	6071916.005	2188840.827	Monitoring Well	21-41	5/27/2021	21.63
15734	CNXT-NBES3A	15735	CNXT-NBES3A/1	CONEXANT SYSTEMS, INC.	6071601.336	2188635.986	Monitoring Well	23.9-44.3	5/27/2021	21.43
15571	CNXT-NBES4B	15572	CNXT-NBES4B/1	CONEXANT SYSTEMS, INC.	6071542.899	2188493.017	Monitoring Well	23-43	<Null>	<Null>
15569	CNXT-NBES6	15570	CNXT-NBES6/1	CONEXANT SYSTEMS, INC.	6071620.501	2188443.488	Monitoring Well	25-40	<Null>	<Null>
8610	CNXT-NBMW29	8611	CNXT-NBMW29/1	CONEXANT SYSTEMS, INC.	6071755.155	2189235.843	Monitoring Well	21-40	<Null>	<Null>
8608	CNXT-NBMW30	8609	CNXT-NBMW30/1	CONEXANT SYSTEMS, INC.	6071902.892	2189098.302	Monitoring Well	21-42	<Null>	<Null>
14611	SILV-YL	14612	SILV-YL/1	COUNTY OF ORANGE	6117870.025	2262814.346	Other Active Production Well	40-66	6/30/2021	359.99
15932	DAVI-O	15933	DAVI-O/1	DAVIDSON, TOM & CINDY	6090897.443	2241414.862	Other Active Production Well	-	<Null>	<Null>
23713	DLA-GTMW04	23714	DLA-GTMW04/1	DEFENSE LOGISTICS AGENCY	6087208.914	2219923.944	Monitoring Well	90-110	7/7/2021	48.06
4156	OCWD-BS103	5213	OCWD-BS103/1	DEPARTMENT OF WATER RESOURCES	6027754.184	2208435.987	Monitoring Well	43-78	6/29/2021	-4.68
5218	OCWD-BS105	5219	OCWD-BS105/1	DEPARTMENT OF WATER RESOURCES	6022947.616	2207365.785	Monitoring Well	69-85	7/7/2021	-8.97
3071	OCWD-BS106	5222	OCWD-BS106/1	DEPARTMENT OF WATER RESOURCES	6024891.085	2211245.522	Monitoring Well	50-92	6/30/2021	-6.17
5133	OCWD-SA10	5134	OCWD-SA10/1	DEPARTMENT OF WATER RESOURCES	6039247.362	2190515.118	Monitoring Well	90-120	6/28/2021	3.249
5139	OCWD-SA12	5140	OCWD-SA12/1	DEPARTMENT OF WATER RESOURCES	6040581.662	2205805.671	Monitoring Well	86-126	6/30/2021	8.88
5115	OCWD-SA3	5116	OCWD-SA3/1	DEPARTMENT OF WATER RESOURCES	6034107.028	2196075.864	Monitoring Well	100-160	6/28/2021	2.631
1620	CMIL-A	3108	CMIL-A/1	FIRST INTERSTATE BANK	6101671.628	2260355.691	Destroyed and Sealed Well	21-101	<Null>	<Null>
39	GG-28	2687	GG-28/1	GARDEN GROVE	6049374.528	2232905.514	Inactive Production Well	130-240	6/30/2021	59
1407	WWGC-SAK3	1408	WWGC-SAK3/1	GARDEN GROVE	6056974.671	2220835.054	Other Active Production Well	149-170	6/28/2021	50.85
9522	SCWC-YLCO2	9523	SCWC-YLCO2/1	GOLDEN STATE WATER COMPANY	6091725.912	2261952.552	Inactive Production Well	100-480	5/25/2021	254
506	ETCH-AL2	507	ETCH-AL2/1	GOODWIN MUTUAL WATER COMPANY	6086723.02	2261993.771	Inactive Production Well	85-185	6/29/2021	236.58
23034	HEUL-A	23035	HEUL-A/1	HEULER, BARTON	6060159.382	2256110.939	Other Active Production Well	125-145	<Null>	<Null>
2830	OCWD-HH2	2832	OCWD-HH2/2	HUNTINGTON HARBOUR CORPORATION	6012383.001	2212193.192	Monitoring Well	85-95	6/29/2021	-8.893
2845	OCWD-HH3	2847	OCWD-HH3/2	HUNTINGTON HARBOUR CORPORATION	6012242.137	2210674.48	Monitoring Well	75-85	6/29/2021	-7.988
4242	OCWD-HH5	4245	OCWD-HH5/3	HUNTINGTON HARBOUR CORPORATION	6013929.084	2207761.949	Monitoring Well	63-73	6/29/2021	-5.877
20312	OCWD-HH6B	20313	OCWD-HH6B/1	HUNTINGTON HARBOUR CORPORATION	6011785.354	2213862.346	Monitoring Well	90-100	7/1/2021	-10.411
1200	HYNS-S2	1201	HYNS-S2/1	HYNES ESTATES, INC.	6032783.88	2236398.43	Destroyed and Sealed Well	162-182	<Null>	<Null>
23616	IRWD-MICH11	23617	IRWD-MICH11/1	IRVINE RANCH WATER DISTRICT	6078141.044	2188888.245	Other Active Production Well	21-69	<Null>	<Null>
23618	IRWD-MICH12	23622	IRWD-MICH12/1	IRVINE RANCH WATER DISTRICT	6078209.142	2188963.633	Other Active Production Well	19-63	<Null>	<Null>
23623	IRWD-MICH13	23624	IRWD-MICH13/1	IRVINE RANCH WATER DISTRICT	6078263.018	2188904.583	Other Active Production Well	21-67	<Null>	<Null>
23625	IRWD-MICH14	23626	IRWD-MICH14/1	IRVINE RANCH WATER DISTRICT	6078303.831	2188587.342	Other Active Production Well	-	<Null>	<Null>
23627	IRWD-MICH15	23628	IRWD-MICH15/1	IRVINE RANCH WATER DISTRICT	6078219.918	2188672.325	Other Active Production Well	-	<Null>	<Null>
23495	CREA-YL	23496	CREA-YL/1	JOHN CREANGA	6078734.136	2277902.352	Other Active Production Well	135-175	6/30/2021	302.223
1211	ITO-LA	1212	ITO-LA/1	JOINT FORCES TRAINING BASE LOS ALAMITOS	6014444.094	2233893.201	Other Active Production Well	70-710	6/29/2021	14.26
432	W-432	433	W-432/1	KATHY BONANNO	6080325.38	2272580.463	Inactive Production Well	117-137	6/30/2021	286.993
1759	MKAW-FV	3235	MKAW-FV/1	KAWAGUCHI ENTERPRISES, LP	6051164.175	2210349.133	Other Active Production Well	185-225	<Null>	<Null>
11544	LAC-33Y10	11545	LAC-33Y10/1	LOS ANGELES COUNTY	6000026.997	2231221.991	Monitoring Well	75-115	<Null>	<Null>
1160	GHAV-GG	1161	GHAV-GG/1	MAGILL, STANLEY R.	6059608.702	2232220.109	Other Active Production Well	168-188	6/28/2021	61.3
22691	HMW-01	22692	HMW-01/1	MANHEIM CALIFORNIA (COX ENTERPRISES)	6078590.494	2262972.301	Monitoring Well	55-75	<Null>	<Null>
19926	USMC-16MW11	19927	USMC-16MW11/1	MARINE CORPS AIR STATION	6110625.131	2193056.413	Monitoring Well	160-180	<Null>	<Null>
18840	USMC-16MW2	18841	USMC-16MW2/1	MARINE CORPS AIR STATION	6110221.201	2193322.5	Monitoring Well	153-178	<Null>	<Null>
19957	USMC-24EX11	19958	USMC-24EX11/1	MARINE CORPS AIR STATION	6104523.31	2191224.413	Monitoring Well	135-180	<Null>	<Null>
19959	USMC-24EX12A	19960	USMC-24EX12A/1	MARINE CORPS AIR STATION	6105720.54	2190982.863	Monitoring Well	115-160	<Null>	<Null>
19965	USMC-24EX13A	19966	USMC-24EX13A/1	MARINE CORPS AIR STATION	6107553.141	2190629.843	Monitoring Well	110-160	<Null>	<Null>
19971	USMC-24EX14	19972	USMC-24EX14/1	MARINE CORPS AIR STATION	6104912.99	2191678.953	Monitoring Well	115-185	<Null>	<Null>
19953	USMC-24EX9	19954	USMC-24EX9/1	MARINE CORPS AIR STATION	6108691.53	2189395.353	Monitoring Well	120-200	<Null>	<Null>
20253	USMC-24MW10AB	20255	USMC-24MW10AB/2	MARINE CORPS AIR STATION	6107253.063	2191367.404	Monitoring Well	130-140	<Null>	<Null>
20269	USMC-24MW9AB	20271	USMC-24MW9AB/2	MARINE CORPS AIR STATION	6106891.198	2190845.415	Monitoring Well	140-150	<Null>	<Null>
18621	USMC-24NEW7	18622	USMC-24NEW7/1	MARINE CORPS AIR STATION	6108983.5	2190576.7	Monitoring Well	118-158	<Null>	<Null>
18619	USMC-24NEW8	18620	USMC-24NEW8/1	MARINE CORPS AIR STATION	6109711.5	2190269.7	Monitoring Well	122-162	<Null>	<Null>
13875	USMC-MW03E	13876	USMC-MW03E/1	MARINE CORPS AIR STATION	6109510.523	2188847.525	Monitoring Well	124-164	<Null>	<Null>
13833	USMC-MW19E	13834	USMC-MW19E/1	MARINE CORPS AIR STATION	6104580.874	2194499.736	Monitoring Well	98-138	<Null>	<Null>
14336	USMC-MW23	14337	USMC-MW23/1	MARINE CORPS AIR STATION	6105584.809	2185916.035	Monitoring Well	64-104	<Null>	<Null>
18586	USMC-MW29A	18587	USMC-MW29A/1	MARINE CORPS AIR STATION	6110133.9	2187312.33	Monitoring Well	75-100	<Null>	<Null>
22910	USMC-MW2D2	22911	USMC-MW2D2/1	MARINE CORPS AIR STATION	6081840.685	2206480.568	Monitoring Well	76-86	<Null>	<Null>
13861	USMC-MW31	13862	USMC-MW31/1	MARINE CORPS AIR STATION	6107617.015	2189648.229	Monitoring Well	105-145	<Null>	<Null>
13859	USMC-MW37	13860	USMC-MW37/1	MARINE CORPS AIR STATION	6108153.508	2188707.479	Monitoring Well	89-130	<Null>	<Null>
22617	USMC-MW43B	22618	USMC-MW43B/1	MARINE CORPS AIR STATION	6110701.167	2188814.201	Monitoring Well	100.41-140.91	<Null>	<Null>
13817	USMC-MW51	13818	USMC-MW51/1	MARINE CORPS AIR STATION	6107153.052	2192582.528	Monitoring Well	125-165	<Null>	<Null>
13877	USMC-MW70	13878	USMC-MW70/1	MARINE CORPS AIR STATION	6110644.542	2189446.258	Monitoring Well	125-165	<Null>	<Null>
13903	USMC-MW73	13904	USMC-MW73/1	MARINE CORPS AIR STATION	6109324.506	2187794.721	Monitoring Well	90-130	<Null>	<Null>
13889	USMC-MW91	13890	USMC-MW91/1	MARINE CORPS AIR STATION	6108291.003	2188258.73	Monitoring Well	110-150	<Null>	<Null>
7256	USMC-PS1	7257	USMC-PS1/1	MARINE CORPS AIR STATION	6106591.503	2189442.242	Monitoring Well	102-122	<Null>	<Null>
7258	USMC-PS2	7259	USMC-PS2/1	MARINE CORPS AIR STATION	6105657.052	2193519.226	Monitoring Well	103-133	<Null>	<Null>
18564	USMC-PS3A	18565	USMC-PS3A/1	MARINE CORPS AIR STATION	6109290.87	2187093.49	Monitoring Well	70-105	<Null>	<Null>
13849	USMC-MP06	14437	USMC-MP06/1/WB1/MP1	MARINE CORPS AIR STATION	6100689.85	2194415.05	Multiport Monitoring Well	MP1 (110)	<Null>	<Null>
13851	USMC-MP08	14457	USMC-MP08/1/WB1/MP1	MARINE CORPS AIR STATION	6105310.575	2187889.19	Multiport Monitoring Well	MP1 (70)	<Null>	<Null>
13853	USMC-MP10	14501	USMC-MP10/1/WB1/MP1	MARINE CORPS AIR STATION	6089272.939	2200492.977	Multiport Monitoring Well	MP1 (222)	<Null>	<Null>
20296	USMC-24EX20B	20297	USMC-24EX20B/1	MARINE CORPS AIR STATION	6106098.39	2192979.513	Other Active Production Well	106.8-204.8	<Null>	<Null>
20015	USMC-SGU1	20016	USMC-SGU1/1	MARINE CORPS AIR STATION	6109366.294	2188607.434	Other Active Production Well	96-206	3/9/2021	153.37
20090	USMC-SGU16	20091	USMC-SGU16/1	MARINE CORPS AIR STATION	6108500.694	2189851.338	Other Active Production Well	105-185	3/9/2021	128.4
21967	USMC-SGU39	21968	USMC-SGU39/1	MARINE CORPS AIR STATION	6105829.364	2192700.994	Other Active Production Well	90-190	3/8/2021	108.56
15117	MCGN-BP1	15118	MCGN-BP1/1	MC GINNESS, BILL	6030378.839	2253137.368	Other Active Production Well	50-255	6/30/2021	39.29
14284	MSG-BP10L	14285	MSG-BP10L/1	MCCOLL SITE GROUP	6037931.453	2272258.752	Monitoring Well	247-257	6/30/2021	103.92
1134	SULY-OA1	1135	SULY-OA1/1	MILAN REI, LLC	6095028.945	2243462.53	Other Active Production Well	-	6/29/2021	<Null>
428	W-428	429	W-428/1	MONBRI, LLC	6074730.957	2271716.012	Inactive Production Well	-	<Null>	<Null>
3976	OCWD-P10	3977	OCWD-P10/1	ORANGE COUNTY WATER DISTRICT	6044117.886	2186405.599	Destroyed and Sealed Well	90-130	<Null>	<Null>
19007	OCWD-BIO1	19008	OCWD-BIO1/1	ORANGE COUNTY WATER DISTRICT	6082730.975	2257183.878	Inactive Production Well	25-115	7/7/2021	229.84
20858	OCWD-EW2	20859	OCWD-EW2/1	ORANGE COUNTY WATER DISTRICT	6053332.928	2263207.928	Inactive Production Well	130-196	<Null>	<Null>
20851	OCWD-EW2A	20852	OCWD-EW2A/1	ORANGE COUNTY WATER DISTRICT	6049376.318	2263317.874	Inactive Production Well	122-188	<Null>	<Null>
22619	OCWD-EW3A	22620	OCWD-EW3A/1	ORANGE COUNTY WATER DISTRICT	6050896.1	2260365.9	Inactive Production Well	235-290	<Null>	<Null>
21041	OCWD-EW4	21042	OCWD-EW4/1	ORANGE COUNTY WATER DISTRICT	6053819.546	2259558.892	Inactive Production Well	130-255	<Null>	<Null>
18056	OCWD-I26A	18057	OCWD-I26A/1	ORANGE COUNTY WATER DISTRICT	6048813.793	2200416.667	Injection Well	60-195	7/6/2021	5.49
19465	OCWD-I27A	19466	OCWD-I27A/1	ORANGE COUNTY WATER DISTRICT	6036244.383	2199722.281	Injection Well	78-148	<Null>	<Null>
19469	OCWD-I28A	19470	OCWD-I28A/1	ORANGE COUNTY WATER DISTRICT	6036238.41	2199048.656	Injection Well	80-140	7/6/2021	3
19697	OCWD-I29A	19698	OCWD-I29A/1	ORANGE COUNTY WATER DISTRICT	6034766.9	2200360.103	Injection Well	90-120	<Null>	<Null>
19701	OCWD-I30A	19702	OCWD-I30A/1	ORANGE COUNTY WATER DISTRICT	6034047.2	2200278.003	Injection Well	95-160	6/28/2021	2.53
19711	OCWD-I31A	19712	OCWD-I31A/1	ORANGE COUNTY WATER DISTRICT	6033586.7	2201013.903	Injection Well	90-165	7/6/2021	1.67
19707	OCWD-I32A	19708	OCWD-I32A/1	ORANGE COUNTY WATER DISTRICT	6033114.8	2200599.403	Injection Well	90-155	<Null>	<Null>
19654	OCWD-I33A	19655	OCWD-I33A/1	ORANGE COUNTY WATER DISTRICT	6045921.5	2194432.303	Injection Well	61-156	6/30/2021	5.16
19656	OCWD-I34A	19657	OCWD-I34A/1	ORANGE COUNTY WATER DISTRICT	6045756.9	2193917.303	Injection Well	60-135	<Null>	<Null>
19658	OCWD-I35A	19659	OCWD-I35A/1	ORANGE COUNTY WATER DISTRICT	6045558.2	2193150.603	Injection Well	60-115	6/30/2021	7.89
19678	OCWD-I36A	19679	OCWD-I36A/1	ORANGE COUNTY WATER DISTRICT	6045421.1	2192575.403	Injection Well	60-110	<Null>	<Null>
1018	AM-1	1019	AM-1/1	ORANGE COUNTY WATER DISTRICT	6090472.39	2264185.952	Monitoring Well	97-115	6/30/2021	245.03

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Shallow Aquifer Wells (Model Layer 1)

STAID1	WELLNM	STAID	STANAME	OWNERNM	NAD83_X	NAD83_Y	GIS_SYMNM	PERF_ZONE	SHORTDATE	WLELEV_2021
545	AM-10	546	AM-10/1	ORANGE COUNTY WATER DISTRICT	6071304.771	2257813.261	Monitoring Well	217-235	7/7/2021	121.51
557	AM-11	558	AM-11/1	ORANGE COUNTY WATER DISTRICT	6072499.755	2255656.617	Monitoring Well	218-240	6/30/2021	121.98
555	AM-12	556	AM-12/1	ORANGE COUNTY WATER DISTRICT	6070962.221	2255565.488	Monitoring Well	210-225	7/7/2021	113.56
553	AM-13	554	AM-13/1	ORANGE COUNTY WATER DISTRICT	6072701.528	2256964.39	Monitoring Well	252-270	6/30/2021	128.38
2744	AM-15A	2745	AM-15A/1	ORANGE COUNTY WATER DISTRICT	6062585.788	2256914.422	Monitoring Well	214-220	6/25/2021	89.81
2895	AM-19A	2896	AM-19A/1	ORANGE COUNTY WATER DISTRICT	6065134.464	2236977.559	Monitoring Well	115-123	6/25/2021	77.56
1022	AM-2	1023	AM-2/1	ORANGE COUNTY WATER DISTRICT	6091404.587	2263383.522	Monitoring Well	87-100	6/30/2021	246.46
6515	AM-21A	6516	AM-21A/1	ORANGE COUNTY WATER DISTRICT	6067232.542	2241283.088	Monitoring Well	157-165	6/25/2021	90.52
7011	AM-25A	7012	AM-25A/1	ORANGE COUNTY WATER DISTRICT	6060775.248	2252483.682	Monitoring Well	188-195	6/25/2021	84.41
1020	AM-3	1021	AM-3/1	ORANGE COUNTY WATER DISTRICT	6090425.411	2261850.384	Monitoring Well	91-107	6/30/2021	245.62
7543	AM-30A	7544	AM-30A/1	ORANGE COUNTY WATER DISTRICT	6046015.103	2255909.924	Monitoring Well	152-159	6/25/2021	55.16
22901	AM-31AR	22902	AM-31AR/1	ORANGE COUNTY WATER DISTRICT	6052258.095	2257683	Monitoring Well	150-170	7/8/2021	69.05
8904	AM-39A	8905	AM-39A/1	ORANGE COUNTY WATER DISTRICT	6057788.178	2260561.644	Monitoring Well	115-135	6/29/2021	82.15
549	AM-4	550	AM-4/1	ORANGE COUNTY WATER DISTRICT	6078257.417	2258629.141	Monitoring Well	187-205	7/7/2021	166.388
8908	AM-40A	8909	AM-40A/1	ORANGE COUNTY WATER DISTRICT	6057765.028	2259083.041	Monitoring Well	145-165	6/25/2021	83.08
10147	AM-41A	10148	AM-41A/1	ORANGE COUNTY WATER DISTRICT	6055818.758	2261031.665	Monitoring Well	156-166	6/30/2021	77.7
8232	AM-42A	8233	AM-42A/1	ORANGE COUNTY WATER DISTRICT	6057305.512	2258837.864	Monitoring Well	115-130	<Null>	<Null>
14615	AM-44	14616	AM-44/1	ORANGE COUNTY WATER DISTRICT	6075009.801	2261947.637	Monitoring Well	140-160	6/30/2021	168.75
15331	AM-45	15332	AM-45/1	ORANGE COUNTY WATER DISTRICT	6071037.809	2252432.19	Monitoring Well	102-132	7/7/2021	104.04
15329	AM-46	15330	AM-46/1	ORANGE COUNTY WATER DISTRICT	6073338.847	2254329.24	Monitoring Well	94-124	7/7/2021	124.15
20711	AM-47A	20712	AM-47A/1	ORANGE COUNTY WATER DISTRICT	6054345.1	2258323.2	Monitoring Well	160-170	6/25/2021	73.68
20703	AM-48A	20704	AM-48A/1	ORANGE COUNTY WATER DISTRICT	6069389.1	2259146.8	Monitoring Well	116-146	7/8/2021	114.1
20760	AM-49	20761	AM-49/1	ORANGE COUNTY WATER DISTRICT	6068833	2259389.2	Monitoring Well	120-150	6/30/2021	112.28
22372	AM-50	22373	AM-50/1	ORANGE COUNTY WATER DISTRICT	6075090.3	2260329.2	Monitoring Well	140-150	7/1/2021	158.68
22714	AM-51	22715	AM-51/1	ORANGE COUNTY WATER DISTRICT	6078407.7	2256724.2	Monitoring Well	105-125	7/1/2021	176.413
23001	AM-52	23002	AM-52/1	ORANGE COUNTY WATER DISTRICT	6074643.8	2257784.5	Monitoring Well	140-150	7/1/2021	145.33
22939	AM-53	22940	AM-53/1	ORANGE COUNTY WATER DISTRICT	6076000.9	2255632.4	Monitoring Well	35-50	6/30/2021	199.08
23209	AM-54A	23210	AM-54A/1	ORANGE COUNTY WATER DISTRICT	6055949.4	2259518.7	Monitoring Well	102-117	6/25/2021	77.92
2732	AM-5A	2733	AM-5A/1	ORANGE COUNTY WATER DISTRICT	6078678.675	2259935.902	Monitoring Well	168-175	7/7/2021	166.45
551	AM-6	552	AM-6/1	ORANGE COUNTY WATER DISTRICT	6075037.515	2257301.421	Monitoring Well	232-250	7/7/2021	143.29
2734	AM-7	2735	AM-7/1	ORANGE COUNTY WATER DISTRICT	6071731.515	2260900.336	Monitoring Well	210-225	7/7/2021	131.58
2736	AM-8	2737	AM-8/1	ORANGE COUNTY WATER DISTRICT	6069027.597	2259867.528	Monitoring Well	268-285	7/7/2021	112.8
2738	AM-9	2739	AM-9/1	ORANGE COUNTY WATER DISTRICT	6068551.962	2256957.039	Monitoring Well	285-303	6/30/2021	106.16
14585	AMD-9	14586	AMD-9/1	ORANGE COUNTY WATER DISTRICT	6075825.081	2261784.701	Monitoring Well	200-220	7/1/2021	158.94
18333	FM-10A	18334	FM-10A/1	ORANGE COUNTY WATER DISTRICT	6057594.391	2262015.979	Monitoring Well	151-171	6/29/2021	80.97
18337	FM-11A	18338	FM-11A/1	ORANGE COUNTY WATER DISTRICT	6054079.666	2261018.177	Monitoring Well	134-154	6/30/2021	73.93
18341	FM-12A	18342	FM-12A/1	ORANGE COUNTY WATER DISTRICT	6058082.287	2263020.488	Monitoring Well	135-155	6/29/2021	82.13
18345	FM-13A	18346	FM-13A/1	ORANGE COUNTY WATER DISTRICT	6064721.254	2262602.268	Monitoring Well	140-160	7/1/2021	93.9
18349	FM-14A	18350	FM-14A/1	ORANGE COUNTY WATER DISTRICT	6064616.249	2263074.072	Monitoring Well	147-167	7/2/2021	93.36
18353	FM-15A	18354	FM-15A/1	ORANGE COUNTY WATER DISTRICT	6054101.553	2262617.193	Monitoring Well	120-140	6/29/2021	71.92
18414	FM-16A	18415	FM-16A/1	ORANGE COUNTY WATER DISTRICT	6063638.746	2262326.768	Monitoring Well	125-145	7/3/2021	91.85
19614	FM-18A	19615	FM-18A/1	ORANGE COUNTY WATER DISTRICT	6049386.482	2263643.669	Monitoring Well	120.5-150.5	6/29/2021	63.93
19618	FM-19A	19619	FM-19A/1	ORANGE COUNTY WATER DISTRICT	6051553.311	2262443.484	Monitoring Well	115-135	6/29/2021	68.63
7019	FM-1A	7020	FM-1A/1	ORANGE COUNTY WATER DISTRICT	6053145.617	2258731.83	Monitoring Well	164-172	6/25/2021	71.88
20764	FM-20A	20765	FM-20A/1	ORANGE COUNTY WATER DISTRICT	6053785.7	2263876.3	Monitoring Well	130-150	6/29/2021	72.54
20768	FM-21A	20769	FM-21A/1	ORANGE COUNTY WATER DISTRICT	6047768.5	2262675.5	Monitoring Well	140-160	6/29/2021	60.141
20753	FM-22A	20754	FM-22A/1	ORANGE COUNTY WATER DISTRICT	6051124.3	2260372.1	Monitoring Well	150-170	6/25/2021	67.28
20884	FM-23A	20885	FM-23A/1	ORANGE COUNTY WATER DISTRICT	6054153.6	2260625.1	Monitoring Well	128-143	6/29/2021	74.3
20701	FM-24A	20702	FM-24A/1	ORANGE COUNTY WATER DISTRICT	6051431.3	2258787.9	Monitoring Well	154-174	6/25/2021	67.61
20316	FM-25	20317	FM-25/1	ORANGE COUNTY WATER DISTRICT	6068593.3	2262774.2	Monitoring Well	132-152	6/30/2021	110.53
20878	FM-26	20879	FM-26/1	ORANGE COUNTY WATER DISTRICT	6053369.5	2263220	Monitoring Well	145-155	<Null>	<Null>
20894	FM-27	20895	FM-27/1	ORANGE COUNTY WATER DISTRICT	6054575.1	2263550.9	Monitoring Well	105-125	6/29/2021	74.86
23221	FM-29A	23222	FM-29A/1	ORANGE COUNTY WATER DISTRICT	6048986.6	2262406	Monitoring Well	150-170	6/29/2021	62.36
23571	FM-30A	23572	FM-30A/1	ORANGE COUNTY WATER DISTRICT	6061066.47	2263552.561	Monitoring Well	106-126	6/29/2021	86.65
23227	FM-31A	23228	FM-31A/1	ORANGE COUNTY WATER DISTRICT	6054066.6	2261852.6	Monitoring Well	122-137	6/29/2021	73.97
23231	FM-32A	23232	FM-32A/1	ORANGE COUNTY WATER DISTRICT	6045296.9	2263968.8	Monitoring Well	135-155	6/29/2021	56.56
23483	FM-33A	23484	FM-33A/1	ORANGE COUNTY WATER DISTRICT	6052364.7	2264780	Monitoring Well	135-155	6/29/2021	69.67
23575	FM-34A	23576	FM-34A/1	ORANGE COUNTY WATER DISTRICT	6057208.2	2265369.9	Monitoring Well	114-124	7/8/2021	81.62
23894	FM-35A	23895	FM-35A/1	ORANGE COUNTY WATER DISTRICT	6062993.381	2262539.528	Monitoring Well	180.1-195.1	7/6/2021	89.8
7521	FM-4A	7522	FM-4A/1	ORANGE COUNTY WATER DISTRICT	6048400.799	2258801.821	Monitoring Well	142-160	6/25/2021	60.89
7932	FM-5	7933	FM-5/1	ORANGE COUNTY WATER DISTRICT	6059389.1	2261084.6	Monitoring Well	121-141	6/29/2021	85
9947	FM-6	9948	FM-6/1	ORANGE COUNTY WATER DISTRICT	6053264.065	2274113.568	Monitoring Well	150-310	6/30/2021	175.28
10145	FM-7A	10146	FM-7A/1	ORANGE COUNTY WATER DISTRICT	6054314.136	2259267.565	Monitoring Well	160-170	6/25/2021	74.11
18325	FM-8	18326	FM-8/1	ORANGE COUNTY WATER DISTRICT	6059585.097	2263564.489	Monitoring Well	114-134	6/29/2021	84.74
18329	FM-9A	18330	FM-9A/1	ORANGE COUNTY WATER DISTRICT	6063388.839	2262959.974	Monitoring Well	166-186	6/30/2021	89
19009	IDM-3	19010	IDM-3/1	ORANGE COUNTY WATER DISTRICT	6099726.882	2201438.084	Monitoring Well	174-194	6/28/2021	94.682
19404	IDM-4	19405	IDM-4/1	ORANGE COUNTY WATER DISTRICT	6103585.541	2200230.218	Monitoring Well	136-156	6/28/2021	107.205
19478	IDP-2R	19479	IDP-2R/1	ORANGE COUNTY WATER DISTRICT	6106015.21	2193086.752	Monitoring Well	155-195	6/28/2021	115.845
721	KBS-1	998	KBS-1/1	ORANGE COUNTY WATER DISTRICT	6074374.124	2260345.831	Monitoring Well	209-219	7/1/2021	154.21
14600	KBS-4	14601	KBS-4/1	ORANGE COUNTY WATER DISTRICT	6073595.666	2262004.207	Monitoring Well	138-158	7/7/2021	154.88
1360	MCAS-4	1361	MCAS-4/1	ORANGE COUNTY WATER DISTRICT	6098189.884	2189446.916	Monitoring Well	181-238	6/28/2021	95.46
10217	MCAS-5A	10218	MCAS-5A/1	ORANGE COUNTY WATER DISTRICT	6101340.027	2187474.726	Monitoring Well	120-130	6/28/2021	118.26
21062	OCWD-34X40	21063	OCWD-34X40/1	ORANGE COUNTY WATER DISTRICT	6005285	2228276.5	Monitoring Well	88-113	<Null>	<Null>
23057	OCWD-34Y01	23058	OCWD-34Y01/1	ORANGE COUNTY WATER DISTRICT	6001790.9	2226024.1	Monitoring Well	60-80	7/6/2021	2.734
5410	OCWD-35H11	5413	OCWD-35H11/1	ORANGE COUNTY WATER DISTRICT	6002891.562	2224892.037	Monitoring Well	44-77	7/6/2021	-1.064
5414	OCWD-35N01	5416	OCWD-35N01/1	ORANGE COUNTY WATER DISTRICT	6001915.345	2223579.533	Monitoring Well	39-79	<Null>	<Null>
2859	OCWD-AIR1	2860	OCWD-AIR1/1	ORANGE COUNTY WATER DISTRICT	6037614.933	2265072.135	Monitoring Well	200-250	6/29/2021	39.807
3327	OCWD-AN2	3328	OCWD-AN2/1	ORANGE COUNTY WATER DISTRICT	6078166.807	2262263.165	Monitoring Well	35-115	6/28/2021	174.34
3317	OCWD-BP3	3318	OCWD-BP3/1	ORANGE COUNTY WATER DISTRICT	6069054.595	2245231.281	Monitoring Well	185-205	7/7/2021	97.415
3311	OCWD-BP4	3312	OCWD-BP4/1	ORANGE COUNTY WATER DISTRICT	6070719.841	2250468.164	Monitoring Well	140-180	7/7/2021	91.57
20224	OCWD-BP5	20226	OCWD-BP5/2	ORANGE COUNTY WATER DISTRICT	6069894.721	2249887.593	Monitoring Well	146.5-166.5	7/7/2021	125.41
20227	OCWD-BP6	20228	OCWD-BP6/1	ORANGE COUNTY WATER DISTRICT	6069328.8	2249065.103	Monitoring Well	148-168	7/7/2021	102.79
20229	OCWD-BP7	20231	OCWD-BP7/2	ORANGE COUNTY WATER DISTRICT	6069218.53	2247697.383	Monitoring Well	148-168	7/7/2021	101.76
22323	OCWD-BS10	22324	OCWD-BS10/1	ORANGE COUNTY WATER DISTRICT	6013179.752	2219396.307	Monitoring Well	100-110	7/1/2021	-13.06
22330	OCWD-BS11	22331	OCWD-BS11/1	ORANGE COUNTY WATER DISTRICT	6008506.1	2221300	Monitoring Well	95-115	7/1/2021	-9.453
22774	OCWD-BS12	22968	OCWD-BS12/1	ORANGE COUNTY WATER DISTRICT	6015660.3	2214181.8	Monitoring Well	115-125	7/1/2021	-12.659
23682	OCWD-BS13A	23683	OCWD-BS13A/1	ORANGE COUNTY WATER DISTRICT	6009763.8	2214240.5	Monitoring Well	127-132	7/1/2021	-10.876
22776	OCWD-BS14	22912	OCWD-BS14/1	ORANGE COUNTY WATER DISTRICT	6003965.9	2221842.9	Monitoring Well	75-85	7/1/2021	-4.65
19673	OCWD-BS16	19674	OCWD-BS16/1	ORANGE COUNTY WATER DISTRICT	6021997.663	2201854.703	Monitoring Well	60-80	7/1/2021	-9.627
19675	OCWD-BS18	19676	OCWD-BS18/1	ORANGE COUNTY WATER DISTRICT	6018119.189	2205526.66	Monitoring Well	72-82	7/1/2021	-11.001
22899	OCWD-BS18B	22900	OCWD-BS18B/1	ORANGE COUNTY WATER DISTRICT	6018114.308	2205521.438	Monitoring Well	52-62	7/1/2021	-11.192
19854	OCWD-BS19	19855	OCWD-BS19/1	ORANGE COUNTY WATER DISTRICT	6019002.9	2203605.503	Monitoring Well	62.5-82.5	7/1/2021	-9.346
20140	OCWD-BS20B	20141	OCWD-BS20B/1	ORANGE COUNTY WATER DISTRICT	6018514.448	2207922.493	Monitoring Well	70.8-80.8	6/24/2021	-9.28
22778	OCWD-BS21	22895	OCWD-BS21/1	ORANGE COUNTY WATER DISTRICT	6004262.7	2223732.4	Monitoring Well	65-85	6/29/2021	-2.96
23498	OCWD-BS24A	23500	OCWD-BS24A/1	ORANGE COUNTY WATER DISTRICT	6005236.2	2219558.6	Monitoring Well	87.5-92.5	7/1/2021	-8.055
2867	OCWD-CTG1	2868	OCWD-CTG1/1	ORANGE COUNTY WATER DISTRICT	6061970.346	2206073.478	Monitoring Well	160-260	6/30/2021	32.73
3309	OCWD-FC2	3310	OCWD-FC2/1	ORANGE COUNTY WATER DISTRICT	6072303.404	2252609.097	Monitoring Well	95-115	7/7/2021	105.49
3305	OCWD-FH1	3306	OCWD-FH1/1	ORANGE COUNTY WATER DISTRICT	6081695.772	2257027.264	Monitoring Well	120-140	7/7/2021	213.83

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Shallow Aquifer Wells (Model Layer 1)

STAID1	WELLNM	STAID	STANAME	OWNERNM	NAD83_X	NAD83_Y	GIS_SYMNM	PERF_ZONE	SHORTDATE	WLELEV_2021
7056	OCWD-GA2	7057	OCWD-GA2/1	ORANGE COUNTY WATER DISTRICT	6024924.606	2202223.668	Monitoring Well	30-40	6/24/2021	-4.615
23477	OCWD-HG2	23478	OCWD-HG2/1	ORANGE COUNTY WATER DISTRICT	6090811.6	2258833	Monitoring Well	43-48	7/7/2021	258.38
543	OCWD-KB1	544	OCWD-KB1/1	ORANGE COUNTY WATER DISTRICT	6073294.322	2259903.951	Monitoring Well	180-200	7/7/2021	141.77
20232	OCWD-LB1	20234	OCWD-LB1/2	ORANGE COUNTY WATER DISTRICT	6070964.86	2251336.473	Monitoring Well	148-168	7/7/2021	97.07
20237	OCWD-LB3	20239	OCWD-LB3/2	ORANGE COUNTY WATER DISTRICT	6071277.961	2250678.833	Monitoring Well	145-165	7/7/2021	93.26
21196	OCWD-LB4	21198	OCWD-LB4/2	ORANGE COUNTY WATER DISTRICT	6070798.52	2250812.078	Monitoring Well	78-88	7/7/2021	121.19
3303	OCWD-LV1	3304	OCWD-LV1/1	ORANGE COUNTY WATER DISTRICT	6085675.722	2259327.385	Monitoring Well	135-155	7/7/2021	237.5
3020	OCWD-M1	3021	OCWD-M1/1	ORANGE COUNTY WATER DISTRICT	6042016.978	2187264.062	Monitoring Well	75-110	6/30/2021	2.55
2906	OCWD-M10	2907	OCWD-M10/1	ORANGE COUNTY WATER DISTRICT	6038138.474	2201788.445	Monitoring Well	80-160	6/29/2021	2.175
2911	OCWD-M11	2912	OCWD-M11/1	ORANGE COUNTY WATER DISTRICT	6040661.307	2201457.181	Monitoring Well	70-105	6/30/2021	3.83
2924	OCWD-M12	2925	OCWD-M12/1	ORANGE COUNTY WATER DISTRICT	6043375.718	2201517.376	Monitoring Well	70-110	6/30/2021	5.775
2929	OCWD-M13	2930	OCWD-M13/1	ORANGE COUNTY WATER DISTRICT	6045991.781	2201410.369	Monitoring Well	65-95	6/30/2021	10.798
2947	OCWD-M14A	2948	OCWD-M14A/1	ORANGE COUNTY WATER DISTRICT	6046612.239	2200062.034	Monitoring Well	60-90	6/28/2021	7.94
2954	OCWD-M15A	2955	OCWD-M15A/1	ORANGE COUNTY WATER DISTRICT	6046620.011	2199773.098	Monitoring Well	60-85	6/28/2021	6.96
2961	OCWD-M16	2962	OCWD-M16/1	ORANGE COUNTY WATER DISTRICT	6046615.518	2199268.584	Monitoring Well	65-90	6/28/2021	4.264
2966	OCWD-M17A	2967	OCWD-M17A/1	ORANGE COUNTY WATER DISTRICT	6046331.102	2200365.515	Monitoring Well	60-95	6/28/2021	7.867
2934	OCWD-M19	2935	OCWD-M19/1	ORANGE COUNTY WATER DISTRICT	6046001.209	2200836.043	Monitoring Well	60-110	6/30/2021	8.575
3022	OCWD-M2	3023	OCWD-M2/1	ORANGE COUNTY WATER DISTRICT	6039248.099	2187144.76	Monitoring Well	85-150	6/28/2021	4.202
2938	OCWD-M20	2939	OCWD-M20/1	ORANGE COUNTY WATER DISTRICT	6045975.835	2200531.536	Monitoring Well	60-105	6/30/2021	8.088
4395	OCWD-M21	4398	OCWD-M21/1	ORANGE COUNTY WATER DISTRICT	6046004.999	2200239.171	Monitoring Well	65-100	6/30/2021	7.39
2976	OCWD-M22	2977	OCWD-M22/1	ORANGE COUNTY WATER DISTRICT	6046004.496	2199936.42	Monitoring Well	70-105	6/30/2021	7.525
2987	OCWD-M24	2988	OCWD-M24/1	ORANGE COUNTY WATER DISTRICT	6045442.857	2199803.456	Monitoring Well	70-95	6/24/2021	6.605
3026	OCWD-M25	3027	OCWD-M25/1	ORANGE COUNTY WATER DISTRICT	6033478.884	2192672.122	Monitoring Well	65-185	6/30/2021	4.323
3014	OCWD-M26	3015	OCWD-M26/1	ORANGE COUNTY WATER DISTRICT	6040602.649	2193477.553	Monitoring Well	70-135	7/1/2021	3.386
3016	OCWD-M27	3017	OCWD-M27/1	ORANGE COUNTY WATER DISTRICT	6043039.524	2189845.444	Monitoring Well	60-110	6/30/2021	3.357
3030	OCWD-M28	3031	OCWD-M28/1	ORANGE COUNTY WATER DISTRICT	6040384.981	2184652.638	Monitoring Well	80-145	6/30/2021	3.808
3018	OCWD-M30	3019	OCWD-M30/1	ORANGE COUNTY WATER DISTRICT	6043301.989	2183249.013	Monitoring Well	90-110	6/28/2021	3.325
3024	OCWD-M31	3025	OCWD-M31/1	ORANGE COUNTY WATER DISTRICT	6040492.197	2179496.985	Monitoring Well	82-162	6/28/2021	4.918
11859	OCWD-M36	11860	OCWD-M36/1	ORANGE COUNTY WATER DISTRICT	6035356.833	2200840.246	Monitoring Well	80-90	6/28/2021	2.46
14515	OCWD-M37	14516	OCWD-M37/1	ORANGE COUNTY WATER DISTRICT	6035034.164	2201302.677	Monitoring Well	120-130	6/28/2021	1.78
15127	OCWD-M38	15128	OCWD-M38/1	ORANGE COUNTY WATER DISTRICT	6030736.262	2198146.213	Monitoring Well	94-104	6/30/2021	0.234
2992	OCWD-M4	2993	OCWD-M4/1	ORANGE COUNTY WATER DISTRICT	6049340.682	2199524.535	Monitoring Well	80-120	6/28/2021	3.04
16654	OCWD-M40	16655	OCWD-M40/1	ORANGE COUNTY WATER DISTRICT	6051222.286	2195005.215	Monitoring Well	85-105	6/28/2021	0.72
18425	OCWD-M41	18427	OCWD-M41/2	ORANGE COUNTY WATER DISTRICT	6031312.152	2196141.497	Monitoring Well	95-105	6/30/2021	1.256
18418	OCWD-M42	18419	OCWD-M42/1	ORANGE COUNTY WATER DISTRICT	6030956.495	2201880.558	Monitoring Well	100-120	6/24/2021	-1.085
23769	OCWD-M43R	23770	OCWD-M43R/1	ORANGE COUNTY WATER DISTRICT	6056258.4	2193225.9	Monitoring Well	75-95	6/28/2021	-10.84
20371	OCWD-M44	20372	OCWD-M44/1	ORANGE COUNTY WATER DISTRICT	6048200.8	2193011.3	Monitoring Well	50-60	6/28/2021	5.089
19640	OCWD-M45	19641	OCWD-M45/1	ORANGE COUNTY WATER DISTRICT	6040339.8	2203350.603	Monitoring Well	195-205	6/30/2021	1.11
18766	OCWD-M48	18767	OCWD-M48/1	ORANGE COUNTY WATER DISTRICT	6059972.844	2188953.882	Monitoring Well	80-100	6/28/2021	-25.796
2942	OCWD-M5	2943	OCWD-M5/1	ORANGE COUNTY WATER DISTRICT	6046006.801	2199404.116	Monitoring Well	65-95	6/30/2021	6.035
22780	OCWD-M51A	22847	OCWD-M51A/1	ORANGE COUNTY WATER DISTRICT	6065086.6	2189052.9	Monitoring Well	28-38	6/24/2021	6.643
22782	OCWD-M52A	22845	OCWD-M52A/1	ORANGE COUNTY WATER DISTRICT	6067063.8	2192832.5	Monitoring Well	46-56	6/24/2021	14.66
22783	OCWD-M53A	22849	OCWD-M53A/1	ORANGE COUNTY WATER DISTRICT	6070492.9	2196785	Monitoring Well	21.5-31.5	7/27/2021	21.502
22785	OCWD-M54A	22852	OCWD-M54A/1	ORANGE COUNTY WATER DISTRICT	6074213.9	2188681.7	Monitoring Well	38-43	6/24/2021	-18.326
23136	OCWD-M55B	23137	OCWD-M55B/1	ORANGE COUNTY WATER DISTRICT	6073271.8	2195029.2	Monitoring Well	57-67	6/24/2021	24.195
23138	OCWD-M56	23139	OCWD-M56/1	ORANGE COUNTY WATER DISTRICT	6076007.2	2194374.4	Monitoring Well	106-116	6/24/2021	12.115
23819	OCWD-M57	23820	OCWD-M57/1	ORANGE COUNTY WATER DISTRICT	6043815.8	2186794.1	Monitoring Well	80-130	6/28/2021	3.257
23888	OCWD-M58A	23889	OCWD-M58A/1	ORANGE COUNTY WATER DISTRICT	6038939.075	2198039.987	Monitoring Well	80-90	6/28/2021	2.69
2997	OCWD-M6A	2998	OCWD-M6A/1	ORANGE COUNTY WATER DISTRICT	6043358.318	2199431.427	Monitoring Well	65-125	6/30/2021	5.345
2916	OCWD-M7A	2917	OCWD-M7A/1	ORANGE COUNTY WATER DISTRICT	6040722.972	2199455.757	Monitoring Well	70-135	7/1/2021	4.75
3004	OCWD-M8	3005	OCWD-M8/1	ORANGE COUNTY WATER DISTRICT	6036253.121	2199205.112	Monitoring Well	50-150	6/24/2021	4.403
3009	OCWD-M9	3011	OCWD-M9/2	ORANGE COUNTY WATER DISTRICT	6033874.971	2200507.549	Monitoring Well	135-155	6/30/2021	2.905
22659	OCWD-SA22R	22661	OCWD-SA22R/2	ORANGE COUNTY WATER DISTRICT	6036740.5	2194795.1	Monitoring Well	100-130	6/30/2021	2.618
3978	OCWD-T2	3980	OCWD-T2/2	ORANGE COUNTY WATER DISTRICT	6035679.306	2192640.337	Monitoring Well	70-170	6/24/2021	3.624
4804	OCWD-T3	4805	OCWD-T3/1	ORANGE COUNTY WATER DISTRICT	6035928.37	2192634.905	Monitoring Well	65-85	6/30/2021	2.581
3985	OCWD-T4	4846	OCWD-T4/1	ORANGE COUNTY WATER DISTRICT	6036181.511	2192629.058	Monitoring Well	68-168	6/30/2021	3.314
3982	OCWD-T5	3983	OCWD-T5/1	ORANGE COUNTY WATER DISTRICT	6035375.819	2190450.423	Monitoring Well	110-190	6/30/2021	4.479
20892	OCWD-YLR3	20893	OCWD-YLR3/1	ORANGE COUNTY WATER DISTRICT	6087613.912	2264061.986	Monitoring Well	31-36	6/30/2021	237.2
1052	OM-2A	1053	OM-2A/1	ORANGE COUNTY WATER DISTRICT	6064189.6	2231238.364	Monitoring Well	118-125	6/25/2021	63.638
1039	OM-4A	1040	OM-4A/1	ORANGE COUNTY WATER DISTRICT	6066713.864	2235618.971	Monitoring Well	112-117	6/23/2021	76.25
6519	OM-8A	6520	OM-8A/1	ORANGE COUNTY WATER DISTRICT	6068864.508	2240692.482	Monitoring Well	156-164	6/25/2021	89.55
20962	SAM-1	20964	SAM-1/2	ORANGE COUNTY WATER DISTRICT	6074659.6	2209328.2	Monitoring Well	132-147	6/30/2021	40.67
23285	SAM-10C	23286	SAM-10C/1	ORANGE COUNTY WATER DISTRICT	6075362.1	2201059	Monitoring Well	77.5-82.5	7/1/2021	31.8
23291	SAM-11D	23292	SAM-11D/1	ORANGE COUNTY WATER DISTRICT	6076595.5	2202810.9	Monitoring Well	90-100	6/30/2021	34.47
23297	SAM-13D	23298	SAM-13D/1	ORANGE COUNTY WATER DISTRICT	6073031.3	2202354.5	Monitoring Well	91.5-101.5	6/30/2021	32.14
20984	SAM-2	20986	SAM-2/2	ORANGE COUNTY WATER DISTRICT	6072812.2	2208121.4	Monitoring Well	121-131	6/30/2021	39.83
20958	SAM-3	20960	SAM-3/2	ORANGE COUNTY WATER DISTRICT	6074219.9	2207608.9	Monitoring Well	122-142	6/30/2021	39.53
20970	SAM-4	20972	SAM-4/2	ORANGE COUNTY WATER DISTRICT	6072905.5	2206698.6	Monitoring Well	120-135	6/30/2021	38.16
20966	SAM-5	20968	SAM-5/2	ORANGE COUNTY WATER DISTRICT	6072894	2205886.2	Monitoring Well	115-130	6/30/2021	37.31
20948	SAM-6	20950	SAM-6/2	ORANGE COUNTY WATER DISTRICT	6075457.3	2205983.5	Monitoring Well	114-134	<Null>	<Null>
23263	SAM-7C	23264	SAM-7C/1	ORANGE COUNTY WATER DISTRICT	6070824	2202542.5	Monitoring Well	106-111	7/1/2021	31.32
23301	SAM-8C	23302	SAM-8C/1	ORANGE COUNTY WATER DISTRICT	6072805.6	2199933	Monitoring Well	65.5-75.5	6/30/2021	28.61
23275	SAM-9C	23276	SAM-9C/1	ORANGE COUNTY WATER DISTRICT	6074482.7	2198350.3	Monitoring Well	58.5-63.5	6/30/2021	26.56
23824	SAR-14B	23825	SAR-14B/1	ORANGE COUNTY WATER DISTRICT	6099053.012	2261319.993	Monitoring Well	37-42	<Null>	<Null>
20926	SCS-11	20927	SCS-11/1	ORANGE COUNTY WATER DISTRICT	6070448.4	2228003	Monitoring Well	156-166	7/8/2021	48.71
20929	SCS-12	20930	SCS-12/1	ORANGE COUNTY WATER DISTRICT	6067610.6	2228198.9	Monitoring Well	170-180	7/8/2021	60.2
15392	SCS-6	15394	SCS-6/2	ORANGE COUNTY WATER DISTRICT	6081489.879	2232585.107	Monitoring Well	147-152.5	7/8/2021	85.86
15395	SCS-7	15397	SCS-7/2	ORANGE COUNTY WATER DISTRICT	6080943.41	2232168.833	Monitoring Well	125-140.5	7/8/2021	93.62
15398	SCS-8	15399	SCS-8/1	ORANGE COUNTY WATER DISTRICT	6081887.799	2233776.982	Monitoring Well	108-128.5	7/8/2021	120.23
18179	SCS-9	18180	SCS-9/1	ORANGE COUNTY WATER DISTRICT	6082464.896	2233574.788	Monitoring Well	153-173	7/8/2021	76
997	ABS-1	22665	ABS-1/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	6076226.851	2262977.612	Multiport Monitoring Well	MP3 (257)	7/7/2021	158.375
547	AMD-1	21135	AMD-1/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	6073916.932	2258572.091	Multiport Monitoring Well	MP3 (182)	6/30/2021	144.17
565	AMD-2	22202	AMD-2/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6066705.21	2254540.618	Multiport Monitoring Well	MP1 (157)	6/29/2021	99.56
6410	AMD-3	6433	AMD-3/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6057347.584	2256481.116	Multiport Monitoring Well	MP2 (135)	<Null>	<Null>
7295	AMD-5	7315	AMD-5/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6060070.244	2248962.576	Multiport Monitoring Well	MP2 (201)	6/28/2021	81.17
7293	AMD-6	7477	AMD-6/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6057374.729	2241092.645	Multiport Monitoring Well	MP2 (152)	6/28/2021	69.17
8596	AMD-7	8748	AMD-7/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6049188.026	2247218.215	Multiport Monitoring Well	MP1 (121)	6/28/2021	59.63
9682	AMD-8	9903	AMD-8/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6033488.697	2249624.328	Multiport Monitoring Well	MP2 (180)	7/12/2021	44.575
9831	BPM-1	9980	BPM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6022348.508	2259541.566	Multiport Monitoring Well	MP1 (129)	7/12/2021	26.87
9832	BPM-2	10174	BPM-2/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6025195.413	2246739.597	Multiport Monitoring Well	MP1 (181)	7/12/2021	35.65
685	CB-1	8787	CB-1/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6044695.232	2253837.186	Multiport Monitoring Well	MP2 (143)	7/6/2021	53.15
5155	COSM-1	7143	COSM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6055253.401	2197825.036	Multiport Monitoring Well	MP1 (92)	6/30/2021	2.01
18846	COSM-2	18860	COSM-2/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6052266.414	2199776.431	Multiport Monitoring Well	MP2 (115)	6/30/2021	8.62
719	FFS-1	14241	FFS-1/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6061436.461	2262022.62	Multiport Monitoring Well	MP1 (181)	7/6/2021	88.13
1291	FVM-1	15685	FVM-1/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6047178.815	2210990.613	Multiport Monitoring Well	MP2 (173)	6/22/2021	28.21
7297	GGM-1	10021	GGM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6045688.299	2230864.24	Multiport Monitoring Well	MP1 (150)	7/8/2021	51.65
8923	GGM-2	9045	GGM-2/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6026525.607	2230233.156	Multiport Monitoring Well	MP1 (213)	6/22/2021	26.83
8592	GGM-3	8661	GGM-3/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6037298.069	2237458.988	Multiport Monitoring Well	MP1 (197)	7/8/2021	43.98

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Shallow Aquifer Wells (Model Layer 1)

STAID1	WELLNM	STAID	STANAME	OWNERNM	NAD83_X	NAD83_Y	GIS_SYMNM	PERF_ZONE	SHORTDATE	WLELEV_2021
7178	HBM-1	8433	HBM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6031700.722	2216385.252	Multiport Monitoring Well	MP1 (91)	7/2/2021	24.52
7086	HBM-2	7218	HBM-2/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6036228.737	2196532.383	Multiport Monitoring Well	MP1 (112)	7/2/2021	3.49
9200	HBM-4	9219	HBM-4/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6034095.825	2197123.319	Multiport Monitoring Well	MP2 (120)	7/2/2021	2.99
9688	HBM-5	9873	HBM-5/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6045744.869	2193971.856	Multiport Monitoring Well	MP2 (76)	7/2/2021	9.36
15088	HBM-6	15239	HBM-6/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6025106.578	2204548.969	Multiport Monitoring Well	MP1 (53)	7/2/2021	-6.84
720	IDM-1	18976	IDM-1/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6099572.243	2207081.537	Multiport Monitoring Well	MP1 (86)	7/7/2021	92.85
9830	IDM-2	10059	IDM-2/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6080705.598	2209836.046	Multiport Monitoring Well	MP1 (129)	7/7/2021	48.9
541	KBS-2	10226	KBS-2/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6073053.762	2260992.439	Multiport Monitoring Well	MP2 (214)	6/21/2021	144.53
11949	LAM-1	12020	LAM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6009581.587	2238043.705	Multiport Monitoring Well	MP1 (72)	6/15/2021	13.07
1345	MCAS-1	5841	MCAS-1/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6098255.481	2192973.357	Multiport Monitoring Well	MP2 (155)	7/6/2021	97.79
759	MCAS-2	5926	MCAS-2/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6100360.442	2191167.958	Multiport Monitoring Well	MP2 (135)	7/6/2021	106.75
1339	MCAS-3	5882	MCAS-3/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6104434.428	2191276.758	Multiport Monitoring Well	MP2 (166)	7/6/2021	114.92
758	MCAS-7	11826	MCAS-7/1/WB3/MP1	ORANGE COUNTY WATER DISTRICT	6093900.827	2194418.586	Multiport Monitoring Well	MP1 (92)	7/7/2021	83.2
756	SAR-1	9257	SAR-1/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6070684.206	2250425.314	Multiport Monitoring Well	MP1 (162)	6/29/2021	92.52
761	SAR-2	11984	SAR-2/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6069096.008	2245410.807	Multiport Monitoring Well	MP1 (141)	6/29/2021	99.88
762	SAR-3	9461	SAR-3/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6066892.02	2238409.284	Multiport Monitoring Well	MP1 (164)	6/24/2021	81.47
763	SAR-4	14628	SAR-4/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6065370.966	2233375.154	Multiport Monitoring Well	MP1 (123)	6/29/2021	70.47
1289	SAR-5	21217	SAR-5/1/WB3/MP2	ORANGE COUNTY WATER DISTRICT	6062597.607	2227874.211	Multiport Monitoring Well	MP2 (172)	6/30/2021	58.48
996	SAR-7	19998	SAR-7/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6078049.17	2256383.048	Multiport Monitoring Well	MP2 (171)	6/21/2021	183.21
559	SAR-8	22591	SAR-8/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	6076100.201	2255671.218	Multiport Monitoring Well	MP3 (161)	6/21/2021	204.32
7181	SAR-9	9796	SAR-9/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6058380.802	2221450.982	Multiport Monitoring Well	MP1 (150)	6/30/2021	49.087
9686	SBM-1	9723	SBM-1/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6016566.11	2224523.54	Multiport Monitoring Well	MP1 (79)	6/15/2021	8.535
1000	SC-1	21651	SC-1/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6089555.444	2242038.806	Multiport Monitoring Well	MP1 (47)	<Null>	<Null>
1001	SC-2	18744	SC-2/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	6086489.295	2237887.557	Multiport Monitoring Well	MP3 (148)	<Null>	<Null>
2888	SC-4	6293	SC-4/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6082605.785	2235080.546	Multiport Monitoring Well	MP1 (102)	3/10/2021	164.02
2854	SC-5	6327	SC-5/1/WB1/MP1	ORANGE COUNTY WATER DISTRICT	6077454.866	2225543.458	Multiport Monitoring Well	MP1 (124)	7/1/2021	59.96
9684	SC-6	9754	SC-6/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6066813.288	2216032.113	Multiport Monitoring Well	MP2 (202)	7/7/2021	47.93
1016	SCS-1	8863	SCS-1/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6088950.708	2237855.374	Multiport Monitoring Well	MP2 (94)	<Null>	<Null>
1014	SCS-2	22649	SCS-2/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6088207.123	2239962.183	Multiport Monitoring Well	MP1 (139)	<Null>	<Null>
1008	WBS-2A	10234	WBS-2A/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	6082321.431	2259606.923	Multiport Monitoring Well	MP2 (94)	6/21/2021	208.44
1011	WBS-4	19982	WBS-4/1/WB2/MP2	ORANGE COUNTY WATER DISTRICT	6080099.39	2256910.089	Multiport Monitoring Well	MP2 (122)	6/21/2021	193.21
1293	WMM-1	19877	WMM-1/1/WB2/MP1	ORANGE COUNTY WATER DISTRICT	6038251.554	2221751.195	Multiport Monitoring Well	MP1 (111)	7/8/2021	35.73
1124	OCWD-BESS	1152	OCWD-BESS/1	ORANGE COUNTY WATER DISTRICT	6080158.417	2258062.783	Other Active Production Well	172-189	7/7/2021	171.45
1399	OWOD-GG	1400	OWOD-GG/1	ORANGEWOOD ACADEMY	6057015.043	2226104.239	Other Active Production Well	159-179	6/28/2021	57.78
2268	W-2268	2270	W-2268/1	PRIVATE	6055379.538	2239905.999	Inactive Production Well	140-190	6/28/2021	65.1
2447	W-2447	2448	W-2447/1	PRIVATE	6039781.004	2230376.471	Inactive Production Well	157-178	6/30/2021	45.52
7046	W-7046	7047	W-7046/1	PRIVATE	6078609.174	2244437.793	Inactive Production Well	-	7/8/2021	83.04
23777	PRUD-MW49	23778	PRUD-MW49/1	PRUDENTIAL REALTY CORPORATION	6075571.865	2190248.213	Monitoring Well	22-32	<Null>	<Null>
23783	PRUD-TP07	23784	PRUD-TP07/1	PRUDENTIAL REALTY CORPORATION	6075439.364	2190268.695	Monitoring Well	22-32	<Null>	<Null>
23785	PRUD-TP10	23786	PRUD-TP10/1	PRUDENTIAL REALTY CORPORATION	6075138.851	2190153.723	Monitoring Well	35-45	<Null>	<Null>
22761	RAY-P07	22762	RAY-P07/1	RAYTHEON TECHNOLOGIES CORPORATION	6042051.6	2268371.59	Monitoring Well	107.7-129.6	6/30/2021	56.01
22763	RAY-P09	22764	RAY-P09/1	RAYTHEON TECHNOLOGIES CORPORATION	6042223.4	2268769.56	Monitoring Well	109.6-129.6	6/30/2021	68.63
1194	SANZ-C	1195	SANZ-C/1	SANCHEZ, AMELIA	6023494.753	2248016.248	Other Active Production Well	76-83	6/28/2021	42.58
1164	RODE-A	1165	RODE-A/1	SILICON SALVAGE	6035121.635	2259930.623	Other Active Production Well	178-208	6/28/2021	40.77
3743	TIC-127	3744	TIC-127/1	SOUTHERN CALIFORNIA EDISON	6098420.447	2188499.752	Monitoring Well	-	<Null>	<Null>
19683	BOE-MW31S	19684	BOE-MW31S/1	THE BOEING COMPANY	6017036.97	2217640.872	Monitoring Well	78-88	6/7/2021	-3.481
20244	BOE-EW102	20245	BOE-EW102/1	THE BOEING COMPANY	6017705	2219232.003	Other Active Production Well	62-81.7	<Null>	<Null>
1128	TMIX-O	1129	TMIX-O/1	TRANSIT MIXED CONCRETE COMPANY	6069953.158	2244552.046	Abandoned Well	76-288	6/29/2021	107.06
1370	T-NEWP	1371	T-NEWP/1	TUSTIN	6087882.616	2220782.263	Active Large-System Production Well	234-267	7/1/2021	31.06
21187	WRD-SEALBEACH-1	21188	WRD-SEALBEACH-1/1	WATER REPLENISHMENT DISTRICT	6002807.228	2229796.158	Monitoring Well	60-70	6/7/2021	-0.287
23796	XER-MW3	23797	XER-MW3/1	XEROX CORPORATION	6074925.4	2191231.3	Destroyed and Sealed Well	29-34	<Null>	<Null>
23801	XER-MW5	23802	XER-MW5/1	XEROX CORPORATION	6076231.9	2191234.6	Monitoring Well	34.5-39.5	<Null>	<Null>
23803	XER-OW50	23804	XER-OW50/1	XEROX CORPORATION	6074926.467	2191241.45	Monitoring Well	35-47	<Null>	<Null>
7027	YLWD-16	7028	YLWD-16/1	YORBA LINDA WATER DISTRICT	6123141.996	2265497.536	Destroyed and Sealed Well	40-60	<Null>	<Null>
7529	YLWD-17	7530	YLWD-17/1	YORBA LINDA WATER DISTRICT	6123146.156	2265420.578	Destroyed and Sealed Well	42-82	<Null>	<Null>
1520	YLWD-15	1521	YLWD-15/1	YORBA LINDA WATER DISTRICT	6085437.359	2260363.815	Standby Large-System Production Well	133-198	<Null>	<Null>

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Principal Aquifer Wells (Model Layer 2)

STAID1	WELLNM	STAID	STANAME	OWNERNM	GIS_SYMNM	NAD83_X	NAD83_Y	PERF_ZONE	SHORTDATE	WLELEV_2021	NOTES
15484	AVCC-P2	15485	AVCC-P2/1	ALTA VISTA COUNTRY CLUB	Other Active Production Well	6075388.705	2267012.656	210-770	6/29/2021	83.575	<Null>
903	A-39	904	A-39/1	ANAHEIM	Active Large-System Production Well	6029597.629	2248076.493	540-1280	6/24/2021	0.95	<Null>
8	A-40	109	A-40/1	ANAHEIM	Active Large-System Production Well	6042665.936	2241510.291	505-1220	6/25/2021	0.99	<Null>
2	A-42	102	A-42/1	ANAHEIM	Active Large-System Production Well	6076410.19	2260884.14	430-1180	6/24/2021	158.27	<Null>
3	A-44	106	A-44/1	ANAHEIM	Active Large-System Production Well	6075745.03	2262067.192	450-1130	6/24/2021	149.51	<Null>
18323	A-45	18324	A-45/1	ANAHEIM	Active Large-System Production Well	6064928.908	2240047.749	455-1410	6/24/2021	70.25	<Null>
9029	A-46	9030	A-46/1	ANAHEIM	Active Large-System Production Well	6063620.6	2247980.932	599-1529	6/24/2021	78.27	<Null>
3296	A-47	3297	A-47/1	ANAHEIM	Active Large-System Production Well	6043274.016	2253508.899	482-1375	6/25/2021	6.94	<Null>
20128	A-48	20129	A-48/1	ANAHEIM	Active Large-System Production Well	6039676.184	2252635.146	932-1344	6/25/2021	-8	<Null>
7175	A-49	7176	A-49/1	ANAHEIM	Active Large-System Production Well	6051692.012	2255804.997	580-1450	6/24/2021	42.3	<Null>
18380	A-51	18381	A-51/1	ANAHEIM	Active Large-System Production Well	6033547.226	2249423.825	525-965	6/25/2021	-13.82	<Null>
19546	A-52	19547	A-52/1	ANAHEIM	Active Large-System Production Well	6077704.821	2261093.873	570-1066	6/24/2021	169.8	<Null>
19371	A-53	19372	A-53/1	ANAHEIM	Active Large-System Production Well	6037376.558	2245173.272	945-1270	6/25/2021	-15	<Null>
20130	A-54	20131	A-54/1	ANAHEIM	Active Large-System Production Well	6057250.4	2249808.49	680-1480	6/24/2021	37.5	<Null>
15155	A-55	15156	A-55/1	ANAHEIM	Active Large-System Production Well	6057199.693	2240917.141	370-1300	6/24/2021	24.82	<Null>
20814	A-56	20815	A-56/1	ANAHEIM	Active Large-System Production Well	6049068.109	2246784.849	725-1300	6/24/2021	11	<Null>
22689	A-58	22690	A-58/1	ANAHEIM	Active Large-System Production Well	6076957.97	2260975.182	400-930	6/24/2021	157	<Null>
23093	A-59	23094	A-59/1	ANAHEIM	Active Large-System Production Well	6050447.318	2241983.774	740-1270	6/24/2021	18	<Null>
9	A-41	112	A-41/1	ANAHEIM	Inactive Production Well	6053236.333	2238146.843	437-1450	6/29/2021	17.41	<Null>
1	A-43	101	A-43/1	ANAHEIM	Inactive Production Well	6075927.929	2261453.161	530-1210	6/24/2021	155.86	<Null>
882	A-DMGC	883	A-DMGC/1	ANAHEIM	Other Active Production Well	6039662.685	2252561.822	430-482	6/25/2021	3	<Null>
11918	BP-BALL	11919	BP-BALL/1	BUENA PARK	Active Large-System Production Well	6022213.798	2245381.375	260-870	6/28/2021	-8.9	<Null>
11890	BP-BOIS	11891	BP-BOIS/1	BUENA PARK	Active Large-System Production Well	6035674.646	2258374.859	475-1355	6/30/2021	14.03	<Null>
6	BP-CABA	110	BP-CABA/1	BUENA PARK	Active Large-System Production Well	6024286.125	2262965.786	250-1010	6/28/2021	-24.6	<Null>
394	BP-FREE	901	BP-FREE/1	BUENA PARK	Active Large-System Production Well	6026742.413	2259834.394	260-1000	6/28/2021	-24.5	<Null>
13	BP-HOLD	103	BP-HOLD/1	BUENA PARK	Active Large-System Production Well	6024539.646	2250081.536	250-1000	7/1/2021	-6.4	<Null>
205	BP-KNOT	206	BP-KNOT/1	BUENA PARK	Active Large-System Production Well	6026889.096	2263326.166	260-1000	6/28/2021	-22.7	<Null>
19624	BP-LIND	19625	BP-LIND/1	BUENA PARK	Active Large-System Production Well	6033483.531	2254059.483	470-1221	7/1/2021	-11.5	<Null>
4	BP-SM	107	BP-SM/1	BUENA PARK	Active Large-System Production Well	6033035.282	2270048.001	308-1038	6/29/2021	60.3	<Null>
19013	CSF-1	19130	CSF-1/1/WB1/MP4	CA. STATE UNIV., FULLERTON	Multiport Monitoring Well	6064343.084	2270822.497	MP4 (454)	7/6/2021	95.19	<Null>
5133	OCWD-SA10	5136	OCWD-SA10/3	DEPARTMENT OF WATER RESOURCES	Monitoring Well	6039247.362	2190515.118	300-330	6/28/2021	-27.73	<Null>
75	EOCW-E	2624	EOCW-E/1	EAST ORANGE COUNTY WATER DISTRICT	Active Large-System Production Well	6084070.661	2234506.703	324-450	6/9/2021	40.6	<Null>
74	EOCW-W	2623	EOCW-W/1	EAST ORANGE COUNTY WATER DISTRICT	Active Large-System Production Well	6084006.305	2234482.779	315-450	6/9/2021	42.5	<Null>
1636	ANDR-A	3116	ANDR-A/1	ELTISTE, JAMIE	Other Active Production Well	6089089.85	2256920.388	-	6/29/2021	266.7	<Null>
2151	FV-10	2152	FV-10/1	FOUNTAIN VALLEY	Active Large-System Production Well	6050675.518	2207799.966	460-980	3/28/2021	-32.08	<Null>
2218	FV-11	2219	FV-11/1	FOUNTAIN VALLEY	Active Large-System Production Well	6043548.905	2210280.198	440-950	6/28/2021	-13.22	<Null>
15548	FV-12	15549	FV-12/1	FOUNTAIN VALLEY	Active Large-System Production Well	6048362.825	2212580.442	340-1070	6/28/2021	-19.8	<Null>
643	FV-6	1228	FV-6/1	FOUNTAIN VALLEY	Active Large-System Production Well	6052471.003	2208423.32	370-1110	6/27/2021	-57.6	<Null>
989	FV-8	990	FV-8/1	FOUNTAIN VALLEY	Active Large-System Production Well	6052244.232	2213617.679	312-844	6/23/2021	-22.77	<Null>
21043	FV-9	21044	FV-9/1	FOUNTAIN VALLEY	Active Large-System Production Well	6039667.163	2210310.989	415-1070	7/3/2021	-39.2	<Null>
6999	F-10	7000	F-10/1	FULLERTON	Active Large-System Production Well	6062173.417	2262322.138	460-1290	6/30/2021	78.92	<Null>
62	F-4	1066	F-4/1	FULLERTON	Active Large-System Production Well	6053113.41	2256243.518	315-405	<Null>	<Null>	No static water level
60	F-5	1064	F-5/1	FULLERTON	Active Large-System Production Well	6052548.597	2256107.709	350-400	6/30/2021	73.32	<Null>
61	F-6	1065	F-6/1	FULLERTON	Active Large-System Production Well	6052747.388	2256082.222	340-401	<Null>	<Null>	No static water level
58	F-8	1062	F-8/1	FULLERTON	Active Large-System Production Well	6052703.232	2256195.873	324-402	6/30/2021	53.02	<Null>
7	F-AIRP	111	F-AIRP/1	FULLERTON	Active Large-System Production Well	6036730.867	2265796.644	435-1080	6/30/2021	-0.98	<Null>
8250	F-CHRI2	8251	F-CHRI2/1	FULLERTON	Active Large-System Production Well	6043423.817	2259590.954	520-1330	6/30/2021	11	<Null>
18605	F-KIM1A	18606	F-KIM1A/1	FULLERTON	Active Large-System Production Well	6059437.543	2261596.705	500-1225	<Null>	<Null>	No static water level
2614	F-KIM2	2615	F-KIM2/1	FULLERTON	Active Large-System Production Well	6062988.653	2261590.596	320-626	6/30/2021	83.02	<Null>
14527	F-3A	14528	F-3A/1	FULLERTON	Inactive Production Well	6052567.9	2256330.735	580-1280	6/30/2021	43.62	<Null>
8556	F-COYO2	8557	F-COYO2/1	FULLERTON	Inactive Production Well	6040365.852	2271034.694	309-919	6/30/2021	85.12	<Null>
16	GG-16	120	GG-16/1	GARDEN GROVE	Active Large-System Production Well	6018579.01	2232461.498	304-864	6/30/2021	-17.92	<Null>
24	GG-20	126	GG-20/1	GARDEN GROVE	Active Large-System Production Well	6038073.339	2227032.571	360-912	7/2/2021	-3	<Null>
395	GG-22	929	GG-22/1	GARDEN GROVE	Active Large-System Production Well	6026676.395	2235110.939	416-1020	6/28/2021	-8	<Null>
970	GG-25	971	GG-25/1	GARDEN GROVE	Active Large-System Production Well	6047504.135	2225582.455	442-850	7/4/2021	-4	<Null>
968	GG-26	969	GG-26/1	GARDEN GROVE	Active Large-System Production Well	6055989.26	2226872.674	470-1060	6/27/2021	-7.5	<Null>
899	GG-27	900	GG-27/1	GARDEN GROVE	Active Large-System Production Well	6037663.073	2237687.515	520-1160	7/6/2021	-2	<Null>
21518	GG-31	21519	GG-31/1	GARDEN GROVE	Active Large-System Production Well	6049303.952	2233106.343	739-1373	7/7/2021	-12	<Null>
43	GG-19	2673	GG-19/1	GARDEN GROVE	Inactive Production Well	6046486.765	2237386.406	818-892	6/30/2021	12.66	<Null>
10	GG-21	113	GG-21/1	GARDEN GROVE	Inactive Production Well	6053483.401	2233322.843	428-1080	6/28/2021	10	<Null>
40	GG-23	2683	GG-23/1	GARDEN GROVE	Inactive Production Well	6049380.377	2233107.081	474-835	6/30/2021	21	<Null>
11910	GG-29	11911	GG-29/1	GARDEN GROVE	Standby Large-System Production Well	6058221.696	2231433.99	465-1110	6/28/2021	-8	<Null>
19548	GG-30	19549	GG-30/1	GARDEN GROVE	Standby Large-System Production Well	6058357.807	2234214.139	390-1146	6/28/2021	19.2	<Null>
23833	GSWC-CHF3	23834	GSWC-CHF3/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6080817.993	2228562.283	415-825	6/1/2021	2.66	<Null>
20695	GSWC-POR1	20696	GSWC-POR1/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6079506.635	2263540.675	350-895	<Null>	<Null>	No static water level
21249	GSWC-SCL5	21250	GSWC-SCL5/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6033365.183	2242754.29	915-1280	6/26/2021	-14	<Null>
913	SCWC-CBAL	914	SCWC-CBAL/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6020255.615	2245432.308	200-770	6/26/2021	-16.3	<Null>
905	SCWC-CSC	906	SCWC-CSC/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6019058.295	2249273.52	526-556	6/29/2021	-16	<Null>
15059	SCWC-LABL2	15060	SCWC-LABL2/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6010813.626	2245084.513	460-690	6/25/2021	-45	<Null>
909	SCWC-LAC3	910	SCWC-LAC3/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6009351.523	2240861.379	346-593	6/2/2021	-39.28	<Null>
2890	SCWC-LAFL	2891	SCWC-LAFL/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6009761.621	2241392.543	300-680	6/2/2021	-44.7	<Null>
932	SCWC-LAHO	933	SCWC-LAHO/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6013044.186	2239882.249	386-486	6/26/2021	-22.15	<Null>
938	SCWC-LAYT	939	SCWC-LAYT/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6006632.572	2231013.121	250-800	6/29/2021	-47.42	<Null>
83	SCWC-PBF4	1075	SCWC-PBF4/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6069384.796	2263342.45	275-520	5/25/2021	119	<Null>
66	SCWC-PLJ2	1070	SCWC-PLJ2/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6067609.83	2260053.948	402-492	6/25/2021	106	<Null>
15488	SCWC-PRU	15489	SCWC-PRU/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6069096.18	2266983.102	430-790	6/30/2021	98	<Null>
940	SCWC-SBCH	941	SCWC-SBCH/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6031904.764	2233300.581	200-570	<Null>	<Null>	Well in exclusion list
925	SCWC-SDAL	926	SCWC-SDAL/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6034900.671	2235490.72	500-542	6/28/2021	-1	<Null>
1530	SCWC-SLON	1531	SCWC-SLON/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6028180.861	2242547.915	-	6/26/2021	1	<Null>
927	SCWC-SORG	928	SCWC-SORG/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6031153.704	2237527.217	242-286	<Null>	<Null>	Well in exclusion list
919	SCWC-SSHR	920	SCWC-SSHR/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6036356.964	2241844.025	520-580	6/29/2021	14	<Null>
942	SCWC-SSYC	943	SCWC-SSYC/1	GOLDEN STATE WATER COMPANY	Active Large-System Production Well	6033362.684	2230788.849	500-546	6/16/2021	-5	<Null>
18790	RHWC-W2	18791	RHWC-W2/1	GOLDEN STATE WATER COMPANY	Inactive Production Well	6080901.573	2228585.131	474-753	6/1/2021	-4.2	<Null>
19579	SCWC-CVV2	19580	SCWC-CVV2/1	GOLDEN STATE WATER COMPANY	Inactive Production Well	6021484.347	2249526.359	480-981	6/29/2021	-16	<Null>
2616	SCWC-PBF3	2617	SCWC-PBF3/1	GOLDEN STATE WATER COMPANY	Inactive Production Well	6069378.014	2263398.289	220-475	5/25/2021	117	<Null>
9522	SCWC-YLCO2	9523	SCWC-YLCO2/1	GOLDEN STATE WATER COMPANY	Inactive Production Well	6091725.912	2261952.552	100-480	5/25/2021	254	<Null>
1147	HOLY-A	1148	HOLY-A/1	HOLY SEPULCHER CEMETERY	Other Active Production Well	6047567.386	2247438.547	334-364	6/28/2021	23.43	<Null>
1244	HB-10	1245	HB-10/1	HUNTINGTON BEACH	Active Large-System Production Well	6031343.851	2212699.814	232-942	6/30/2021	-39.55	<Null>
18384	HB-13	18385	HB-13/1	HUNTINGTON BEACH	Active Large-System Production Well	6021661.742	2221160.513	280-810	6/14/2021	-44.54	<Null>
23201	HB-1A	23202	HB-1A/1	HUNTINGTON BEACH	Active Large-System Production Well	6023131.185	2218817.882	410-805	4/29/2021	-42.324	<Null>
10208	HB-3A	10209	HB-3A/1	HUNTINGTON BEACH	Active Large-System Production Well	6031590.226	2208300.41	370-640	6/28/2021	-41.53	<Null>
27	HB-4	130	HB-4/1	HUNTINGTON BEACH	Active Large-System Production Well	6021540.371	2221406.93	252-804	6/28/2021	-30.04	<Null>
1252	HB-5	1253	HB-5/1	HUNTINGTON BEACH	Active Large-System Production Well	6036338.835	2208549.742	223-800	6/29/2021	-39.24	<Null>
1246	HB-6	1247	HB-6/1	HUNTINGTON BEACH	Active Large-System Production Well	6029305.314	2212450.473	246-810	6/15/2021	-44.55	<Null>
1261	HB-7	1262	HB-7/1	HUNTINGTON BEACH	Active Large-System Production Well	6022149.127	2221238.007	263-879	6/21/2021	-37.74	<Null>
28	HB-9	129	HB-9/1	HUNTINGTON BEACH	Active Large-System Production Well	6037364.908	2208498.213	556-996	6/30/2021	-55.58	<Null>
1248	HB-8	1249	HB-8/1	HUNTINGTON BEACH	Inactive Production Well	6027670.035	2209264.856	256-704	6/15/2021	-45.53	<Null>
1457	HB-MEA2	1458	HB-MEA2/1	HUNTINGTON BEACH	Other Active Production Well	6020702.13	2209754.143	480-510	6/29/2021	-44.67	<Null>
1643	TAOR-A	3123	TAOR-A/1	HUYNH, TUAN	Inactive Production Well	6067751.89	2255475.782	-	6/28/2021	90.52	<Null>
22	IRWD-1	124	IRWD-1/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6061580.041	2205422.106	410-860	6/23/2021	-85.8	<Null>
11476	IRWD-10	11477	IRWD-10/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6055993.429	2207529.468	419.07-939.6	<Null>	<Null>	No static water level
22342	IRWD-107R	22343	IRWD-107R/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6095711.53	2205898.451	275-1000	<Null>	<Null>	No static water level
393	IRWD-11	1224	IRWD-11/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6059766.912	2205005.285	410-870	6/23/2021	-98.3	<Null>
19366	IRWD-110	19367	IRWD-110/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6100371.561	2196315.961	555-1015	<Null>	<Null>	No static water level
22856	IRWD-115R	22857	IRWD-115R/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6093475.865	2207945.022	290-1080	<Null>	<Null>	No static water level
397	IRWD-12	991	IRWD-12/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6057023.616	2209371.259	580-1040	5/26/2021	-67.4	<Null>

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Principal Aquifer Wells (Model Layer 2)

STAID1	WELLNM	STAID	STANAME	OWNERNM	GIS_SYMNM	NAD83_X	NAD83_Y	PERF_ZONE	SHORTDATE	WLELEV_2021	NOTES
392	IRWD-13	1227	IRWD-13/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6056862.056	2205734.981	410-980	6/30/2021	-76	<Null>
1225	IRWD-14	1226	IRWD-14/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6057193.114	2207516.401	470-970	6/30/2021	-90.2	<Null>
7082	IRWD-15	7083	IRWD-15/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6058994.6	2207797.409	470-990	4/21/2021	-62.1	<Null>
14827	IRWD-16	14828	IRWD-16/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6055756.572	2207045.785	406.03-806.73	6/30/2021	-75.3	<Null>
11478	IRWD-17	11479	IRWD-17/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6056285.662	2208810.875	504.06-959.62	4/21/2021	-52.2	<Null>
21	IRWD-18	115	IRWD-18/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6060643.784	2208050.14	390-1080	<Null>	<Null>	No static water level
994	IRWD-2	995	IRWD-2/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6067589.167	2204114.565	385-855	4/21/2021	-75.9	<Null>
8372	IRWD-21	8373	IRWD-21/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6083385.042	2214485.399	290-970	6/29/2021	2.41	<Null>
8370	IRWD-22	8371	IRWD-22/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6083876.226	2214049.348	300-970	<Null>	<Null>	No static water level
11474	IRWD-3	11475	IRWD-3/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6072630.329	2206528.469	483.53-1249.9	6/23/2021	-64.9	<Null>
672	IRWD-4	993	IRWD-4/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6065784.295	2205666.545	440-910	<Null>	<Null>	No static water level
15490	IRWD-5	15491	IRWD-5/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6070026.423	2205985.727	554.42-1028.47	<Null>	<Null>	No static water level
8558	IRWD-6	8559	IRWD-6/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6067126.622	2207312.356	499-1124	3/23/2021	-51.4	<Null>
8560	IRWD-7	8561	IRWD-7/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6057958.676	2203766.228	359-660	6/23/2021	-86.8	<Null>
19412	IRWD-76	19413	IRWD-76/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6097532.587	2201980.705	450-900	<Null>	<Null>	No static water level
19414	IRWD-77	19415	IRWD-77/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6095951.099	2203527.216	330-980	<Null>	<Null>	No static water level
18510	IRWD-C8	18511	IRWD-C8/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6062825.396	2204153.762	1080-1982	<Null>	<Null>	Well in exclusion list
18512	IRWD-C9	18513	IRWD-C9/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6062422.93	2205055.852	1055-1930	<Null>	<Null>	Well in exclusion list
8929	IRWD-51	8930	IRWD-51/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6072287.787	2201236.375	310-880	6/29/2021	-51.7	<Null>
22065	IRWD-52	22066	IRWD-52/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6073545.847	2203710.984	635-1290	6/29/2021	-62.3	<Null>
1503	IRWD-98	1504	IRWD-98/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6080266.015	2190031.269	115-343	6/29/2021	-54.42	<Null>
22710	IRWD-OPA1	22711	IRWD-OPA1/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6086291.17	2237727.918	390-750	6/28/2021	41.5	<Null>
1379	TIC-109	1380	TIC-109/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6093513	2212849.72	240-1120	6/29/2021	16.9	<Null>
1381	TIC-112	1382	TIC-112/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6092052.48	2212026.724	240-1100	6/29/2021	15.23	<Null>
1377	TIC-114	1378	TIC-114/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6094747.508	2212848.22	300-960	6/29/2021	19.88	<Null>
1941	TIC-82	1942	TIC-82/1	IRVINE RANCH WATER DISTRICT	Monitoring Well	6090541.059	2199639.983	410-1002	6/29/2021	-8.83	<Null>
1343	IRWD-72	1344	IRWD-72/1	IRVINE RANCH WATER DISTRICT	Other Active Production Well	6090498.014	2215406.267	254-1151	6/29/2021	9.9	<Null>
1389	TIC-106	1390	TIC-106/1	IRVINE RANCH WATER DISTRICT	Other Active Production Well	6084967	2197177.989	405-715	3/23/2021	-45.1	<Null>
432	W-432	433	W-432/1	KATHY BONANNO	Inactive Production Well	6080325.38	2272580.463	117-137	6/30/2021	286.97	<Null>
1176	KNOT-BPBS	1515	KNOT-BPBS/1	KNOTT'S BERRY FARM	Active Small-System Production Well	6029633.814	2254234.979	430-630	6/29/2021	8.14	<Null>
12	LP-CITY	105	LP-CITY/1	LA PALMA	Active Large-System Production Well	6015567.916	2254199.963	290-1415	6/29/2021	-72.67	<Null>
5	LP-WALK	108	LP-WALK/1	LA PALMA	Active Large-System Production Well	6019189.082	2262316.73	489-919	6/25/2021	-25.45	<Null>
14284	MSG-BP10L	14285	MSG-BP10L/1	MCCOLL SITE GROUP	Monitoring Well	6037931.453	2272258.752	247-257	6/30/2021	103.92	<Null>
1505	MVCC-COSD2	1506	MVCC-COSD2/1	MESA VERDE COUNTRY CLUB	Other Active Production Well	6049566.742	2197240.664	200-450	6/30/2021	-65.825	<Null>
15780	MCWD-11	15781	MCWD-11/1	MESA WATER DISTRICT	Active Large-System Production Well	6055237.67	2197733.913	330-1000	7/7/2021	-86.57	<Null>
10138	MCWD-1B	10139	MCWD-1B/1	MESA WATER DISTRICT	Active Large-System Production Well	6058120.94	2200970.067	305-580	<Null>	<Null>	No static water level
31	MCWD-3B	2892	MCWD-3B/1	MESA WATER DISTRICT	Active Large-System Production Well	6053761.218	2202557.912	242-572	<Null>	<Null>	Well in exclusion list
1231	MCWD-5	1232	MCWD-5/1	MESA WATER DISTRICT	Active Large-System Production Well	6051212.891	2202686.998	400-940	<Null>	<Null>	No static water level
2135	MCWD-6	2136	MCWD-6/1	MESA WATER DISTRICT	Active Large-System Production Well	6055652.152	2197722.22	310-1025	<Null>	<Null>	No static water level
1233	MCWD-7	1234	MCWD-7/1	MESA WATER DISTRICT	Active Large-System Production Well	6053044.669	2200013.913	363-753	<Null>	<Null>	No static water level
23121	MESA-9B	23122	MESA-9B/1	MESA WATER DISTRICT	Active Large-System Production Well	6055224.568	2200729.295	350-580	<Null>	<Null>	No static water level
23	MCWD-2	125	MCWD-2/1	MESA WATER DISTRICT	Monitoring Well	6060220.541	2200931.5	300-650	7/7/2021	-88.14	<Null>
7747	MCWD-3BM	7748	MCWD-3BM/1	MESA WATER DISTRICT	Monitoring Well	6053810.232	2202578.466	530-570	7/7/2021	-67.5	<Null>
14833	NB-DOLD	14834	NB-DOLD/1	NEWPORT BEACH	Active Large-System Production Well	6041557.515	2205737.495	399-729	6/30/2021	-41.75	<Null>
14835	NB-DOLS	14836	NB-DOLS/1	NEWPORT BEACH	Active Large-System Production Well	6041637.348	2205746.699	201-356	<Null>	<Null>	Well in exclusion list
14837	NB-TAMD	14838	NB-TAMD/1	NEWPORT BEACH	Active Large-System Production Well	6037391.886	2206329.916	395-690	6/29/2021	-42.79	<Null>
14839	NB-TAMS	14840	NB-TAMS/1	NEWPORT BEACH	Active Large-System Production Well	6037391.924	2206247.365	170-360	<Null>	<Null>	Well in exclusion list
71	O-18	2625	O-18/1	ORANGE	Active Large-System Production Well	6073004.258	2233669.343	372-574	6/28/2021	44.64	<Null>
79	O-19	2618	O-19/1	ORANGE	Active Large-System Production Well	6072211.218	2241094.476	444-1014	6/28/2021	105.35	<Null>
2694	O-20	2696	O-20/1	ORANGE	Active Large-System Production Well	6065992.895	2234093.189	400-1130	6/28/2021	13.83	<Null>
81	O-21	1073	O-21/1	ORANGE	Active Large-System Production Well	6075241.088	2245598.993	482-1252	6/28/2021	90.16	<Null>
2921	O-22	3295	O-22/1	ORANGE	Active Large-System Production Well	6077271.09	2239348.179	342-802	6/28/2021	53.77	<Null>
7173	O-23	7174	O-23/1	ORANGE	Active Large-System Production Well	6084469.321	2236564.181	370-640	6/28/2021	23.32	<Null>
10140	O-24	10141	O-24/1	ORANGE	Active Large-System Production Well	6084080.037	2238925.34	420-800	6/28/2021	42.65	<Null>
15474	O-25	15475	O-25/1	ORANGE	Active Large-System Production Well	6078385.795	2233068.736	430-885	6/28/2021	-9.78	<Null>
18435	O-26	18436	O-26/1	ORANGE	Active Large-System Production Well	6061791.146	2233358.136	460-1170	6/28/2021	-2.58	<Null>
22860	O-27	22861	O-27/1	ORANGE	Active Large-System Production Well	6078303.303	2233680.531	425-890	6/28/2021	-45	<Null>
47	O-8	2652	O-8/1	ORANGE	Active Large-System Production Well	6069397.223	2240803.328	570-850	4/5/2021	53.07	<Null>
46	O-9	2656	O-9/1	ORANGE	Active Large-System Production Well	6069440.354	2241135.949	546-888	<Null>	<Null>	No static water level
22370	MBI-1	22371	MBI-1/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6055132.435	2212498.453	530-1190	7/1/2021	-38.54	<Null>
23015	MBI-2	23016	MBI-2/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6056141.1	2211006.5	646-1085	6/29/2021	-55.78	<Null>
23017	MBI-3	23018	MBI-3/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6056123.8	2212200.9	654-1114	6/29/2021	-42.47	<Null>
23019	MBI-4	23020	MBI-4/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6057084.9	2212185.2	650-1089	6/29/2021	-47.65	<Null>
23021	MBI-5	23022	MBI-5/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6057622.7	2211477.6	609-1059	6/29/2021	-53.62	<Null>
15492	OCWD-I24	15494	OCWD-I24/2	ORANGE COUNTY WATER DISTRICT	Injection Well	6046615.244	2199848.75	420-605	7/6/2021	-59.31	<Null>
18060	OCWD-I26C	18061	OCWD-I26C/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6048796.348	2200397.494	476-660	7/6/2021	-65.21	<Null>
19463	OCWD-I28C	19464	OCWD-I28C/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6036240.299	2199039.947	360-460	7/6/2021	-22.14	<Null>
19648	OCWD-I30C	19649	OCWD-I30C/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6034047	2200300.103	425-650	6/28/2021	-18.35	<Null>
19650	OCWD-I31C	19651	OCWD-I31C/1	ORANGE COUNTY WATER DISTRICT	Injection Well	6033606.9	2201013.303	440-590	7/6/2021	-22.46	<Null>
1018	AM-1	1019	AM-1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6090472.39	2264185.952	97-115	6/30/2021	245.03	<Null>
545	AM-10	546	AM-10/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6071304.771	2257813.261	217-235	7/7/2021	121.51	<Null>
557	AM-11	558	AM-11/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6072499.755	2255656.617	218-240	6/30/2021	121.98	<Null>
555	AM-12	556	AM-12/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6070962.221	2255565.488	210-225	7/7/2021	113.56	<Null>
553	AM-13	554	AM-13/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6072701.528	2256964.39	252-270	6/30/2021	128.38	<Null>
2740	AM-14	2741	AM-14/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6065935.798	2256505.388	297-315	6/30/2021	96.56	<Null>
2742	AM-15	2743	AM-15/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062582.08	2256912.924	300-317	6/25/2021	86.54	<Null>
2746	AM-16	2747	AM-16/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6057468.185	2255986.324	300-315	7/1/2021	70.09	<Null>
2750	AM-17	2751	AM-17/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6056078.923	2256637.855	290-308	6/25/2021	67.03	<Null>
2752	AM-18	2753	AM-18/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054337.392	2256704.097	291-309	7/1/2021	60.89	<Null>
1022	AM-2	1023	AM-2/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6091404.587	2263383.522	87-100	6/30/2021	246.46	<Null>
7535	AM-20	7536	AM-20/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054209.307	2247063.369	361-379	6/25/2021	34.97	<Null>
7001	AM-22	7002	AM-22/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6059519.306	2254484.798	339-353	6/25/2021	72.1	<Null>
7003	AM-23	7004	AM-23/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062009.413	2254628.535	330-347	6/25/2021	83.21	<Null>
7005	AM-24	7006	AM-24/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6058556.647	2251960.234	335-350	6/25/2021	69.28	<Null>
7009	AM-25	7010	AM-25/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6060774.466	2252487.982	340-358	6/25/2021	74.37	<Null>
7533	AM-26	7534	AM-26/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051909.723	2244283.122	377-383	7/1/2021	29.21	<Null>
7013	AM-27	7014	AM-27/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6064651.178	2249603.126	287-305	6/25/2021	82.55	<Null>
7015	AM-29	7016	AM-29/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062902.901	2259184.123	340-358	6/30/2021	88.5	<Null>
1020	AM-3	1021	AM-3/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6090425.411	2261850.384	91-107	6/30/2021	245.62	<Null>
7541	AM-30	7542	AM-30/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6046016.856	2255914.15	349-367	6/25/2021	41.38	<Null>
8919	AM-31	8920	AM-31/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6052262.726	2257664.465	335-353	6/25/2021	57.41	<Null>
7753	AM-32	7754	AM-32/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6052527.256	2252384.43	335-353	6/25/2021	50.68	<Null>
7523	AM-33	7524	AM-33/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6055430.54	2253987.665	354-372	6/25/2021	61.86	<Null>
7527	AM-34	7528	AM-34/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6049928.243	2250310.571	317-335	6/25/2021	39.01	<Null>
7755	AM-35	7756	AM-35/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6044316.748	2249355.364	332-350	6/25/2021	28.86	<Null>
7759	AM-37	7760	AM-37/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054347.18	2250152.867	349-367	6/25/2021	46.31	<Null>
7761	AM-38	7762	AM-38/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6058042.463	2246387.411	316-334	6/25/2021	35.25	<Null>
549	AM-4	550	AM-4/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6078257.417	2258629.141	187-205	7/7/2021	166.16	<Null>
20709	AM-47	20710	AM-47/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054333.5	2258316.7	227-242	6/25/2021	64.05	<Null>
20705	AM-48	20706	AM-48/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6069379.3	2259143.9	270-300	7/8/2021	113.68	<Null>
1024	AM-5	1025	AM-5/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6078674.697	2259936.321	230-245	7/7/2021	156.58	<Null>
23213	AM-54C	23214	AM-54C/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6055965.303	2259518	280-295	6/25/2021	69.46	<Null>
23563	AM-55B	23564	AM-55B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054292.1	2256036.6	375-395	7/8/2021	59.8	<Null>
23567	AM-56B	23569	AM-56B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6053578.9	2256950.9	380-400	7/8/2021	58.82	<Null>
551	AM-6	552	AM-6/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6075037.515	2257301.421	232-250	7/7/2021	143.29	<Null>
2734	AM-7	2735	AM-7/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6071731.515	2260900.336	210-225	7/7/2021	131.58	<Null>

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Principal Aquifer Wells (Model Layer 2)

STAID1	WELLNM	STAID	STANAME	OWNERNM	GIS_SYMNM	NAD83_X	NAD83_Y	PERF_ZONE	SHORTDATE	WLELEV_2021	NOTES
2736	AM-8	2737	AM-8/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6069027.597	2259867.528	268-285	7/7/2021	112.8	<Null>
15043	AMD-10	15045	AMD-10/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6072825.077	2260900.884	440-460	7/7/2021	135.71	<Null>
15053	AMD-11	15056	AMD-11/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6070695.395	2257252.242	600-620	6/30/2021	117.07	<Null>
19507	AMD-12	19510	AMD-12/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6071323.1	2260657.003	595-615	6/30/2021	126.14	<Null>
14585	AMD-9	14587	AMD-9/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6075825.081	2261784.701	450-470	7/7/2021	151.35	<Null>
7017	FM-1	7018	FM-1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6053154.441	2258736.246	348-356	6/25/2021	60.62	<Null>
18331	FM-10	18332	FM-10/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6057584.791	2262009.679	215-235	6/29/2021	79.5	<Null>
18335	FM-11	18336	FM-11/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054079.466	2261009.777	236-256	6/30/2021	69.03	<Null>
18339	FM-12	18340	FM-12/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6058076.487	2263025.088	206-226	6/29/2021	82.04	<Null>
18343	FM-13	18344	FM-13/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6064730.854	2262602.368	210-230	6/30/2021	93.15	<Null>
18347	FM-14	18348	FM-14/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6064606.249	2263073.772	234-254	7/1/2021	93.13	<Null>
18351	FM-15	18352	FM-15/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054099.553	2262606.493	218-238	6/29/2021	73.72	<Null>
18412	FM-16	18413	FM-16/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6063630.746	2262324.068	248-268	6/30/2021	88.76	<Null>
19626	FM-17	19627	FM-17/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6061492.436	2262019.765	250-270	6/30/2021	84.02	<Null>
19612	FM-18	19613	FM-18/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6049362.557	2263643.539	224-244	6/29/2021	62.44	<Null>
19622	FM-19C	19623	FM-19C/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051551.893	2262403.786	365-385	6/29/2021	57.84	<Null>
23462	FM-19D	23463	FM-19D/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051660.8	2262458.6	435-455	6/29/2021	59.85	<Null>
7021	FM-2	7022	FM-2/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6058816.966	2258623.398	320-338	6/25/2021	76.61	<Null>
20762	FM-20	20763	FM-20/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6053785.7	2263886.1	221-241	6/29/2021	72.51	<Null>
20766	FM-21	20767	FM-21/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6047750.6	2262684.3	260-270	6/29/2021	58.02	<Null>
20751	FM-22	20752	FM-22/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051135	2260372.1	242-262	7/8/2021	60.23	<Null>
23217	FM-22B	23218	FM-22B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051128.1	2260379.8	326-346	6/25/2021	56.32	<Null>
20882	FM-23	20883	FM-23/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054166.9	2260625	234-249	6/29/2021	69.17	<Null>
20699	FM-24	20700	FM-24/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051441.4	2258786	271-291	6/25/2021	57	<Null>
23219	FM-24B	23220	FM-24B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051418.9	2258788.7	338-358	6/25/2021	55.89	<Null>
23225	FM-29C	23226	FM-29C/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6049003.993	2262397.371	340-360	6/29/2021	49.19	<Null>
7025	FM-3	7026	FM-3/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6061451.851	2259514.599	257-263	6/30/2021	84.27	<Null>
23573	FM-30B	23574	FM-30B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6061056.8	2263552.8	370-390	6/29/2021	83.12	<Null>
23229	FM-31B	23230	FM-31B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054065.947	2261842.665	230-250	6/29/2021	70.23	<Null>
23449	FM-32B	23452	FM-32B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6045316.1	2263964.1	220-230	6/29/2021	56.28	<Null>
23577	FM-34B	23578	FM-34B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6057207.6	2265354.1	377-397	7/8/2021	66.54	<Null>
23898	FM-35C	23899	FM-35C/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062992.887	2262505.466	460.5-480.5	7/6/2021	85.12	<Null>
7519	FM-4	7520	FM-4/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6048406.619	2258792.993	327-345	6/25/2021	49.86	<Null>
9947	FM-6	9948	FM-6/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6053264.065	2274113.568	150-310	6/30/2021	175.2	<Null>
23215	FM-7B	23216	FM-7B/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6054304.1	2259270.6	329.5-344.5	6/25/2021	64.28	<Null>
18327	FM-9	18328	FM-9/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6063377.138	2262960.474	220-240	6/30/2021	88.97	<Null>
19009	IDM-3	19012	IDM-3/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6099726.882	2201438.084	652-672	6/28/2021	8.37	<Null>
19404	IDM-4	19407	IDM-4/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6103585.541	2200230.218	654-674	6/28/2021	51.87	<Null>
19478	IDP-2R	19480	IDP-2R/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6106015.21	2193086.752	300-340	6/28/2021	108.257	<Null>
721	KBS-1	998	KBS-1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6074374.124	2260345.831	209-219	7/1/2021	154.21	<Null>
1285	MCAS-10	1286	MCAS-10/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6096082.894	2198174.236	347-377	6/28/2021	9.88	<Null>
1360	MCAS-4	1361	MCAS-4/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6098189.884	2189446.916	181-238	6/28/2021	95.46	<Null>
10217	MCAS-5A	10218	MCAS-5A/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6101340.027	2187474.726	120-130	6/28/2021	118.26	<Null>
1355	MCAS-8	1356	MCAS-8/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6088737.288	2194284.922	392-410	6/28/2021	-63.35	<Null>
1287	MCAS-9	1288	MCAS-9/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6092651.761	2198312.255	372-445	6/28/2021	2.18	<Null>
23057	OCWD-34Y01	23061	OCWD-34Y01/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6001790.9	2226024.1	400-420	7/6/2021	-43.1	<Null>
11700	OCWD-36FP1Z	11701	OCWD-36FP1Z/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6001815.979	2221372.331	504-514	7/1/2021	-42.84	<Null>
2859	OCWD-AIR1	2861	OCWD-AIR1/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6037614.933	2265072.135	410-510	6/29/2021	-7.44	<Null>
22323	OCWD-BS10	22329	OCWD-BS10/6	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6013179.752	2219396.307	595-605	7/1/2021	-46.87	<Null>
22330	OCWD-BS11	22336	OCWD-BS11/6	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6008506.1	2221300	580-590	7/1/2021	-47.03	<Null>
22774	OCWD-BS12	22973	OCWD-BS12/6	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6015660.3	2214181.8	585-605	7/1/2021	-49.9	<Null>
23692	OCWD-BS13F	23693	OCWD-BS13F/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6009690	2214241.6	575-595	7/1/2021	-44.86	<Null>
22776	OCWD-BS14	22916	OCWD-BS14/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6003965.9	2221842.9	490-510	7/1/2021	-43.9	<Null>
23550	OCWD-BS24F	23554	OCWD-BS24F/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6005185.3	2219560	500-520	7/1/2021	-41.91	<Null>
2867	OCWD-CTG1	2869	OCWD-CTG1/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6061970.346	2206073.478	420-720	6/30/2021	-85.71	<Null>
2872	OCWD-CTG5	2873	OCWD-CTG5/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062530.714	2206394.591	420-620	8/4/2021	-81.04	<Null>
2876	OCWD-CTK1	2878	OCWD-CTK1/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062486.259	2205158.852	780-1015	6/30/2021	-81.99	<Null>
3307	OCWD-FC1	3308	OCWD-FC1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6072297.077	2252615.883	165-185	7/7/2021	104.96	<Null>
3305	OCWD-FH1	3306	OCWD-FH1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6081695.772	2257027.264	120-140	7/7/2021	213.83	<Null>
3303	OCWD-LV1	3304	OCWD-LV1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6085675.722	2259327.385	135-155	7/7/2021	237.5	<Null>
15127	OCWD-M38	15131	OCWD-M38/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6030736.262	2198146.213	336-346	6/30/2021	-27.7	<Null>
16021	OCWD-M39	16026	OCWD-M39/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6048139.112	2190636.716	250-270	6/28/2021	-16.46	<Null>
16654	OCWD-M40	16658	OCWD-M40/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6051222.286	2195005.215	330-520	6/28/2021	-81.04	<Null>
18425	OCWD-M41	18430	OCWD-M41/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6031312.152	2196141.497	370-390	6/30/2021	-27.74	<Null>
18418	OCWD-M42	18423	OCWD-M42/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6030956.495	2201880.558	500-520	6/24/2021	-30.94	<Null>
23769	OCWD-M43R	23774	OCWD-M43R/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6056258.4	2193225.9	530-550	6/28/2021	-82.54	<Null>
20371	OCWD-M44	20376	OCWD-M44/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6048200.8	2193011.3	295-305	6/28/2021	-58.37	<Null>
19640	OCWD-M45	19645	OCWD-M45/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6040339.8	2203350.603	780-790	6/30/2021	-56.92	<Null>
19482	OCWD-M46	19487	OCWD-M46/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6049299	2201186.803	890-910	6/28/2021	-61.24	<Null>
19634	OCWD-M47	19639	OCWD-M47/5	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6049915.7	2202379.503	940-960	6/28/2021	-61.7	<Null>
18766	OCWD-M48	18768	OCWD-M48/2	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6059972.844	2188953.882	175-195	6/28/2021	-73.7	<Null>
22842	OCWD-M52C	22843	OCWD-M52C/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6067045.9	2192841.2	210-230	6/24/2021	-69.15	<Null>
22786	OCWD-MRSH	22854	OCWD-MRSH/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6074220	2188672.3	199-219	6/29/2021	-28.15	<Null>
22659	OCWD-SA22R	22663	OCWD-SA22R/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6036740.5	2194795.1	310-330	6/30/2021	-28.24	<Null>
3978	OCWD-T2	3981	OCWD-T2/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6035679.306	2192640.337	300-360	6/24/2021	-27.11	<Null>
315	OCWD-W1	316	OCWD-W1/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6081387.171	2258988.611	-	7/7/2021	174.34	<Null>
22347	SAR-10	22351	SAR-10/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6055179.3	2212421.7	1100-1115	7/1/2021	-51.98	<Null>
22061	SAR-11	22064	SAR-11/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6055349.4	2211898	1100-1110	7/1/2021	-54.34	<Null>
23010	SAR-12	23014	SAR-12/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6056736.8	2210170.5	1045-1055	6/30/2021	-67.896	<Null>
23203	SAR-13	23207	SAR-13/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6057504.8	2210763.1	1045-1055	6/30/2021	-63.83	<Null>
1851	TIC-67	1852	TIC-67/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6100937.109	2211418.256	245-900	6/29/2021	73.58	<Null>
997	ABS-1	22665	ABS-1/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6076226.851	2262977.612	MP3 (257)	7/7/2021	158.375	<Null>
547	AMD-1	21137	AMD-1/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6073916.932	2258572.091	MP5 (331)	6/21/2021	143.45	<Null>
565	AMD-2	22205	AMD-2/1/WB2/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066705.21	2254540.618	MP4 (512)	6/29/2021	99.11	<Null>
7031	AMD-4	7104	AMD-4/1/WB1/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6050716.117	2255097.562	MP4 (561)	6/28/2021	43.82	<Null>
7295	AMD-5	7320	AMD-5/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6060070.244	2248962.576	MP7 (754)	6/28/2021	69.39	<Null>
7293	AMD-6	7482	AMD-6/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6057374.729	2241092.645	MP7 (622)	6/28/2021	15.03	<Null>
8596	AMD-7	8754	AMD-7/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6049188.026	2247218.215	MP7 (580)	6/28/2021	15.36	<Null>
9682	AMD-8	9906	AMD-8/1/WB1/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6033488.697	2249624.328	MP5 (662)	7/12/2021	-8.705	<Null>
9831	BPM-1	9985	BPM-1/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6022348.508	2259541.566	MP6 (890)	7/12/2021	-42.1	<Null>
9832	BPM-2	10178	BPM-2/1/WB1/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6025195.413	2246739.597	MP5 (778)	7/12/2021	-11.49	<Null>
685	CB-1	8788	CB-1/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6044695.232	2253837.186	MP3 (443)	7/6/2021	30.09	<Null>
5155	COSM-1	7147	COSM-1/1/WB1/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6055253.401	2197825.036	MP5 (451)	6/30/2021	-87.65	<Null>
18846	COSM-2	18866	COSM-2/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6052266.414	2199776.431	MP8 (763)	6/30/2021	-80.87	<Null>
719	FFS-1	14243	FFS-1/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6061436.461	2262022.62	MP3 (530)	7/6/2021	81.44	<Null>
1291	FVM-1	15692	FVM-1/1/WB2/MP9	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6047178.815	2210990.613	MP9 (814)	6/22/2021	-47.21	<Null>
7297	GGM-1	10028	GGM-1/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6045688.299	2230864.24	MP8 (1074)	7/8/2021	-22.44	<Null>
8923	GGM-2	9049	GGM-2/1/WB1/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6026525.607	2230233.156	MP5 (954)	6/22/2021	-30.46	<Null>
8592	GGM-3	8666	GGM-3/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6037298.069	2237458.988	MP6 (1007)	7/8/2021	-17.34	<Null>
7178	HBM-1	8439	HBM-1/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6031700.722	2216385.252	MP7 (924)	7/2/2021	-43.89	<Null>
7086	HBM-2	7223	HBM-2/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6036228.737	2196532.383	MP6 (447)	7/2/2021	-25.01	<Null>
9200	HBM-4	9225	HBM-4/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6034095.825	2197123.319	MP8 (551)	7/2/2021	-20.86	<Null>
9688	HBM-5	9879	HBM-5/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6045744.869	2193971.856	MP8 (273)	7/2/2021	-52.65	<Null>
15088	HBM-6	15245	HBM-6/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6025106.578	2204548.969	MP7 (508)	7/2/2021	-37.1	<Null>
720	IDM-1	18979	IDM-1/1/WB2/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6099572.243	2207081.537	MP4 (436)	7/7/2021	28.49	<Null>
9830	IDM-2	10064	IDM-2/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6080705.598	2209836.046	MP6 (613)	7/7/2021	-71.94	<Null>

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Principal Aquifer Wells (Model Layer 2)

STAID1	WELLNM	STAID	STANAME	OWNERNM	GIS_SYMNM	NAD83_X	NAD83_Y	PERF_ZONE	SHORTDATE	WLELEV_2021	NOTES
541	KBS-2	10226	KBS-2/1/WB1/MP2	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6073053.762	2260992.439	MP2 (214)	6/21/2021	144.53	<Null>
11949	LAM-1	12028	LAM-1/1/WB1/MP9	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6009581.587	2238043.705	MP9 (1153)	6/15/2021	-56.23	<Null>
1345	MCAS-1	5853	MCAS-1/1/WB2/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6098255.481	2192973.357	MP6 (455)	7/6/2021	36.17	<Null>
759	MCAS-2	5935	MCAS-2/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6100360.442	2191167.958	MP5 (425)	7/6/2021	62.46	<Null>
1339	MCAS-3	5891	MCAS-3/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6104434.428	2191276.758	MP5 (426)	7/6/2021	89.45	<Null>
758	MCAS-7	11829	MCAS-7/1/WB3/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6093900.827	2194418.586	MP4 (442)	7/7/2021	-23.9	<Null>
756	SAR-1	9261	SAR-1/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6070684.206	2250425.314	MP5 (519)	6/29/2021	88.12	<Null>
761	SAR-2	11989	SAR-2/1/WB2/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6069096.008	2245410.807	MP6 (741)	6/29/2021	71.42	<Null>
762	SAR-3	9466	SAR-3/1/WB2/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066892.02	2238409.284	MP6 (774)	6/24/2021	54.27	<Null>
763	SAR-4	14633	SAR-4/1/WB2/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6065370.966	2233375.154	MP6 (868)	6/29/2021	31.58	<Null>
1289	SAR-5	21220	SAR-5/1/WB3/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6062597.607	2227874.211	MP5 (766)	6/30/2021	-16.37	<Null>
561	SAR-6	10113	SAR-6/1/WB2/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6073313.538	2254365.369	MP4 (581)	6/21/2021	142.26	<Null>
996	SAR-7	20000	SAR-7/1/WB2/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6078049.17	2256383.048	MP4 (440)	6/21/2021	192.2	<Null>
7181	SAR-9	9802	SAR-9/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6058380.802	2221450.982	MP7 (877)	6/30/2021	-40.723	<Null>
9686	SBM-1	9729	SBM-1/1/WB1/MP7	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6016566.11	2224523.54	MP7 (916)	6/15/2021	-47.295	<Null>
1000	SC-1	21654	SC-1/1/WB2/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6089555.444	2242038.806	MP4 (197)	7/1/2021	213.44	<Null>
1001	SC-2	18747	SC-2/1/WB2/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6086489.295	2237887.557	MP6 (303)	7/1/2021	112.45	<Null>
1005	SC-3	8839	SC-3/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6081074.85	2229940.413	MP3 (577)	7/1/2021	29.49	<Null>
2888	SC-4	6296	SC-4/1/WB1/MP4	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6082605.785	2235080.546	MP4 (393)	7/1/2021	46.59	<Null>
2854	SC-5	6331	SC-5/1/WB1/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6077454.866	2225543.458	MP5 (670)	7/1/2021	4.73	<Null>
9684	SC-6	9758	SC-6/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066813.288	2216032.113	MP6 (964)	7/7/2021	-60.78	<Null>
1016	SCS-1	8867	SCS-1/1/WB1/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6088950.708	2237855.374	MP6 (298)	7/1/2021	89.68	<Null>
1014	SCS-2	22653	SCS-2/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6088207.123	2239962.183	MP5 (329)	7/1/2021	72.99	<Null>
1011	WBS-4	19983	WBS-4/1/WB2/MP3	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6080099.39	2256910.089	MP3 (212)	6/21/2021	206.6	<Null>
1293	WMM-1	19884	WMM-1/1/WB2/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6038251.554	2221751.195	MP8 (985)	7/8/2021	-24.03	<Null>
1423	OCWD-D1	1424	OCWD-D1/1	ORANGE COUNTY WATER DISTRICT	Other Active Production Well	6046612.36	2200327.641	780-880	6/23/2021	-60.642	<Null>
1412	OCWD-D3	1413	OCWD-D3/1	ORANGE COUNTY WATER DISTRICT	Other Active Production Well	6046034.602	2201849.851	560-1000	6/23/2021	-58.66	<Null>
3797	OCWD-D4	3798	OCWD-D4/1	ORANGE COUNTY WATER DISTRICT	Other Active Production Well	6047147.793	2201759.429	531-979	6/23/2021	-61.08	<Null>
1798	NVLW-SB3	3275	NVLW-SB3/1	PURSCHE, ROY	Other Active Production Well	6011353.936	2219409.749	-	6/29/2021	-51.1	<Null>
1126	NOBL-O	1127	NOBL-O/1	R.J. NOBLE COMPANY	Other Active Production Well	6072535.517	2251285.626	290-474	6/29/2021	91.85	<Null>
22874	RAY-MW06	22875	RAY-MW06/1	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6042228.1	2268828.8	149.6-189.6	6/30/2021	33.58	<Null>
22408	RAY-MW32	22410	RAY-MW32/2	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6039287.583	2267257.657	969-999	6/30/2021	17.47	<Null>
22416	RAY-MW34B	22417	RAY-MW34B/1	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6039046.07	2268346.15	486-536	6/30/2021	18.29	<Null>
22420	RAY-MW35	22423	RAY-MW35/3	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6039878.34	2265861.26	990-1040	6/30/2021	12.69	<Null>
22757	RAY-MW39	22758	RAY-MW39/1	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6034604.76	2267260.25	982-1012	6/30/2021	14.6	<Null>
22759	RAY-MW40	22760	RAY-MW40/1	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6042465.71	2267070.62	930-970	6/30/2021	20.33	<Null>
975	SA-16	976	SA-16/1	SANTA ANA	Active Large-System Production Well	6066775.852	2220474.597	305-950	<Null>	<Null>	Well in exclusion list
964	SA-18	965	SA-18/1	SANTA ANA	Active Large-System Production Well	6065423.295	2227343.923	245-623	6/30/2021	6.21	<Null>
983	SA-20	984	SA-20/1	SANTA ANA	Active Large-System Production Well	6051943.524	2218208.729	390-940	6/29/2021	-18.5	<Null>
981	SA-21	982	SA-21/1	SANTA ANA	Active Large-System Production Well	6051992.474	2218775.287	400-960	6/29/2021	-17.7	<Null>
966	SA-24	967	SA-24/1	SANTA ANA	Active Large-System Production Well	6062495.013	2226820.521	352-654	6/30/2021	-4.27	<Null>
19	SA-29	117	SA-29/1	SANTA ANA	Active Large-System Production Well	6067350.619	2218664.363	450-1050	7/1/2021	-48.19	<Null>
985	SA-30	986	SA-30/1	SANTA ANA	Active Large-System Production Well	6051988.27	2217594.374	440-900	6/29/2021	-22.8	<Null>
979	SA-33	980	SA-33/1	SANTA ANA	Active Large-System Production Well	6067018.394	2218472.227	425-935	7/1/2021	-47.2	<Null>
3322	SA-34	3323	SA-34/1	SANTA ANA	Active Large-System Production Well	6062544.736	2203955.867	370-520	7/2/2021	-83	<Null>
8823	SA-35	8824	SA-35/1	SANTA ANA	Active Large-System Production Well	6058367.7	2224408.129	429.2-1480	5/24/2021	-29	<Null>
1993	SA-36	1994	SA-36/1	SANTA ANA	Active Large-System Production Well	6064973.942	2227415.821	570-1290	6/30/2021	-21.75	<Null>
8825	SA-37	8826	SA-37/1	SANTA ANA	Active Large-System Production Well	6061211.41	2214947.524	348-1480	5/24/2021	-48	<Null>
18391	SA-39	18393	SA-39/1	SANTA ANA	Active Large-System Production Well	6064925.485	2227035.79	590-1290	6/30/2021	-26.3	<Null>
19552	SA-41	19553	SA-41/1	SANTA ANA	Active Large-System Production Well	6067142.505	2220423.372	525-978	5/25/2021	-40.58	<Null>
956	SA-26	957	SA-26/1	SANTA ANA	Standby Large-System Production Well	6073873.971	2210851.779	330-1140	7/2/2021	-58.82	<Null>
532	SA-27	533	SA-27/1	SANTA ANA	Standby Large-System Production Well	6072868.882	2229547.215	396-1140	6/30/2021	-6.9	<Null>
70	SA-28	2629	SA-28/1	SANTA ANA	Standby Large-System Production Well	6073394.893	2229877.64	250-980	6/30/2021	11.5	<Null>
18	SA-31	118	SA-31/1	SANTA ANA	Standby Large-System Production Well	6078121.42	2217676.874	465-1240	6/22/2021	-11.32	<Null>
8817	SA-38	8818	SA-38/1	SANTA ANA	Standby Large-System Production Well	6077082.488	2229427.758	400-1270	6/30/2021	27	<Null>
19550	SA-40	19551	SA-40/1	SANTA ANA	Standby Large-System Production Well	6077600.85	2221373.519	550-1305	6/30/2021	-50.75	<Null>
1513	SACC-SA	1514	SACC-SA/1	SANTA ANA COUNTRY CLUB	Other Active Production Well	6062143.936	2190413.821	205-406	6/30/2021	-80.85	<Null>
26	SB-BC	123	SB-BC/1	SEAL BEACH	Active Large-System Production Well	6016910.323	2228579.652	370-1020	6/29/2021	-62	<Null>
1282	SB-BEV	1283	SB-BEV/1	SEAL BEACH	Active Large-System Production Well	6006691.531	2229990.738	400-800	5/26/2021	-58.14	<Null>
21089	SB-LAM	21090	SB-LAM/1	SEAL BEACH	Active Large-System Production Well	6012636.62	2232616.404	360-1170	6/29/2021	-50	<Null>
78	SID-3	2619	SID-3/1	SERRANO WATER DISTRICT	Active Large-System Production Well	6085523.367	2241664.186	296-584	6/30/2021	49	<Null>
7036	SID-4	7037	SID-4/1	SERRANO WATER DISTRICT	Active Large-System Production Well	6088277.371	2242027.33	290-520	<Null>	<Null>	No static water level
15486	SWD-5	15487	SWD-5/1	SERRANO WATER DISTRICT	Active Large-System Production Well	6085860.482	2241857.866	310-720	6/30/2021	53	<Null>
3801	W-3801	3802	W-3801/1	STATE OF CALIFORNIA	Inactive Production Well	6061820.651	2190918.886	254-407	6/30/2021	-80.36	<Null>
1927	TIC-194	1931	TIC-194/1	THE IRVINE COMPANY	Monitoring Well	6085062.044	2200644.721	562-726	6/29/2021	-62.48	<Null>
3524	TIC-25	3525	TIC-25/1	THE IRVINE COMPANY	Monitoring Well	6082128.447	2194002.252	666-760	6/29/2021	-62.21	<Null>
1829	TIC-50	1830	TIC-50/1	THE IRVINE COMPANY	Monitoring Well	6089719.969	2212322.221	475-1070	6/29/2021	19.34	<Null>
1331	TIC-99	1332	TIC-99/1	THE IRVINE COMPANY	Monitoring Well	6094081.516	2213753.527	346-650	6/29/2021	10.69	<Null>
18770	T-17S4	18771	T-17S4/1	TUSTIN	Active Large-System Production Well	6087962.147	2223505.698	200-480	7/1/2021	22	<Null>
950	T-COLU	951	T-COLU/1	TUSTIN	Active Large-System Production Well	6083806.737	2220457.042	560-1160	6/30/2021	-16	<Null>
22699	T-ED	22700	T-ED/1	TUSTIN	Active Large-System Production Well	6079918.435	2211393.25	500-840	7/1/2021	-58	<Null>
954	T-MS3	955	T-MS3/1	TUSTIN	Active Large-System Production Well	6083758.623	2217438.721	300-630	6/30/2021	32	<Null>
15470	T-MS4	15471	T-MS4/1	TUSTIN	Active Large-System Production Well	6084025.072	2217344.269	330-880	6/30/2021	9	<Null>
1370	T-NEWP	1371	T-NEWP/1	TUSTIN	Active Large-System Production Well	6087882.616	2220782.263	234-267	7/1/2021	31	<Null>
20304	T-PAS	20305	T-PAS/1	TUSTIN	Active Large-System Production Well	6080513.128	2217850.37	440-1225	6/30/2021	-11	<Null>
9204	T-VNBG	9205	T-VNBG/1	TUSTIN	Active Large-System Production Well	6083087.233	2223256.938	480-900	<Null>	<Null>	No static water level
958	T-WALN	959	T-WALN/1	TUSTIN	Active Large-System Production Well	6084028.458	2212002.398	397-995	7/2/2021	-40	<Null>
948	T-LIVI	949	T-LIVI/1	TUSTIN	Inactive Production Well	6085117.397	2221039.77	300-617	6/30/2021	21	<Null>
960	T-PANK	961	T-PANK/1	TUSTIN	Inactive Production Well	6087674.762	2213340.094	323-614	6/30/2021	10.88	<Null>
946	T-TUST	947	T-TUST/1	TUSTIN	Inactive Production Well	6079841.655	2224465.712	306-776	5/10/2021	0	<Null>
33	T-YORB	2898	T-YORB/1	TUSTIN	Inactive Production Well	6082254.093	2227714.437	385-850	6/30/2021	12	<Null>
2139	COS-PLAZ	3551	COS-PLAZ/1	UNKNOWN	Monitoring Well	6062779.265	2200089.756	-	6/30/2021	-82.38	<Null>
21187	WRD-SEALBEACH-1	21191	WRD-SEALBEACH-1/4	WATER REPLENISHMENT DISTRICT	Monitoring Well	6002807.228	2229796.158	775-795	6/7/2021	-61.51	<Null>
20132	WM-107A	20133	WM-107A/1	WESTMINSTER	Active Large-System Production Well	6036756.169	2221201.688	350-980	6/23/2021	-3.71	<Null>
18462	WM-11	18463	WM-11/1	WESTMINSTER	Active Large-System Production Well	6030376.492	2221521.749	325-790	6/28/2021	-16	<Null>
15462	WM-125	15463	WM-125/1	WESTMINSTER	Active Large-System Production Well	6019490.522	2226357.926	374-860	6/29/2021	-35	<Null>
1250	WM-3	1251	WM-3/1	WESTMINSTER	Active Large-System Production Well	6035334.153	2212273.162	285-365	<Null>	<Null>	Well in exclusion list
987	WM-4	988	WM-4/1	WESTMINSTER	Active Large-System Production Well	6041811.441	2216473.787	345-1125	6/30/2021	-10	<Null>
973	WM-6	974	WM-6/1	WESTMINSTER	Active Large-System Production Well	6040452.837	2221186.654	176-660	<Null>	<Null>	Well in exclusion list
19581	WM-75A	19582	WM-75A/1	WESTMINSTER	Active Large-System Production Well	6027529.048	2227543.038	410-996	7/1/2021	-18.75	<Null>
2351	WM-RES1	2352	WM-RES1/1	WESTMINSTER	Active Large-System Production Well	6034195.466	2226587.136	390-880	6/29/2021	-13.33	<Null>
25	WM-RES2	127	WM-RES2/1	WESTMINSTER	Active Large-System Production Well	6022510.924	2225649.817	340-937	6/28/2021	-36	<Null>
1549	WM-SC4	1550	WM-SC4/1	WESTMINSTER	Active Large-System Production Well	6024891.234	2228376.544	425-454	6/28/2021	-13	<Null>
1501	WOOD-INLK	1502	WOOD-INLK/1	WOODBRIDGE VILL HOMEOWNER ASSN	Inactive Production Well	6090903.001	2195025.511	370-890	6/28/2021	-33.24	<Null>
2602	YLWD-1	2603	YLWD-1/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6083180.423	2261475.297	90-340	6/24/2021	201.25	<Null>
2600	YLWD-10	2601	YLWD-10/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082573.916	2261063.226	90-406	6/24/2021	199.95	<Null>
2598	YLWD-12	2599	YLWD-12/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082579.233	2261460.266	80-498	6/24/2021	194.75	<Null>
18764	YLWD-18	18765	YLWD-18/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082572.851	2261290.355	250-570	6/24/2021	202	<Null>
19554	YLWD-19	19555	YLWD-19/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082841.553	2261300.166	280-581	6/24/2021	200.7	<Null>
21243	YLWD-20	21244	YLWD-20/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6083164.301	2258232.562	225-570	6/24/2021	227.32	<Null>
22794	YLWD-21	22795	YLWD-21/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082500.179	2259535.434	210-510	6/24/2021	211.25	<Null>
2592	YLWD-5	2593	YLWD-5/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6083146.35	2261304.493	90-340	6/24/2021	200.5	<Null>
2596	YLWD-7	2597	YLWD-7/1	YORBA LINDA WATER DISTRICT	Standby Large-System Production Well	6082874.48	2261508.045	137-259	6/24/2021	197.25	<Null>

Wells Used to Develop 2021 Groundwater Contour Maps in Orange County Groundwater Basin

Deep Aquifer Wells (Model Layer 3)

STAID1	WELLNM	STAID	STANAME	OWNERNM	GIS_SYMNM	NAD83_X	NAD83_Y	PERF_ZONE	SHORTDATE	WLELEV	NAD83_X	NAD83_Y
19013	CSF-1	19132	CSF-1/1/WB1/MP6	CA. STATE UNIV., FULLERTON	Multiport Monitoring Well	6064343.084	2270822.497	MP6 (718)	7/6/2021	108.52	6064343.084	2270822.497
8556	F-COYO2	8557	F-COYO2/1	FULLERTON	Inactive Production Well	6040365.852	2271034.694	309-919	6/30/2021	85.12	6040365.852	2271034.694
1387	SNDR-SA	1388	SNDR-SA/1	I & G 4 HUTTON LLC-ASSOC.	Other Active Production Well	6070727.949	2200897.503	930-990	6/30/2021	-71.45	6070727.949	2200897.503
19366	IRWD-110	19367	IRWD-110/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6100371.561	2196315.961	555-1015	<Null>	<Null>	6100371.561	2196315.961
11474	IRWD-3	11475	IRWD-3/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6072630.329	2206528.469	483.53-1249.9	6/23/2021	-64.9	6072630.329	2206528.469
18510	IRWD-C8	18511	IRWD-C8/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6062825.396	2204153.762	1080-1982	<Null>	<Null>	6062825.396	2204153.762
18512	IRWD-C9	18513	IRWD-C9/1	IRVINE RANCH WATER DISTRICT	Active Large-System Production Well	6062422.93	2205055.852	1055-1930	<Null>	<Null>	6062422.93	2205055.852
22065	IRWD-52	22066	IRWD-52/1	IRVINE RANCH WATER DISTRICT	Inactive Production Well	6073545.847	2203710.984	635-1290	6/29/2021	-62.3	6073545.847	2203710.984
1941	TIC-82	1942	TIC-82/1	IRVINE RANCH WATER DISTRICT	Monitoring Well	6090541.059	2199639.983	410-1002	6/29/2021	-8.83	6090541.059	2199639.983
1391	ET-2	1392	ET-2/1	IRVINE RANCH WATER DISTRICT	Other Active Production Well	6090684.562	2199800.983	280-1080	<Null>	<Null>	6090684.562	2199800.983
1389	TIC-106	1390	TIC-106/1	IRVINE RANCH WATER DISTRICT	Other Active Production Well	6084967	2197177.989	405-715	<Null>	<Null>	6084967	2197177.989
15780	MCWD-11	15781	MCWD-11/1	MESA WATER DISTRICT	Active Large-System Production Well	6055237.67	2197733.913	330-1000	7/7/2021	-86.57	6055237.67	2197733.913
2135	MCWD-6	2136	MCWD-6/1	MESA WATER DISTRICT	Active Large-System Production Well	6055652.152	2197722.22	310-1025	<Null>	<Null>	6055652.152	2197722.22
1357	MCAS-6	1358	MCAS-6/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6094225.41	2191657.016	167-222	6/28/2021	76.17	6094225.41	2191657.016
2867	OCWD-CTG1	2871	OCWD-CTG1/4	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6061970.346	2206073.478	1060-1220	6/30/2021	-81.88	6061970.346	2206073.478
2872	OCWD-CTG5	2875	OCWD-CTG5/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062530.714	2206394.591	1040-1120	8/4/2021	-87.56	6062530.714	2206394.591
2876	OCWD-CTK1	2879	OCWD-CTK1/3	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6062486.259	2205158.852	1260-1315	6/30/2021	-83.03	6062486.259	2205158.852
22786	OCWD-MRSH	22854	OCWD-MRSH/1	ORANGE COUNTY WATER DISTRICT	Monitoring Well	6074220	2188672.3	199-219	6/29/2021	-28.15	6074220	2188672.3
547	AMD-1	21142	AMD-1/1/WB2/MP10	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6073916.932	2258572.091	MP10 (1394)	6/21/2021	139.96	6073916.932	2258572.091
565	AMD-2	22211	AMD-2/1/WB2/MP10	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066705.21	2254540.618	MP10 (1444)	6/29/2021	104.23	6066705.21	2254540.618
7031	AMD-4	7111	AMD-4/1/WB1/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6050716.117	2255097.562	MP11 (1409)	6/28/2021	60.28	6050716.117	2255097.562
7295	AMD-5	7324	AMD-5/1/WB1/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6060070.244	2248962.576	MP11 (1324)	6/28/2021	82.65	6060070.244	2248962.576
8596	AMD-7	8761	AMD-7/1/WB1/MP14	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6049188.026	2247218.215	MP14 (1424)	6/28/2021	30.68	6049188.026	2247218.215
9682	AMD-8	9916	AMD-8/1/WB1/MP15	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6033488.697	2249624.328	MP15 (2014)	7/12/2021	-13.155	6033488.697	2249624.328
9831	BPM-1	9993	BPM-1/1/WB1/MP14	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6022348.508	2259541.566	MP14 (2109)	7/12/2021	-25.24	6022348.508	2259541.566
9832	BPM-2	10188	BPM-2/1/WB1/MP15	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6025195.413	2246739.597	MP15 (2173)	7/12/2021	-23.16	6025195.413	2246739.597
685	CB-1	8794	CB-1/1/WB2/MP9	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6044695.232	2253837.186	MP9 (1463)	7/6/2021	29.14	6044695.232	2253837.186
5155	COSM-1	7156	COSM-1/1/WB1/MP14	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6055253.401	2197825.036	MP14 (1599)	6/30/2021	-77.7	6055253.401	2197825.036
719	FFS-1	14248	FFS-1/1/WB2/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6061436.461	2262022.62	MP8 (1420)	7/6/2021	88.03	6061436.461	2262022.62
1291	FVM-1	15700	FVM-1/1/WB2/MP17	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6047178.815	2210990.613	MP17 (1587)	6/22/2021	-29.3	6047178.815	2210990.613
7297	GGM-1	10033	GGM-1/1/WB1/MP13	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6045688.299	2230864.24	MP13 (2011)	7/8/2021	-13.6	6045688.299	2230864.24
8923	GGM-2	9057	GGM-2/1/WB1/MP13	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6026525.607	2230233.156	MP13 (1994)	6/22/2021	-15.01	6026525.607	2230233.156
7178	HBM-1	8443	HBM-1/1/WB1/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6031700.722	2216385.252	MP11 (1464)	7/2/2021	-25.08	6031700.722	2216385.252
720	IDM-1	18984	IDM-1/1/WB2/MP9	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6099572.243	2207081.537	MP9 (993)	7/7/2021	-10.34	6099572.243	2207081.537
9830	IDM-2	10066	IDM-2/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6080705.598	2209836.046	MP8 (890)	7/7/2021	-53.81	6080705.598	2209836.046
11949	LAM-1	12031	LAM-1/1/WB1/MP12	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6009581.587	2238043.705	MP12 (1613)	6/15/2021	-36.83	6009581.587	2238043.705
758	MCAS-7	11831	MCAS-7/1/WB3/MP6	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6093900.827	2194418.586	MP6 (802)	7/7/2021	21.5	6093900.827	2194418.586
756	SAR-1	9269	SAR-1/1/WB2/MP13	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6070684.206	2250425.314	MP13 (1374)	6/29/2021	85.58	6070684.206	2250425.314
761	SAR-2	11995	SAR-2/1/WB2/MP12	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6069096.008	2245410.807	MP12 (1351)	6/29/2021	74.07	6069096.008	2245410.807
762	SAR-3	9471	SAR-3/1/WB2/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066892.02	2238409.284	MP11 (1393)	6/24/2021	58.87	6066892.02	2238409.284
763	SAR-4	14637	SAR-4/1/WB2/MP10	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6065370.966	2233375.154	MP10 (1398)	6/29/2021	-9.56	6065370.966	2233375.154
1289	SAR-5	21226	SAR-5/1/WB3/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6062597.607	2227874.211	MP11 (1735)	6/30/2021	-15.3	6062597.607	2227874.211
7181	SAR-9	9807	SAR-9/1/WB1/MP12	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6058380.802	2221450.982	MP12 (1724)	6/30/2021	-28.443	6058380.802	2221450.982
9686	SBM-1	9730	SBM-1/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6016566.11	2224523.54	MP8 (1256)	6/15/2021	-28.045	6016566.11	2224523.54
1001	SC-2	6242	SC-2/1/WB2/MP10	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6086489.295	2237887.557	MP10 (664)	<Null>	<Null>	6086489.295	2237887.557
1005	SC-3	8841	SC-3/1/WB2/MP5	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6081074.85	2229940.413	MP5 (1022)	7/1/2021	48.56	6081074.85	2229940.413
2888	SC-4	6300	SC-4/1/WB1/MP8	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6082605.785	2235080.546	MP8 (830)	7/1/2021	44.34	6082605.785	2235080.546
2854	SC-5	6336	SC-5/1/WB1/MP10	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6077454.866	2225543.458	MP10 (1430)	7/1/2021	-27.75	6077454.866	2225543.458
9684	SC-6	9763	SC-6/1/WB1/MP11	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6066813.288	2216032.113	MP11 (1684)	7/7/2021	-50.96	6066813.288	2216032.113
1293	WMM-1	19892	WMM-1/1/WB2/MP16	ORANGE COUNTY WATER DISTRICT	Multiport Monitoring Well	6038251.554	2221751.195	MP16 (1745)	7/8/2021	-23.94	6038251.554	2221751.195
1883	TIC-91	1884	TIC-91/1	PRIVATE	Destroyed and Sealed Well	6075952.042	2204613.252	403-1208	<Null>	<Null>	6075952.042	2204613.252
22391	RAY-MW25	22392	RAY-MW25/1	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6042037.4	2268206.9	449.4-479.8	6/30/2021	30.11	6042037.4	2268206.9
22408	RAY-MW32	22411	RAY-MW32/3	RAYTHEON TECHNOLOGIES CORPORATION	Monitoring Well	6039287.583	2267257.657	1070-1100	6/30/2021	26.62	6039287.583	2267257.657
8817	SA-38	8818	SA-38/1	SANTA ANA	Standby Large-System Production Well	6077082.488	2229427.758	400-1270	6/30/2021	27	6077082.488	2229427.758
1873	TIC-93	1874	TIC-93/1	THE IRVINE COMPANY	Destroyed and Sealed Well	6080030.447	2205228.503	400-1120	<Null>	<Null>	6080030.447	2205228.503
1927	TIC-194	1931	TIC-194/1	THE IRVINE COMPANY	Monitoring Well	6085062.044	2200644.721	562-726	6/29/2021	-62.48	6085062.044	2200644.721
3524	TIC-25	3525	TIC-25/1	THE IRVINE COMPANY	Monitoring Well	6082128.447	2194002.252	666-760	6/29/2021	-62.21	6082128.447	2194002.252
1829	TIC-50	1830	TIC-50/1	THE IRVINE COMPANY	Monitoring Well	6089719.969	2212322.221	475-1070	6/29/2021	19.34	6089719.969	2212322.221
958	T-WALN	959	T-WALN/1	TUSTIN	Active Large-System Production Well	6084028.458	2212002.398	397-995	7/2/2021	-40	6084028.458	2212002.398
21187	WRD-SEALBEACH-1	21192	WRD-SEALBEACH-1/5	WATER REPLENISHMENT DISTRICT	Monitoring Well	6002807.228	2229796.158	1020-1040	6/7/2021	-39.7	6002807.228	2229796.158
3518	WOOD-ISLK	3519	WOOD-ISLK/1	WOODBRIDGE VILL HOMEOWNER ASSN	Inactive Production Well	6089676.955	2191898.777	210-800	6/28/2021	26.83	6089676.955	2191898.777

APPENDIX F

WATER SHORTAGE CONTINGENCY PLAN

City of Orange
Geographic Information System

2025 Water Shortage Contingency Plan

FINAL DRAFT / May 2026



carollo® in collaboration with CDM Smith and Maddaus Water Management Inc.

2025 Water Shortage Contingency Plan

May 2026 / FINAL DRAFT

Prepared By:
Carollo Engineers, Inc.
707 Wilshire Boulevard, Suite 3920
Los Angeles, California 90017
Phone: 213.489.1587
https://www.carollo.com

Prepared For:
City of Orange
189 S. Water Street
Orange, California 92866
Phone: 714.288.2475
https://www.cityoforange.org

In collaboration with:

CDM Smith listen. think. deliver.
MADDAUS WATER MANAGEMENT
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Abbreviations

AF	acre-foot
AWSDA	Annual Water Supply and Demand Assessment
BPP	Basin Production Percentage
City	City of Orange
DDW	Division of Drinking Water
DRA	Drought Risk Assessment
DVL	Diamond Valley Lake
DWR	Department of Water Resources
EOC	Emergency Operations Center
EOCWD	East Orange County Water District
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FY	Fiscal Year
GRP	Groundwater Resilience Plan
GSP	Groundwater Sustainability Plan
IAWP	Interim Agricultural Water Program
IRWD	Irvine Ranch Water District
LHMP	Local Hazard Mitigation Plan
MCL	Maximum Contaminant Level
MET	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
NIMS	National Incident Management System
OC Basin	Orange County Groundwater Basin
OCWD	Orange County Water District
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfanate
PPT	parts per trillion
Producers	Groundwater Producers
SEMS	Standardized Emergency Management System
Supplier	Urban Water Supplier
SWD	Serrano Water District
SWP	State Water Project
UWMP	Urban Water Management Plan
Water Code	California Water Code
WEROC	Water Emergency Response Organization of Orange County
WSAP	Water Supply Allocation Plan

WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management Plan

SECTION 1 INTRODUCTION AND WATER SHORTAGE CONTINGENCY PLAN OVERVIEW

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (Water Code) Section 10632, which requires that every Urban Water Supplier (Supplier) shall prepare and adopt a WSCP as part of its Urban Water Management Plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP is the City of Orange's (City) operating manual that is used to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage, when the water supply available is insufficient to meet the normally expected customer water use at a given point in time, may occur due to a number of reasons, such as drought, climate change, and catastrophic events. This WSCP provides a structured guide for the City to deal with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption. This way, if and when shortage conditions arise, the City's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to manage a water shortage. A well-structured WSCP allows real-time water supply availability assessment and structured steps designed to respond to actual conditions, enabling efficient management of any shortage with predictability and accountability.

The WSCP also describes the City's procedures for conducting an Annual Water Supply and Demand Assessment (AWSDA) that is required by Water Code Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project (SWP), whichever is later. The City's 2025 WSCP is included as an Appendix to its 2025 UWMP, which will be submitted to DWR by July 1, 2026. However, while developed in conjunction with the UWMP, this WSCP is a standalone document and can be amended, as needed, without amending the UWMP. Furthermore, the Water Code does not prohibit a Supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels that correspond to water shortage percentages ranging from 10 percent to greater than 50 percent; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an AWSDA; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections, with Section 3 aligned with Water Code Section 16032 requirements:

- **Section 1, Introduction and WSCP Overview,** gives an overview of the WSCP fundamentals.
- **Section 2 Background Information** provides a background on the City's water service area.
- **Section 3 Water Shortage Contingency Preparedness and Response Planning.**
  - **Section 3.1 Water Supply Reliability Analysis** provides a summary of the water supply analysis and water reliability findings from the 2025 UWMP.
  - **Section 3.2 Annual Water Supply and Demand Assessment Procedures** provides a description of procedures to conduct and approve the AWSDA.
  - **Section 3.3 Six Standard Water Shortage Stages** explains WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50 percent shortages.
  - **Section 3.4 Shortage Response Actions** describes WSCP's shortage response actions that align with the defined shortage levels.
  - **Section 3.5 Communication Protocols** addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.
  - **Section 3.6 Compliance and Enforcement** describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.
  - **Section 3.7 Legal Authorities** describes the legal authorities that enable the City to implement and enforce its shortage response actions.
  - **Section 3.8 Financial Consequences of the WSCP** provides a description of the financial consequences of and responses for drought conditions.
  - **Section 3.9 Monitoring and Reporting** describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements**.**
  - **Section 3.10 WSCP Refinement Procedures** addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.
  - **Section 3.11 Special Water Feature Distinction** provides a required definition for inclusion in a WSCP per the Water Code.
  - **Section 3.12 Plan Adoption, Submittal, and Availability** describes the process the City followed to adopt its WSCP.

1.2 Integration with Other Planning Efforts

As a retail water supplier in Orange County, the City considered other key entities in the development of this WSCP, including the Municipal Water District of Orange County (MWDOC), regional wholesale supplier, the Metropolitan Water District of Southern California (MET), regional wholesaler for Southern California and the direct supplier of imported water to MWDOC, and Orange County Water District (OCWD), Orange County Groundwater Basin (OC Basin) manager and provider of recycled water in

North Orange County. As a MWDOC member agency, the City also developed this WSCP with input from several coordination efforts led by MWDOC.

Some of the key planning and reporting documents that were used to develop this WSCP are:

- **MWDOC's 2025 UWMP** provides the basis for the projections of the imported supply availability over the next 25 years for the City's service area.
- **MWDOC's 2025 WSCP** provides a water supply availability assessment and structured steps designed to respond to actual conditions that will help maintain reliable supplies and reduce the impacts of supply interruptions.
- **MWDOC's 2023 Orange County Water Reliability Study** is a planning document to help guide planning for future water supply reliability for water providers in Orange County and provide input on regional water supply issues for MET.
- **2025 Orange County Water Demand Projection Model Technical Memorandum** is a collaborative effort amongst MWDOC, OCWD, and all retail water suppliers in Orange County that developed water demand projections to produce regionally consistent forecasts across all Orange County water agencies.
- **OCWD's 2025 Groundwater Resilience Plan (GRP)** is an adaptive strategies management plan outlining strategic projects to secure reliable future water supplies in the Orange County Basin.
- **MET's 2025 UWMP** uses assumptions that fall within the plausible futures contemplated in MET's Integrated Water Resources Plan to evaluate MET's future imported water supply reliability.
- **MET's 2025 WSCP** provides a water supply availability assessment and guide for MET's intended actions during water shortage conditions.
- **OCWD's 2023 to 2024 Engineer's Report** provides information on the groundwater conditions, water supply, and basin utilization of the OC Basin.
- **OCWD's 2022 Basin 8-1 Alternative** is an alternative to the Groundwater Sustainability Plan (GSP) for the OC Basin, which provides significant information related to sustainable management of the basin in the past and hydrogeology of the basin, including groundwater quality and basin characteristics, and addresses DWR's recommendations to ensure long-term basin sustainability.
- **City of Orange's 2025 Local Hazard Mitigation Plan (LHMP)** provides the basis for the seismic and other natural disaster risk analysis of the water system facilities.
- **City of Orange Capital Improvement Plan** provides information on water infrastructure planning projects and plans to address any required water system improvements.

SECTION 2 BACKGROUND INFORMATION

Incorporated in 1888, under the general laws of the State of California, the City is situated at an average elevation of 195 feet above mean sea level and covers an area of approximately 27 square miles. The City is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The City is governed by a seven-member City Council that provides policy direction for the City and enacts all municipal legislation. The City Council serves in a quasi-judicial role on certain

administrative appeals and directs the administration of its policy decisions through the City Manager for delegation to appropriate City staff.

2.1 City Service Area

The City's 61.9 square mile sphere of influence extends east to the Cleveland National Forest. Within the sphere of influence is the City's 37.2 square mile planning area and the Water Division's 24.3 square mile water service area lying within the planning area, as shown in Figure 1. The 24.3 square mile Water Division's service area does not follow the same boundary as the City limits. The Water Division service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors, as described below:

- Areas served by the Water Division outside the City limits include:
  - Some County Islands.
  - Small area in the City of Anaheim (Along Imperial Highway north of Via Escola).
  - Irvine Regional Park.
- Other water purveyors that serve areas within the City limits include:
  - Irvine Ranch Water District (IRWD).
  - Serrano Water District (SWD).
  - East Orange County Water District (EOCWD).
  - Golden State Water Company.
  - City of Santa Ana.

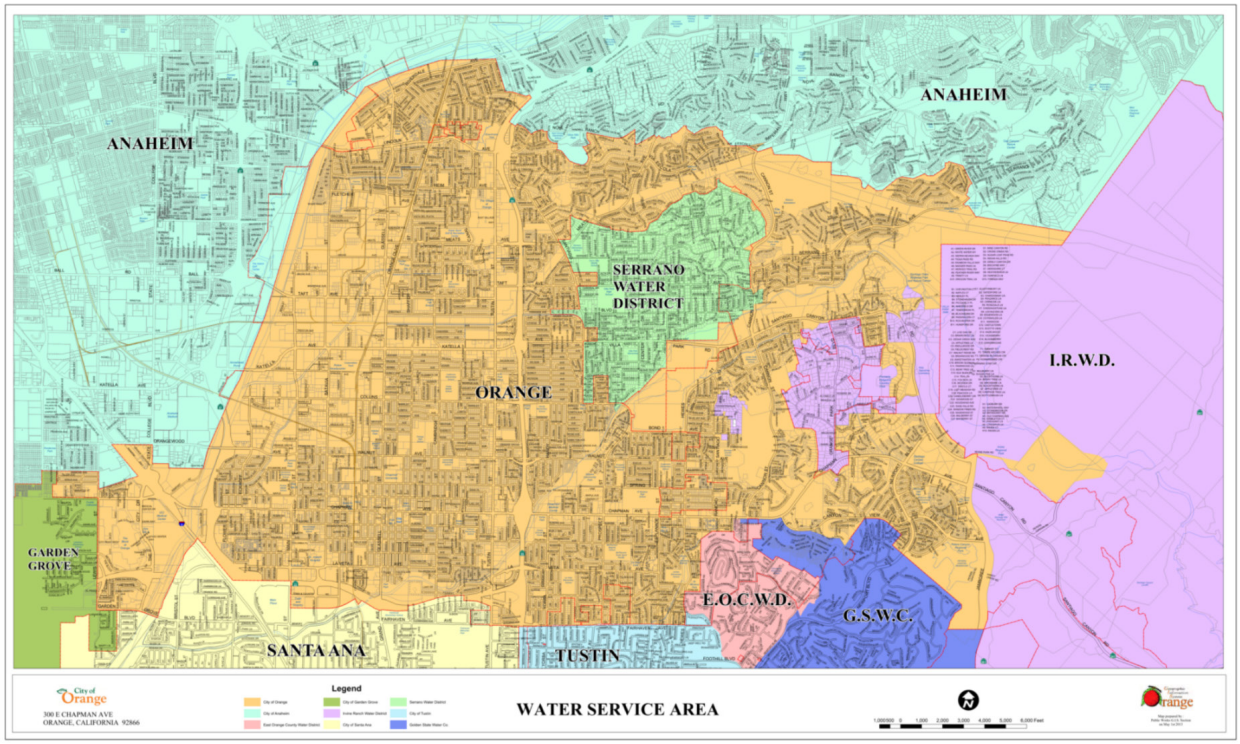


Figure 1 City of Orange Service Area

2.2 Relationship with Wholesalers

The Metropolitan Water District of Southern California : MET is the largest water wholesaler for domestic and municipal uses in California, serving approximately 19 million customers. MET wholesales imported water supplies to 26 member cities and water districts in six Southern California counties. Its service area covers the Southern California coastal plain, extending approximately 200 miles along the Pacific Ocean from the City of Oxnard in the north to the international boundary with Mexico in the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85 percent of the population from the aforementioned counties reside within MET's boundaries.

MET is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of MET's 26 member agencies. The allocation of directors and voting rights is determined by each agency's assessed valuation. Each member of the Board shall be entitled to cast one vote for each ten million dollars of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act. Directors can be appointed through the Chief Executive Officer of the member agency or by a majority vote of the governing board of the agency. Directors are not compensated by MET for their service.

MET is responsible for importing water into the region through its operation of the Colorado River Aqueduct and its contract with the State of California for SWP supplies. Member agencies receive water from MET through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges, and readiness to serve charges. Member agencies provide estimates of imported water demand to MET annually in April regarding the amount of water they anticipate they will need to meet their demands for the next five years.

The Municipal Water District of Orange County: In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are MET member agencies that purchase imported water directly from MET. Furthermore, MWDOC purchases both treated potable and untreated water from MET to supplement its retail agencies' local supplies.

The City is one of MWDOC's 27 member agencies purchasing imported water from MWDOC. The City's location within MWDOC's service area is shown in Figure 2.

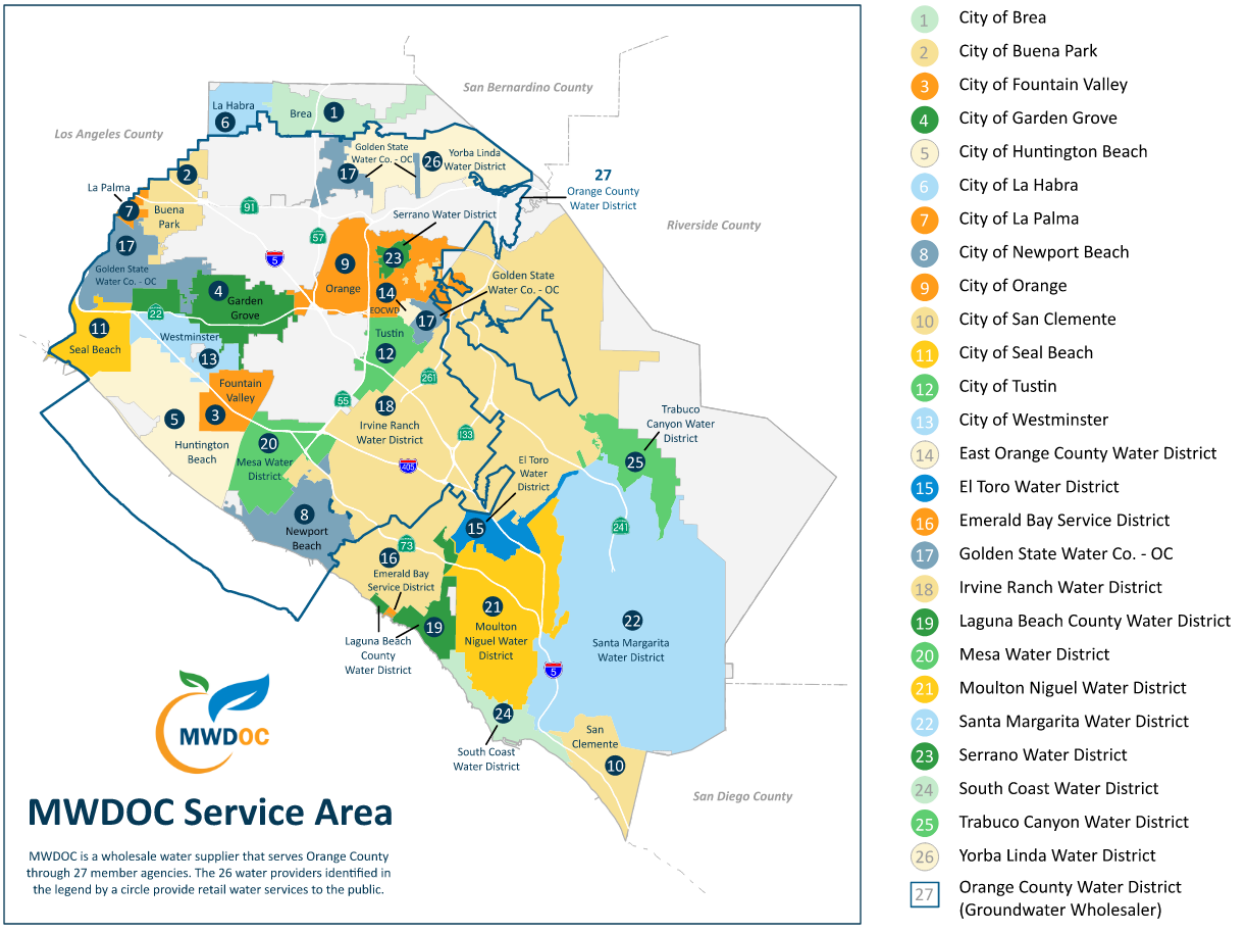


Figure 2 Regional Location of the City of Orange and Other MWDOC Member Agencies

2.3 Relationship with Wholesaler Water Shortage Planning

The WSCP is designed to be consistent with MET's Water Surplus and Drought Management (WSDM) Plan, MWDOC's Water Supply Allocation Plan (WSAP), and other emergency planning efforts as described below. MWDOC's WSAP is integral to the WSCP's shortage response strategy in the event that MET or MWDOC determines that supply augmentation (including storage) and lesser demand reduction measures would not be sufficient to meet a projected shortage levels needed to meet demands.

2.3.1 MET Water Surplus and Drought Management Plan

MET evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage annually. Each stage is associated with specific resource management actions to avoid extreme shortages to the extent possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the WSDM Plan reflects anticipated responses towards MET's existing and expected resource mix.

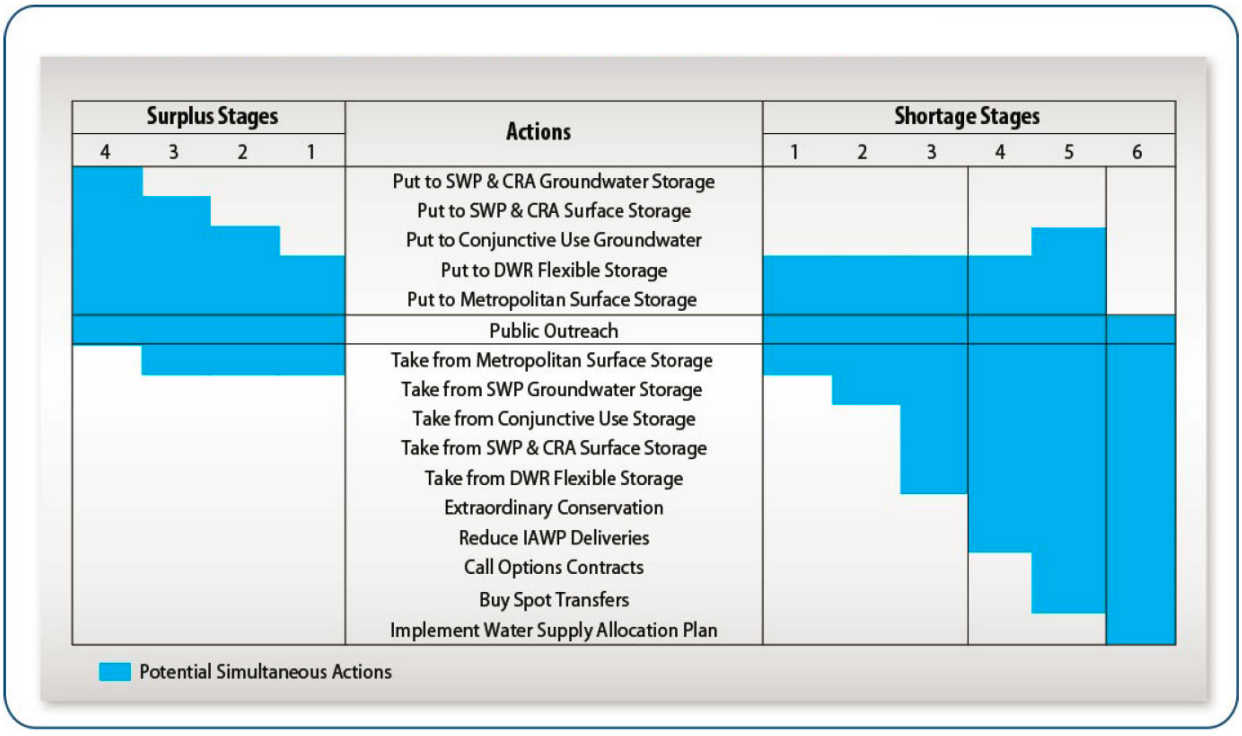
Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provide a framework for actions to take for

surplus supplies. Deliveries in Diamond Valley Lake (DVL) and in SWP terminal reservoirs continue through each surplus stage, provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur at any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages. The differences between each term are listed below:

- **Shortage:** MET can meet full-service demands and partially meet or fully meet interruptible demands using stored water or water transfers as necessary (Stages 1-3).
- **Severe Shortage:** MET can meet full-service demands only by making withdrawals from storage, calling on its water transfers, and possibly calling for extraordinary conservation and reducing deliveries under the Interim Agricultural Water Program (IAWP) (Stages 4-5).
- **Extreme Shortage:** MET must allocate available imported supplies to full-service customers (Stage 6).

There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in MET's storage programs. When MET must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 3 gives a summary of actions under each surplus and shortage stage when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM plan is to avoid Stage 6, an extreme shortage (MET, 2026b).



Source: MET, 2026.

Figure 3 Resource Stages, Anticipated Actions, and Supply Declarations

MET's Board of Directors adopted a Water Supply Condition Framework in June 2008 to communicate the urgency of the region's water supply situation and the need for further water conservation practices. The framework has four conditions, each calling for increasing levels of conservation. Descriptions for each of the four conditions are listed below:

- **Baseline Water Use Efficiency:** Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves.
- **Condition 1 Water Supply Watch:** Local agency voluntary dry-year conservation measures and use of regional storage reserves.
- **Condition 2 Water Supply Alert:** Regional call for cities, counties, member agencies, and retail water agencies to implement extraordinary conservation through drought ordinances and other measures to mitigate use of storage reserves.
- **Condition 3 Water Supply Allocation:** Implement MET's WSAP.

As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, MET will allocate water through the WSAP (MET, 2026a).

2.3.2 MET Water Supply Allocation Plan

MET's imported supplies have been impacted by a number of water supply challenges as noted earlier. In case of extreme water shortage within the MET service area, the implementation of its WSAP is required.

MET's Board of Directors adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply and apply it through a detailed methodology to reflect a range of local conditions and needs of the region's retail water consumers (MET, 2026a).

The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. MET's WSAP is the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of MET's 2025 UWMP.

MET's WSAP was developed in consideration of the principles and guidelines in MET's 1999 WSDM Plan with the core objective of creating an equitable "needs-based allocation." The WSAP's formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MET supplies of greater than 50 percent cutbacks. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps: (1) base period calculations; (2) allocation year calculations; and (3) supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

Step 1: Base Period Calculations - The first step in calculating a member agency's water supply allocation is to estimate their water supply and demand using a historical-based period with established water supply and delivery data. The base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage years.

Step 2: Allocation Year Calculations - The next step in calculating the member agency's water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations - The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2.

To implement the WSAP, MET's Board of Directors decides on the level of the regional shortage, based on specific criteria, typically in April. The criteria used by MET include current levels of storage, estimated water supply conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year and remain in effect for a 12-month period. The schedule is made at the discretion of the Board of Directors (MET, 2026b).

As demonstrated by the findings in MET's 2020 UWMP, both the Water Reliability Assessment and the Drought Risk Assessment (DRA) demonstrate that MET is projecting to be able to mitigate the challenges posed by hydrologic variability, potential climate change, and regulatory risk on its imported supply sources through the significant storage capabilities it has developed over the last two decades, both dry-year and emergency storage (MET, 2026b).

Although MET's 2025 UWMP forecasts that MET will be able to meet projected imported demands throughout the projected period from 2026 to 2050, uncertainty in supply conditions can result in MET needing to implement its WSAP to preserve dry-year storage and curtail demands (MET, 2026b).

2.3.3 MWDOC Water Supply Allocation Plan

To prepare for the potential allocation of imported water supplies from MET, MWDOC worked collaboratively with its 27 retail agencies to develop its own WSAP that was adopted in January 2009 and amended in 2016. The MWDOC WSAP outlines how MWDOC will determine and implement each of its retail agencies' allocation during a time of shortage.

The MWDOC WSAP uses a similar method and approach, when reasonable, as that of the MET's WSAP. However, MWDOC's plan remains flexible to use an alternative approach when MET's method produces a significant unintended result for the member agencies. The MWDOC WSAP model follows five basic steps to determine a retail agency's imported supply allocation.

Step 1: Determine Baseline Information - The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the last two non-shortage years.

Step 2: Establish Allocation Year Information - In this step, the model adjusts for each retail agency's water need in the allocation year. This is done by adjusting the base period estimates for increased retail water demand based on population growth and changes in local supplies.

Step 3: Calculate Initial Minimum Allocation Based on MET's Declared Shortage Level - This step sets the initial water supply allocation for each retail agency. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted base period imported water needs within the model for each retail agency.

Step 4: Apply Allocation Adjustments and Credits in the Areas of Retail Impacts and Conservation - In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of the successful implementation of water conservation devices, programs, and rate structures.

Step 5: Sum Total Allocations and Determine Retail Reliability - This is the final step in calculating a retail agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

The MWDOC WSAP includes additional measures for plan implementation, including the following (MWDOC, 2016):

- **Appeal Process** - An appeal process to provide retail agencies the opportunity to request a change to their allocation based on new or corrected information. MWDOC anticipates that under most circumstances, a retail agency's appeal will be the basis for an appeal to MET by MWDOC.
- **Melded Allocation Surcharge Structure** - At the end of the allocation year, MWDOC would only charge an allocation surcharge to each retail agency that exceeded their allocation if MWDOC exceeds its total allocation and is required to pay a surcharge to MET. MET enforces allocations to retail agencies through an allocation surcharge to a retail agency that exceeds its total annual allocation at the end of the 12-month allocation period. MWDOC's surcharge would be assessed according to the retail agency's prorated share (acre-feet [AF] over usage) of the MWDOC amount with MET. Surcharge funds collected by MET will be invested in its Water Management Fund, which is used in part to fund expenditures in dry-year conservation and local resource development.
- **Tracking and Reporting Water Usage** - MWDOC will provide each retail agency with water use monthly reports that will compare each retail agency's current cumulative retail usage to their allocation baseline. MWDOC will also provide quarterly reports on its cumulative retail usage versus its allocation baseline.
- **Timeline and Option to Revisit the Plan** - The allocation period will cover 12 consecutive months, and the Regional Shortage Level will be set for the entire allocation period. MWDOC only anticipates calling for allocation when MET declares a shortage, and no later than 30 days from MET's declaration, MWDOC will announce allocation to its retail agencies.

SECTION 3 WATER SHORTAGE CONTINGENCY PREPAREDNESS AND RESPONSE PLANNING

The City's WSCP is a detailed guide of how the City intends to act in the case of actual water shortage conditions. The WSCP anticipates a water supply shortage and provides pre-planned guidance for managing and mitigating a shortage. Regardless of the reason for the shortage, the WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage to ensure the relevant stakeholders understand what to expect during a water shortage situation.

3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635, and the key issues that may create a shortage condition when looking at the City's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides the City with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. For the 2025 UWMP, the City worked collaboratively with MWDOC, OCWD, and MWDOC's other retail water agencies to produce long-term projected water use over the next 25 years, in five-year increments, for each agency (MWDOC, 2025).

The City also conducted a DRA to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted (2026-2030). An analysis of both assessments determined that the City is capable of meeting all customers' demands from 2025 through 2050 for a normal year, a single dry year, and a drought lasting five consecutive years with significant imported water supplemental dedicated drought supplies from MWDOC/MET and ongoing conversation program efforts. The City has also added reliability through receiving the majority of its water supply from groundwater from the OC Basin and supplemental supplies from MWDOC/MET. As a result, there is no projected shortage condition due to drought that will trigger customer demand reduction actions until MWDOC notifies the City of insufficient imported supplies. More information is available in the City's 2025 UWMP Sections 6 and 7 (Orange, 2026).

3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, the City will conduct an AWSDA pursuant to subdivision (a) of Section 10632 and by July 1 of each year, beginning in 2022, submit an AWSDA with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the Supplier's WSCP.

The City must include in its WSCP the procedures used for conducting an AWSDA. The AWSDA is a determination of the near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage stage response actions in the current calendar year. This determination is based on information available to the City at the time of the analysis. Starting in 2022, the AWSDA is due July 1 of every year.

This section documents the decision-making process required for formal approval of the City's AWSDA determination of water supply reliability each year, and the key data inputs and the methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.1 Decision-Making Process

The following decision-making process describes the functional steps that the City will take to formally approve the AWSDA determination of water supply reliability each year.

3.2.1.1 City Steps to Approve the AWSDA Determination

The AWSDA will be predicated on the OCWD Basin Production Percentage (BPP) and on MWDOC's AWSDA outcomes. Figure 4 shows the AWSDA reporting timeline for the City of Orange.

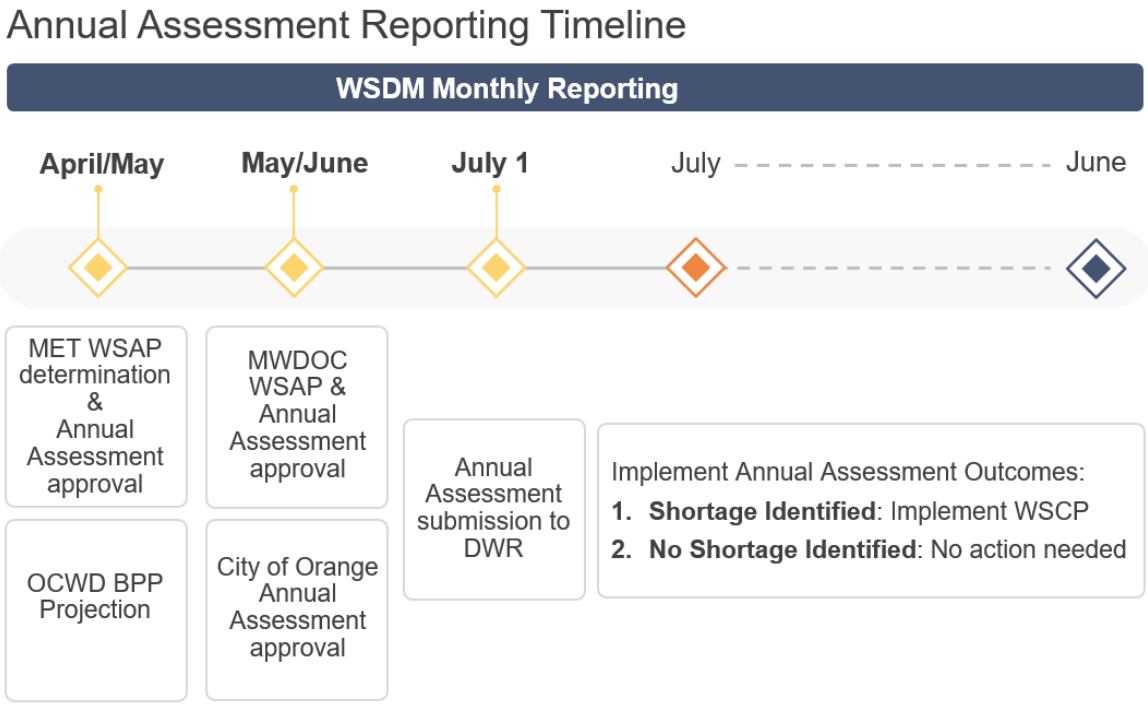


Figure 4 AWSDA Reporting Timeline

The City produces local groundwater from the OC Basin managed by OCWD. The OC Basin is not adjudicated, and as such, pumping from the OC Basin is managed through a process that uses financial incentives to encourage Groundwater Producers (Producers) to pump a sustainable amount of water. The framework for the financial incentives is based on establishing the BPP, the percentage of each Producer's total water supply that comes from groundwater pumped from the OC Basin. The BPP is set uniformly for all Producers by the OCWD Board of Directors on an annual basis. Based on the projected water demand and modeled water supply, over the long term, OCWD anticipates sustainably supporting a BPP of 85 percent. However, volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections. A supply reduction that may result from the annual BPP projection will be included in the AWSDA.

While the City's primary source of water is OCWD groundwater, any remaining source to meet retail demands comes from the purchase of imported water from MWDOC. MWDOC surveys its member agencies annually for anticipated water demands and supplies for the upcoming year. MWDOC utilizes this information to plan for the anticipated imported water supplies for the MWDOC service area. This information is then shared and coordinated with MET and is incorporated into their analysis of their service area's annual imported water needs. Based on the year's supply conditions and WSDM actions, MET will present a completed AWSDA for its member agencies' review, from which they will then seek Board approval in April of each year. Additionally, MET expects that any triggers or specific shortage response actions that result from the AWSDA will be approved by their Board at that time. Based upon

MET's Assessment and taking into consideration information provided to MWDOC through the annual survey, MWDOC will provide an anticipated estimate of imported supplies for the City to incorporate into the AWSDA.

The City Water Division designee will be responsible for approving the AWSDA in years when no shortage is identified and submitting it to DWR by July 1. In years where a water shortage is identified, the AWSDA will be presented to the City Council and submitted to DWR prior to the July 1 deadline.

3.2.2 Data and Methodologies

The following paragraphs document the key data inputs and methodologies that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.2.1 Assessment Methodology

The City will evaluate water supply reliability for the current year and one dry year for the purpose of the AWSDA. The AWSDA determination will be based on considerations of unconstrained water demand, local water supplies, MWDOC imported water supplies, planned water use, and infrastructure considerations. The balance between projected in-service area supplies, coupled with MWDOC imported supplies, and anticipated unconstrained demand will be used to determine what, if any, shortage level is expected under the WSCP framework as presented in Figure 5. The WSCP's standard shortage levels are defined in terms of shortage percentages. Shortage percentages will be calculated by dividing the difference between water supplies and unconstrained demand by total unconstrained demand. This calculation will be performed separately for anticipated current year conditions and for assumed dry year conditions.

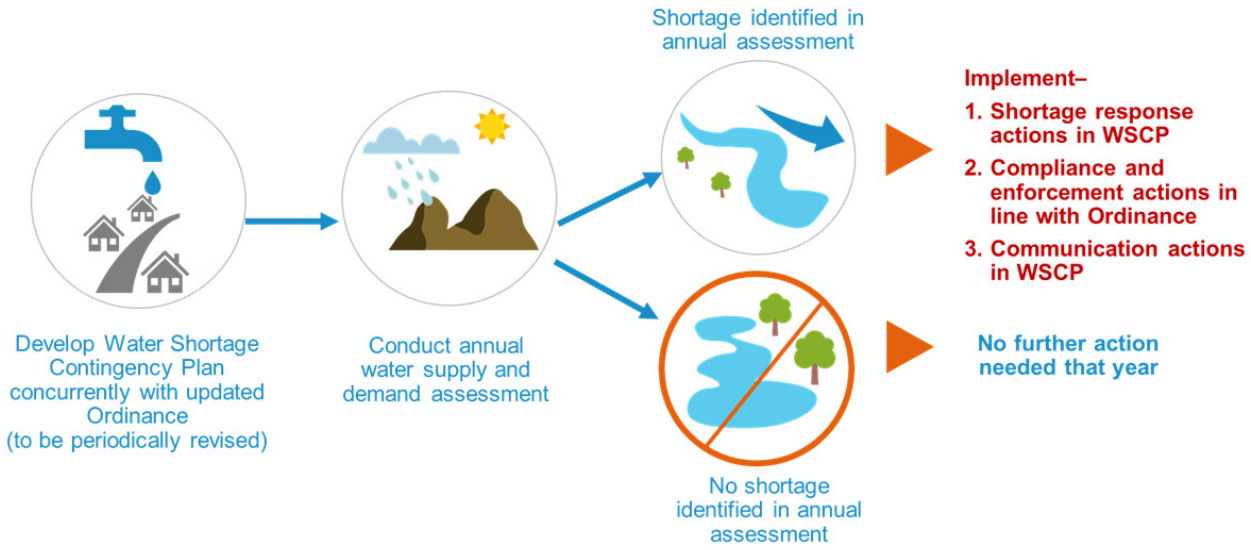


Figure 5 Water Shortage Contingency Plan AWSDA Framework

3.2.2.2 Locally Applicable Evaluation Criteria

Within Orange County, there are no significant local applicable criteria that directly affect reliability. Through the years, the water agencies in Orange County have made tremendous efforts to integrate their systems to provide flexibility to interchange with different sources of supplies. There are emergency agreements in place to ensure all parts of the County have an adequate supply of water. In the northern part of the County, agencies have the ability to meet a majority of their demands through groundwater with very little limitation, except for the OCWD BPP.

The City will also continue to monitor emerging supply and demand conditions related to supplemental imported water from MWDOC/MET and take appropriate actions consistent with the flexibility and adaptiveness inherent to the WSCP. The City's AWSDA was based on the City's service area, water sources, water supply reliability, and water use as described in Water Code Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area of the City. Some conditions that affect MWDOC's wholesale supply and demand, such as groundwater replenishment, surface water, and local supply production, can differ significantly from earlier projections throughout the year.

If a major earthquake on the San Andreas Fault occurs, it has the potential to damage all three key regional water aqueducts and disrupt imported supplies for up to six months. The region would likely impose a water use reduction ranging from 25 to 35 percent until the system is repaired. However, MET has taken proactive steps to handle such disruption, such as constructing DVL and prepositioning necessary reconstruction resources to quickly recover from such a seismic event, which mitigates potential impacts. DVL, along with other local reservoirs, can store a six to twelve-month supply of emergency water (MET, 2026a).

3.2.2.3 Water Supply

As detailed in the City's 2025 UWMP, the City meets its customers' demands with a combination of local groundwater from the OC Basin, imported water from MWDOC/MET, and local surface water. In Fiscal Year (FY) 2024-2025, the City relied on 78 percent groundwater, 18 percent imported water, and 4 percent surface water. It is projected that by 2050, the City's water supply mix will change to approximately 81 percent groundwater, 14 percent imported water, and 5 percent surface water, and the City can purchase more MET imported water through MWDOC should the need arise (Orange, 2026).

3.2.2.4 Unconstrained Customer Demand

The WSCP and AWSDA define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demand.

The City's DRA reveals that its supply capabilities are expected to balance anticipated total water use and supply, assuming a five-year consecutive drought from FY 2025-2026 through FY 2029-2030 (Orange, 2026). This is based on the water demand projection model; in a single dry year, demand is expected to increase by seven percent above a normal year (MWDOC, 2025).

For the City, the five consecutive dry year demand scenario is based on the demand model's multiple dry year methodology. In accordance with the econometric demand model approach used to develop UWMP demand projections, a single hot/dry year was first identified based on weather conditions that produced the greatest demand response. Consecutive dry years were then represented by applying incremental scaling factors to this single hot/dry year demand to account for the compounding effects of persistent warm and dry conditions over time. These scaling factors show long-term relationships between regional water use and multi-year temperature and precipitation deficits and are applied sequentially to simulate second through fifth consecutive dry years. This approach is consistent with the demand modeling framework summarized in Chapter 7 of the City's UWMP.

3.2.2.5 Planned Water Use for Current Year Considering Dry Subsequent Year

Water Code Section 10632(a)(2)(B)(ii) requires the AWSDA to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year."

The AWSDA will include two separate estimates of the City's annual water supply and unconstrained demand using: (1) current year conditions; and (2) assumed dry year conditions. Accordingly, the AWSDA's shortage analysis will present separate sets of findings for the current year and dry year scenarios. The Water Code does not specify the characteristics of a dry year, allowing discretion to the Supplier. The City will use its discretion to refine and update its assumptions for a dry year scenario in each AWSDA as information becomes available and in accordance with best management practices.

Supply and demand analyses for the single-dry year case were based on conditions affecting the SWP as this supply availability fluctuates the most among MET's, and therefore MWDOC and the City's sources of supply. Severe drought conditions in 2021-2022 affected must of the Western United States, including the Colorado River System, which caused its water supply to decrease. As conditions worsened, Lake Mead and Lake Powell (the largest storage units in the system) had a combined total storage capacity of 25 percent in 2022, a significant decrease from 39 percent in 2021 (MWDOC, 2025).

The Orange County Water Demand Projection Model isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition for a single dry year condition (FY 2013-2014). The model projects a seven percent increase in demand for the OC Basin area, where the City's service area is located (MWDOC, 2025). Detailed information about the model is included in the City's 2025 UWMP.

The City has documented that it is 100 percent reliable for single dry year demands from 2025 through 2050, with a demand increase of seven percent from normal demand, with significant reserves held by MET, local groundwater supplies, and conservation (Orange, 2026).

3.2.2.6 Infrastructure Considerations

The AWSDA will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. MWDOC closely coordinates with MET and its member agencies, including the City, on any planned infrastructure work that may impact water supply availability. Throughout each year, MET regularly carries out preventive and corrective maintenance of its facilities within the MWDOC service area that may require

shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination between MWDOC, MWDOC's member agencies, and MET to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within MET's system and the cooperation of member agencies allow shutdowns to be successfully completed while continuing to meet all system demands.

Specifically for the City, as of March 2026, there are no foreseen near-term infrastructure issues that would impact supply.

3.2.2.7 Other Factors

For the AWSDA, any known issues related to water quality would be considered for their potential effects on water supply reliability.

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds were once commonly used in many products, including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams. Beginning in the summer of 2019, the California State Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

MET has voluntarily monitored PFAS in its source and treated waters since 2017. Most samples have shown non-detect for all tested PFAS, including PFOA and PFOS. A limited number of other PFAS—such as PFHxA, PFBA, PFPeA, PFDoA, PFTA, and PFBS- have been detected only at trace levels below their method detection limits. PFOA and PFOS have not been detected in MET's imported or treated water supplies. However, some member agencies have detected these compounds in local groundwater wells, which may require treatment or source management to comply with emerging DDW regulations. As DDW and the US Environmental Protection Agency (EPA) establish enforceable maximum contaminant levels (MCL) for PFOA and PFOS, some agencies may supplement their local supplies with increased purchases of MET water (MET, 2025).

The EPA finalized the first national drinking water standards for six PFAS compounds in April 2024. These standards include enforceable MCLs for PFOA and PFOS set at 4 parts per trillion (ppt). In May 2025, the EPA announced that it would extend the compliance deadline for PFOA and PFOS from 2029 to 2031 to provide additional time for testing, planning, and installation of treatment technologies. While MET and its member agencies continue to monitor and test PFAS in imported and local sources, the delay in the federal compliance date allows additional time to evaluate treatment options, coordinate funding, and plan system upgrades necessary to meet forthcoming federal PFAS standards.

PFAS have been detected in the OC Basin in very small amounts (parts per trillion), entering primarily via the Santa Ana River, whose flows infiltrate into the basin. Despite playing no role in releasing PFAS into the environment, OCWD is working with its cities and retail water districts to remove it from local water supplies in order to comply with new state and federal regulations. More than 100 wells have been impacted due to various state and federal regulations. Fifteen impacted agencies will have to temporarily purchase more costly imported water to replace PFAS contaminated supplies. As of 2025, 53 impacted wells are back online due to close to a billion dollars being spent on state-of-the-art testing, research and piloting of different treatment systems, and design and construction of treatment plants that are now operational.

The City has added PFAS treatment systems to all existing wells. New wells will be constructed with a PFAS treatment system in place.

3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), Suppliers must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the AWSDA or cross-reference their shortage levels to the standard levels. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50 percent shortage compared to the normal reliability condition) and align with the response actions the Supplier would implement to meet the severity of the impending shortages (Table 1).

Table 1 Cross-Reference for Standard vs Supplier Shortage Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. The City has defined specific shortage response actions that align with the defined shortage levels in DWR Tables 8-2 and 8-3 (Appendix A). These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

3.4.1 Supply Augmentation

The supply augmentation actions are described in DWR Table 8-2 (Appendix A). These augmentations represent short-term management objectives triggered by the MET's WSDM Plan and do not overlap with

the long-term new water supply development or supply reliability enhancement projects. Supply Augmentation is made available to the City through MWDOC and MET. The City relies on MET's reliability portfolio of water supply programs including existing water transfers, storage, and exchange agreements to supplement gaps in the City's supply/demand balance. MET has developed significant storage capacity (over 5 million acre foot [AF]) in reservoirs and groundwater banking programs both within and outside of the Southern California region. Additionally, MET can pursue additional water transfer and exchange programs with other water agencies to help mitigate supply/demand imbalances and provide additional dry-year supply sources.

MWDOC, and in turn its retail agencies, including the City, have access to supply augmentation actions through MET. MET may exercise these actions based on regional need, and in accordance with their WSCP, and may include the use of supplies and storage programs within the Colorado River, SWP, and in-region storage. The City has the ability to augment its supply to reduce the shortage gap by up to 100 percent by purchasing additional imported water through MWDOC or pumping additional groundwater in the OC Basin; however, both are subject to rate penalties from MWDOC and OCWD, respectively.

3.4.2 Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in DWR Table 8-3 (Appendix A). This table indicates which actions align with specific defined shortage levels and estimates the extent to which the actions will reduce the gap between supplies and demands to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.

3.4.3 Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. The City will consider their operational procedures when it completes its AWSDA or as needed to identify changes that can be implemented to address water shortage on a short-term basis, such as temporarily altering maintenance cycles, deferring planned system outages, and adjusting the flow and routing of water through its system to more effectively distribute available supply across the service area.

3.4.4 Additional Mandatory Restrictions

California Water Code Section 10632(a)(4)(D) calls for "additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions" to be included among the WSCP's shortage response actions. The City will identify additional mandatory restrictions as needed based on the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.4.5 Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6, and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several Plans that address catastrophic failures and align with the WSCP, including MET's, WSDM, and WSAP, the

City's Local Hazard Mitigation Plan (LHMP), and the Water Emergency Response Organization of Orange County's (WEROC) Emergency Operations Plan (EOP).

3.4.5.1 MET's, WSDM, and WSAP

MET has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSDM and WSAP. MET also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region, including seismic events along the San Andreas Fault. In addition, MET is working with the state to implement a comprehensive improvement plan to address catastrophic occurrences outside of the Southern California region, such as a maximum probable seismic event in the Sacramento-San Joaquin River Delta that would cause levee failure and disruption of SWP deliveries.

3.4.5.2 Water Emergency Response Organization of Orange County Emergency Operations Plan

In 1983, the Orange County water community identified a need to develop a plan on how agencies would respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of WEROC to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County water community. WEROC, administered by MWDOC, was established through the creation of an indemnification agreement among its member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for the representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the county, state, and federal disaster coordination agencies. Within the Orange County Operational Area, WEROC is the recognized contact for emergency response for the water community, including the City.

As a member of WEROC, the City will follow WEROC's EOP in the event of an emergency and coordinate with WEROC to assess damage, initiate repairs, and request and coordinate mutual aid resources in the event that the City is unable to provide the level of emergency response support required by the situation.

The EOP defines the actions to be taken by WEROC Emergency Operations Center (EOC) staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to Orange County water and wastewater utilities. The EOP includes an activation notification protocol that will be used to contact partner agencies to inform them of the situation, activation status of the EOC, known damage or impacts, or resource needs. The EOP is a standalone document that is reviewed annually and approved by the MWDOC Board every three years.

WEROC is organized on the basis that each member agency is responsible for developing its own EOP in accordance with the California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS), and Public Health Security and Bioterrorism Preparedness and Response Act of 2002 to meet specific emergency needs within its service area.

The WEROC EOC is responsible for assessing the overall condition and status of the Orange County regional water distribution and wastewater collection systems, including MET facilities that serve Orange

County. The EOC can be activated during an emergency situation resulting from both natural and man-made causes, and can be activated through automatic, manual, or standby for activation.

WEROC recognizes four primary phases of emergency management, which include:

- **Preparedness:** Planning, training, and exercises that are conducted prior to an emergency to support and enhance response to an emergency or disaster.
- **Response:** Activities and programs designed to address the immediate and short-term effects of the onset of an emergency or disaster that helps to reduce effects on water infrastructure and speed recovery. This includes alert and notification, EOC activation, direction and control, and mutual aid.
- **Recovery:** This phase involved restoring systems to normal, in which short-term recovery actions are taken to assess the damage and return vital life-support systems to minimum operating standards, while long-term recovery actions have the potential to continue for many years.
- **Mitigation/Prevention:** These actions prevent the occurrence of an emergency or reduce the area's vulnerability in ways that minimize the adverse impacts of a disaster or emergency.

The EOC Action Plans provide frameworks for EOC staff to respond to different situations with the objectives and steps required to complete them, which will in turn serve the WEROC member agencies. In the event of an emergency that results in a catastrophic water shortage, the City will declare a water shortage condition of up to Level 3 for the impacted area depending on the severity of the event, and coordination with WEROC is anticipated to begin at Level 4 or greater (WEROC, 2021).

3.4.5.3 City of Orange Emergency Response Plan

The City will also refer to its current American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan in the event of a catastrophic supply interruption.

3.4.6 Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s). Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, the infrastructure in place to deliver supplies is susceptible to damage from earthquakes and other disasters.

In lieu of conducting a seismic risk assessment specific to the City's 2025 UWMP, the City has included their LHMP, as required under the federal Disaster Mitigation Act of 2000 (Public Law 106-390). The LHMP describes the City's approach to proactively decreasing threats before disaster occurs, including water supply specific mitigation actions such as improving security and alert systems, upgrading back-up power systems, and retrofitting existing flood control infrastructure. (Orange, 2025).

3.4.7 Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in DWR Tables 8-2 and 8-3 (Appendix A). To the extent feasible, the City has estimated percentage savings for the chosen suite of

shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

3.5 Communication Protocols

Timely and effective communication is a key element of the WSCP implementation. In the context of water shortage response, the purpose may be an emergency water shortage situation, such as may result from an earthquake, or a longer-term, non-emergency, shortage condition, such as may result from a drought. In an emergency, the City will activate the communication protocol detailed in the Emergency Response Plan. In a non-emergency water shortage situation, the City will follow the communication protocols described below.

Per the Water Code Section 10632 (a)(5), the City has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the AWSDA described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the AWSDA described pursuant to Section 10632.1; and any other relevant communications.

Non-emergency water shortage communication protocols are focused on communicating the water shortage contingency planning actions that can be derived from the results of the AWSDA, and it would likely trigger based upon the decision-making process in Section 3.2. Prior to water shortage level declaration, the City will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each drought stage, guidelines that customers are to follow during each stage, and sources of current information on the City's supply and demand response status.

The type and degree of communication varies with each shortage level; thus, predefined and actionable communication protocols improve the City's ability to message necessary events. These communication objectives and tools are summarized in Table 2.

The City's Public Relations department will lead public information and outreach efforts in close coordination with other MWDOC and MET. The City will share information and provide guidance to its customers, as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. The City's customer outreach is required to successfully achieve targeted water savings during each drought stage.

Table 2 Coordination Procedures

Shortage Level	Communication Objectives	Communication Tools
1	Compliance with response actions, 10% reduction in water use	▪ Website info. on City website. ▪ Social media outreach. ▪ Direct mailings to homes and businesses. ▪ School education programs (through MWDOC). ▪ City water efficiency programs (through MWDOC). ▪ Direct communication with high water users. ▪ Communication with commercial/industrial water users.
2	Compliance with response actions, 20% reduction in water use	▪ Include all Communication Tools listed under Shortage Level 1. ▪ Communication outreach. ▪ Educational outreach.
3	Compliance with response actions, 30% reduction in water use	Include all Communication Tools listed under Shortage Levels 1 and 2. ▪ Water bill communications.
4	Compliance with response actions, 40% reduction in water use	
5	Compliance with response actions, 50% reduction in water use	
6	Compliance with response actions, >50% reduction in water use	

3.6 Compliance and Enforcement

Per the Water Code Section 10632 (a)(6), the City has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. Communication procedures to ensure customer compliance are described in Section 3.5. Communication Protocols and customer enforcement, appeal, and exemption procedures are defined in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.7 Legal Authorities

Per Water Code Section 10632 (a)(7)(A), the City has provided a description of the legal authorities that empower the City to implement and enforce its shortage response in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B). The City intends to update any legal authorities in a subsequently adopted ordinance which will supersede the existing ordinance.

Per Water Code Section 10632 (a)(7) (B), the City shall declare a water shortage emergency condition to prevail within the area served by such wholesaler whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Per Water Code Section 10632 (a)(7)(C), the City shall coordinate with any agency or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 2 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, which can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

Table 3 Agency Contacts and Coordination Protocols

Contact	Agency	Coordination Protocols
City Manager	City of Anaheim	Phone and email
City Manager	City of Santa Ana	Phone and email
City Manager	City of Garden Grove	Phone and email
City Manager	City of Tustin	Phone and email
General Manager	Irvine Ranch Water District	Phone and email
General Manager	Serrano Water District	Phone and email
City Manager	City of Villa Park	Phone and email
Director of Public Works	Orange County Public Works Department	Phone and email
General Manager	East Orange County Water District	Phone and email

3.8 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

During a catastrophic interruption of water supplies, prolonged drought, or water shortage of any kind, the City will experience a reduction in revenue due to reduced water sales. Throughout this period of time, expenditures may increase or decrease with varying circumstances. Expenditures may increase in the event of significant damage to the water system, resulting in emergency repairs. Expenditures may also decrease as less water is pumped through the system, resulting in lower power costs. Water shortage mitigation actions will also impact revenues and require additional costs for drought response activities, such as increased staff costs for tracking, reporting, and communications.

The City receives water revenue from a service charge and a commodity charge based on consumption. The service charge recovers costs associated with providing water to the serviced property. The service charge does not vary with consumption, and the commodity charge is based on water usage. Rates have been designed to recover the full cost of water service in the charges. Therefore, the total cost of purchasing water would decrease as the usage or sale of water decreases. In the event of a drought emergency, the City will impose excessive water use penalties on its customers, which may include additional costs associated with reduced water revenue, staff time taken for penalty enforcement, and advertising the excessive use penalties. The excessive water use penalties are further described in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

However, there are significant fixed costs associated with maintaining a minimal level of service. The City will monitor projected revenues and expenditures should an extreme shortage and a large reduction in water sales occur for an extended period of time. To overcome these potential revenue losses and/or expenditure impacts, the City may use reserves. If necessary, the City may reduce expenditures by delaying implementation of its Capital Improvement Program and equipment purchases to reallocate funds to cover the cost of operations and critical maintenance, adjust the workforce, implement a drought surcharge, and/or make adjustments to its water rate structure.

Based on current water rates, a volumetric cutback of 50 percent or more of water sales may lead to a range of reductions in revenues. The impacts to revenues will depend on a proportionate reduction in variable costs related to supply, pumping, and treatment for the specific shortage event. The City has set aside reserve funding to mitigate a short-term water shortage situation.

3.9 Monitoring and Reporting

Per Water Code Section 10632(a)(9), the City is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.10). Monitoring for customer compliance tracking is also useful in enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will be used to measure the effectiveness of any water shortage contingency level that may be implemented. As levels of water shortage are declared by MET and MWDOC, the City will follow implementation of those levels as appropriate based on the City's risk profile provided in UWMP Chapter 6 and continue to monitor water demand levels. When MET calls for extraordinary conservation, MET's Drought Program Officer will coordinate public information activities with MWDOC and monitor the effectiveness of ongoing conservation programs.

The City will participate in monthly member agency manager meetings with both MWDOC and OCWD to monitor and discuss monthly water allocation charts. This will enable the City to be aware of imported water and groundwater use on a timely basis as a result of specific actions taken in response to the City's WSCP.

3.10 WSCP Refinement Procedures

Per Water Code Section 10632 (a)(10), the City must provide reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure that shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The City's WSCP is prepared and implemented as an adaptive management plan. The City will use the monitoring and reporting process defined in Section 3.9 to refine the WSCP. In addition, if certain procedural refinements or new actions are identified by City staff or suggested by customers or other interested parties, the City will evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, new supply augmentation actions will be added, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the AWSDA each year, City staff will routinely consider the functionality of the overall WSCP and will prepare recommendations for City Council if changes are found to be needed.

3.11 Special Water Feature Distinction

Per Water Code Section 10632 (b), the City has defined water features in that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code, in the City's Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), the City provided notice of the availability of the Public Review Draft 2025 UWMP and Draft 2025 WSCP and notice of the public hearing to consider adoption of the WSCP. The Public Review Drafts of the 2025 UWMP and the 2025 WSCP were posted prominently on the City's website in advance of the public hearing on June 9, 2026. Copies of the draft WSCP were also made available for public inspection at the City Clerk's and Utilities Department offices, and public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C.

The City held the public hearing for the Draft 2025 UWMP and Draft WSCP on June 9, 2026, at the City Council meeting. The City Council reviewed and approved the 2025 UWMP and the WSCP at its June 9, 2026 meeting after the public hearing. See Appendix D for the resolution approving the WSCP.

By July 1, 2026, the City's adopted 2025 UWMP and WSCP was filed with DWR, California State Library, and the County of Orange. The City will make the WSCP available for public review on its website no later than 30 days after filing with DWR.

Based on DWR's review of the WSCP, the City will make any amendments to its adopted WSCP, as required and directed by DWR.

If the City revises its WSCP after the UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

SECTION 4 REFERENCES

City of Orange. (2026). *2025 Urban Water Management Plan*.

City of Orange. (2025). *Local Hazard Mitigation Plan.*

Metropolitan Water District of Southern California (MET). (2026a). 2025 *Water Shortage Contingency Plan*.

Metropolitan Water District of Southern California (MET). (2026b). *2025 Urban Water Management Plan.*

Municipal Water District of Orange County. (2023, July). *2023 Orange County Water Reliability Study.*

Municipal Water District of Orange County. (2025, December 30). *Orange County Water Demand Projection Model Technical Memorandum.*

Water Emergency Response Organization of Orange County (WEROC). (2025). *WEROC 2025 Annual Report.*

APPENDIX A

DWR SUBMITTAL TABLES

Submittal Table 8-1: Water Shortage Contingency Plan Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

Submittal Table 8-2: Supply Augmentation and Other Actions

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range)	
			(AF)	
Add additional rows as needed				
1 through 6	Other Purchases	Percentage	0 - 100%	Additional imported water purchases through MWDOC
1 through 6	Other Purchases	Percentage	0 - 100%	Additional groundwater pumping in the Orange County Groundwater Basin
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES: Additional imported water purchases and groundwater pumping may be subject to rate penalties from MWDOC and OCWD, respectively.				

Submittal Table 8-3: Demand Reduction Actions

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
0	Landscape - Limit landscape irrigation to specific times		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits of watering hours: Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
0	Landscape - Prohibit all landscape irrigation		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limit on watering duration: Watering or irrigating of lawn, landscape, or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes of watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour, and weather-based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation		Statewide Prohibition is Required	No excessive water flow or runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter, or ditch is prohibited	
0	Other - Prohibit use of potable water for washing hard surfaces		Statewide Prohibition is Required	No washing down hard or paved surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure cleaning machine equipped to recycle any water used.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Obligation to fix leaks, breaks, or malfunctions: Excessive use, loss or escape of water through breaks, leaks, or other malfunctions, in the water user's plumbing or distribution system for any period of time after such escape of water should have been discovered and corrected and in no event more than 7 days of receiving a notice from the City is prohibited.	Yes
0	Water Features - Restrict water use for decorative water features, such as fountains		Statewide Prohibition is Required	Re-circulating water is required for water fountains and decorative water features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of single pass cooling systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of non-re-circulating commercial car wash and laundry systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	No
0	Other - Require automatic shut- off hoses		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat, or trailer, whether motorized or not, is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.	Yes
1	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 1 Protocols)	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 72 hours of notification by the City unless other arrangements are made with the City.	Yes

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
1	CII - Lodging establishment must offer opt out of linen service	Percentage	1%	Commercial lodging establishments must provide option to not launder linen daily: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	No
1	CII - Commercial kitchens required to use pre-rinse spray valves	Percentage	1%	Restaurants are required to use water-conserving dish wash spray valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves.	No
1	CII - Restaurants may only serve water upon request	Percentage	1%	Drinking water served upon request only: Eating or drinking establishments, including, but not limited to, a restaurant, hotel, café, cafeteria, bar, club, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.	Yes
1	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the Director of Public Works, or his designee, after notice to customers.	Yes
2	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 2 Protocols)	No
2	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	1%	Limits on filling ornamental lakes or ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this chapter.	No
2	Other water feature or swimming pool restriction	Percentage	2%	Limits on filling residential swimming pools and spas: Re-filling of more than 1 foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.	Yes
2	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 3 days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 2 days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 48 hours of notification by the City unless other arrangements are made with the City.	Yes
2	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
3	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 3 Protocols)	No
3	Other	Percentage	5%	Reporting mechanism—hotline: The City may establish a water waste hotline for residents to report violations of this chapter.	Yes
3	Landscape - Other landscape restriction or prohibition	Percentage	3%	Large landscape areas—rain sensors: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.	No

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
3	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 2 days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 1 day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification by the City unless other arrangements are made with the City.	Yes
3	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
4	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 4 Protocols)	No
4	Other	Percentage	1%	Retrofits upon sale or transfer: No structure shall be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	3%	Water recycling required if alternative available: The use of potable water, other than recycled water, is prohibited for specified uses after the City has provided to the customer an analysis showing that recycled water is a cost-effective alternative to potable water for such uses and the customer has had a reasonable time, as determined by the City Manager, to make the conversion to recycled water.	No
4	Other	Percentage	1%	Change in service: Upon the establishment of new water service or a change in water service from 1 person to another non-family member, all existing plumbing fixtures are required to be retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	1%	Limits of building permits: The City may limit or withhold the issuance of building permits that require new or expanded water service, except to protect the public health, safety, and welfare.	No
4	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 1 day per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 1 day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
5	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 5 Protocols)	No
5	Other	Percentage	2%	City conservation reports: Upon request of the City Manager, City Departments must prepare and submit quarterly reports on their water conservation efforts. The reports will be consolidated by the City Manager and reported to the City Council at a minimum of once a year.	Yes
5	Landscape - Prohibit all landscape irrigation	Percentage	10%	No watering or irrigating: Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited.	Yes

Submittal Table 8-3 Retail: Demand Reduction Actions **Water Code Section 10632(a)(4)(B) and (E)**					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
5	Moratorium or Net Zero Demand Increase on New Connections	Percentage	5%	No new potable water service: No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statement of immediate ability to serve or provide potable water service (such as will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:	No
5	Other	Percentage	5%	Customer water conservation reports: The City may, by written request, require all commercial, residential, and industrial customers using 25,000 or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations.	No
5	Other	Percentage	1%	Discontinue service: The City, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section.	No
6	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 6 Protocols)	Yes
6	Other	Percentage	20%	Water use for public health and safety purposes only.	Yes
6	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

APPENDIX B

ORANGE MUNICIPAL CODE CHAPTER 7.02 WATER CONSERVATION AND WATER SUPPLY SHORTAGE

Below is the weblink to the current ordinance (last accessed on May 11, 2026):

https://ecode360.com/43561783

APPENDIX C

NOTICE OF PUBLIC HEARING (PENDING)

APPENDIX D

ADOPTED WSCP RESOLUTION (PENDING)

APPENDIX G

WATER USE EFFICIENCY IMPLEMENTATION REPORT

Orange County

Water Use Efficiency Programs Savings and Implementation Report

Retrofits and Acre-Feet Water Savings for Program Activity

Program	Program Start Date	Retrofits Installed in	Month Indicated		Current Fiscal Year		Overall Program		
			Interventions	Water Savings	Interventions	Water Savings	Interventions	Annual Water Savings[4]	Cumulative Water Savings[4]
High Efficiency Clothes Washer Program	2002	October-25	82	0.22	350	2.28	131,459	4,312	64,060
High Efficiency Toilet (HET) Program	2005	October-25	17	0.06	65	2.76	62,010	2,292	32,257
Flow Monitoring Devices (FMD) Program	2021	October-25	10	0.04	39	0.37	1,045	52.25	158.24
Commercial Plumbing Fixture Rebate Program	2002	October-25	3	0.05	164	1.07	119,829	5,295	89,451
Water Savings Incentive Program (WSIP)	2006	October-25	0	0.00	1	16.47	51	1,286	11,460
Turf Replacement Program[3]	2010	October-25	5,929	0.07	424,613	15.01	29,979,610	4,049	51,438
Landscape Design Rebate Program (formerly LDAP)	2019	October-25	4	-	15	-	1,181	-	-
Tree Rebate Program	2024	October-25	38	-	200	-	461	-	-
Spray-to-Drip Program[3]	2014	October-25	9,687	0.11	410,712	11.50	5,740,148	779	2,295
Smart Timer Program - Irrigation Timers	2004	October-25	63	0.88	426	16.60	36,100	9,152	96,656
Rotating Nozzles Rebate Program	2007	October-25	103	0.41	297	1.12	586,364	2,891	28,030
Rain Barrels Rebate Program	2013	October-25	2	0.00	8	0.00	9,077	17	162
Recycled Water Retrofit (ORP)	2015	October-25	0	0.00	0	0.00	194	3,901	32,806
Water Smart Landscape Program [1]	1997						12,677	10,621	72,668
Home Water Certification Program	2013						312	7.339	15.266
Synthetic Turf Rebate Program	2007						685,438	96	469
Ultra-Low-Flush-Toilet Programs [2]	1992						363,926	13,452	162,561
Home Water Surveys [2]	1995						11,867	160	1,708
Showerhead Replacements [2]	1991						270,604	1,667	19,083
Total Water Savings All Programs				**2**	**836,890**	**67**	**38,012,352**	**60,029**	**665,276**

(1) Water Smart Landscape Program participation is based on the number of water meters receiving monthly Irrigation Performance Reports.
(2) Cumulative Water Savings Program To Date totals are from a previous Water Use Efficiency Program Effort.
(3) Turf Replacement and Spray-to-Drip Interventions are listed as square feet.
[4] Cumulative & annual water savings represents both active program savings and passive savings that continues to be realized due to plumbing code changes over time.

HIGH EFFICIENCY CLOTHES WASHERS INSTALLED BY AGENCY[1]

through MWDOC and Local Agency Conservation Programs

Agency	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	Total	Current FY Water Savings Ac/Ft (Cumulative)	Cumulative Water Savings across all Fiscal Years	15 yr. Lifecycle Savings Ac/Ft
Brea	33	29	25	17	9	2,174	1.54	1,068.10	1,125
Buena Park	36	39	17	11	3	1,803	1.08	828.16	933
East Orange	4	3	4	-	-	214	0.22	111.44	111
El Toro	29	30	34	23	7	1,804	2.11	846.36	933
Fountain Valley	22	26	35	26	5	2,671	2.10	1,375.79	1,382
Garden Grove	69	56	43	33	8	4,092	2.67	1,989.00	2,117
Golden State	97	93	88	43	15	5,834	5.43	2,784.80	3,019
Huntington Beach	83	69	89	59	21	9,075	5.61	4,808.55	4,696
Irvine Ranch	473	373	308	265	75	29,229	18.97	13,273.38	15,124
La Habra	35	31	27	20	6	1,652	1.70	736.32	855
La Palma	10	3	11	6	2	530	0.66	241.21	274
Laguna Beach	17	9	11	13	4	1,065	0.72	557.57	551
Mesa Water	31	30	32	40	10	2,891	1.94	1,462.13	1,496
Moulton Niguel	255	205	191	177	59	12,404	12.01	5,662.74	6,418
Newport Beach	22	27	27	18	2	2,873	1.78	1,557.19	1,487
Orange	49	45	42	26	5	4,342	2.55	2,263.71	2,247
San Clemente	43	34	53	28	12	3,069	3.35	1,519.74	1,588
Santa Margarita	220	212	196	186	38	11,406	11.98	5,311.29	5,902
Seal Beach	7	10	9	3	-	691	0.61	345.43	358
Serrano	3	3	3	4	-	391	0.18	212.22	202
South Coast	24	24	22	11	7	1,795	1.31	922.50	929
Trabuco Canyon	15	19	10	18	2	922	0.66	456.76	477
Tustin	31	33	27	14	2	1,894	1.69	943.74	980
Westminster	40	34	27	30	7	2,948	1.67	1,476.05	1,525
Yorba Linda	52	52	42	26	8	4,176	2.62	2,175.21	2,161
MWDOC Totals	1,705	1,489	1,373	1,097	307	111,525	85.17	53,750.16	21,546
Anaheim	135	147	121	79	23	11,818	7.59	6,491.59	6,115
Fullerton	66	70	51	39	12	4,324	3.34	2,127.38	2,237
Santa Ana	167	104	40	47	8	3,792	2.59	1,690.71	1,962
Non-MWDOC Totals	368	321	212	165	43	19,934	13.51	10,309.68	3,851
Orange County Totals	2,073	1,810	1,585	1,262	350	131,459	98.68	64,059.84	25,397

[1]Totals include hidden rows for agencies that no longer exist

HIGH EFFICIENCY TOILETS (HETs) INSTALLED BY AGENCY[1]

through MWDOC and Local Agency Conservation Programs

Agency	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	2	6	2	0	**470**	**214.63**
Buena Park	5	0	114	3	0	**813**	**367.71**
East Orange	0	2	0	0	0	**91**	**43.15**
El Toro	2	1	0	0	0	**2,063**	**1,050.49**
Fountain Valley	1	3	6	1	0	**848**	**457.34**
Garden Grove	1	4	17	4	0	**1,524**	**794.96**
Golden State	3	18	27	12	0	**2,882**	**1,480.89**
Huntington Beach	3	0	3	0	0	**2,928**	**1,443.94**
Irvine Ranch	30	22	21	11	5	**17,508**	**9,741.86**
Laguna Beach	0	0	3	2	0	**403**	**202.75**
La Habra	0	6	1	0	1	**602**	**342.64**
La Palma	0	0	3	1	0	**235**	**115.46**
Mesa Water	0	0	0	2	0	**1,645**	**999.67**
Moulton Niguel	10	7	2	6	3	**5,814**	**2,577.25**
Newport Beach	3	0	1	0	1	**739**	**364.73**
Orange	2	1	24	3	0	**2,234**	**1,079.13**
San Clemente	4	6	2	1	0	**907**	**447.42**
Santa Margarita	18	9	10	4	0	**3,437**	**1,519.23**
Seal Beach	1	0	0	0	0	**858**	**604.21**
Serrano	0	0	0	0	0	**124**	**55.20**
South Coast	4	3	0	5	0	**1,042**	**486.41**
Trabuco Canyon	5	1	4	0	0	**366**	**153.94**
Tustin	0	2	0	3	0	**1,530**	**914.42**
Westminster	0	11	9	3	0	**1,362**	**746.57**
Yorba Linda	0	5	0	0	0	**1,272**	**658.81**
MWDOC Totals	95	103	253	63	10	**52,235**	**27,117.06**
Anaheim	3	33	331	74	52	**6,404**	**3,465.63**
Fullerton	5	11	35	5	3	**1,142**	**547.48**
Santa Ana	5	3	117	66	0	**2,229**	**1,127.05**
Non-MWDOC Totals	13	47	483	145	55	**9,775**	**5,140.16**
Orange County Totals	**108**	**150**	**736**	**208**	**65**	**62,010**	**32,257.22**

[1]Totals include hidden rows for agencies that no longer exist

Prepared by Municipal Water District of Orange County

FLOW MONITORING DEVICES INSTALLED BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Total Program	Cumulative Water Savings across all Fiscal Years
Brea	2	3	1	3	**1**	**10**	**1.00**
Buena Park	0	0	0	0	**1**	**1**	**0.02**
East Orange	0	0	0	0	**0**	**0**	**-**
El Toro	0	0	0	0	**0**	**0**	**-**
Fountain Valley	1	0	0	2	**0**	**3**	**0.30**
Garden Grove	0	0	0	0	**0**	**0**	**-**
Golden State	375	1	1	0	**0**	**377**	**78.33**
Huntington Beach	0	0	0	6	**0**	**6**	**0.42**
Irvine Ranch	4	3	3	23	**5**	**38**	**2.83**
La Habra	0	0	0	1	**0**	**1**	**0.07**
La Palma	0	0	0	0	**0**	**0**	**-**
Laguna Beach	0	0	0	4	**0**	**4**	**0.32**
Mesa Water	0	1	1	5	**0**	**7**	**0.26**
Moulton Niguel	0	0	0	0	**0**	**0**	**-**
Newport Beach	0	0	1	1	**1**	**3**	**0.17**
Orange	3	7	5	9	**0**	**24**	**2.40**
San Clemente	0	0	0	3	**2**	**5**	**0.13**
Santa Margarita	122	38	129	78	**16**	**383**	**44.67**
Seal Beach	0	3	1	1	**0**	**5**	**0.46**
Serrano	0	1	1	1	**0**	**3**	**0.24**
South Coast	103	2	0	0	**3**	**108**	**21.75**
Trabuco Canyon	0	0	0	0	**0**	**0**	**-**
Tustin	0	0	0	2	**1**	**3**	**0.08**
Westminster	0	0	0	0	**0**	**0**	**-**
Yorba Linda	0	0	1	4	**0**	**5**	**0.22**
MWDOC Totals	**610**	**59**	**144**	**143**	**30**	**986**	**153.65**
Anaheim	0	3	2	6	**6**	**17**	**1.03**
Fullerton	3	12	8	16	**3**	**42**	**3.56**
Santa Ana	0	0	0	0	**0**	**0**	**-**
Non-MWDOC Totals	**3**	**15**	**10**	**22**	**9**	**59**	**4.58**
Orange County Totals	**613**	**74**	**154**	**165**	**39**	**1,045**	**158.24**

COMMERCIAL PLUMBING FIXTURES INSTALLED BY AGENCY[1][2]

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Totals	Cumulative Water Savings across all Fiscal Years
Brea	0	0	138	0	0	**1,973**	**1,214**
Buena Park	0	0	48	0	164	**2,844**	**2,403**
East Orange CWD RZ	0	0	0	0	0	**0**	**0**
El Toro WD	0	136	0	0	0	**2,652**	**1,397**
Fountain Valley	0	0	0	0	0	**2,165**	**1,424**
Garden Grove	574	0	209	0	0	**3,976**	**3,214**
Golden State WC	0	0	0	0	0	**3,124**	**3,664**
Huntington Beach	235	0	280	0	0	**3,957**	**3,441**
Irvine Ranch WD	2	644	0	0	0	**31,128**	**18,724**
La Habra	0	0	0	0	0	**984**	**1,093**
La Palma	0	0	0	113	0	**788**	**361**
Laguna Beach CWD	0	0	0	0	0	**446**	**589**
Mesa Water	0	251	18	161	0	**4,815**	**4,307**
Moulton Niguel WD	0	414	241	0	0	**7,594**	**3,430**
Newport Beach	0	0	0	3	0	**3,449**	**2,974**
Orange	0	359	151	0	0	**6,915**	**4,174**
San Clemente	0	0	0	0	0	**753**	**747**
Santa Margarita WD	0	212	0	112	0	**2,571**	**949**
Seal Beach	0	0	0	0	0	**816**	**841**
Serrano WD	0	0	0	0	0	**0**	**0**
South Coast WD	0	154	0	0	0	**1,474**	**1,147**
Trabuco Canyon WD	0	0	0	0	0	**11**	**27**
Tustin	0	41	88	0	0	**2,195**	**1,846**
Westminster	0	190	59	0	0	**1,850**	**1,986**
Yorba Linda	1	0	0	0	0	**1,017**	**1,144**
MWDOC Totals	**812**	**2,401**	**1,232**	**389**	**164**	**87,757**	**61,763**
Anaheim	0	648	175	1,194	0	**19,067**	**14,636**
Fullerton	0	331	839	3	0	**4,965**	**3,707**
Santa Ana	72	30	26	600	0	**8,040**	**9,344**
Non-MWDOC Totals	**72**	**1,009**	**1,040**	**1,797**	**0**	**32,072**	**27,688**
Orange County Totals	**884**	**3,410**	**2,272**	**2,186**	**164**	**119,829**	**89,451**

[1] Retrofit devices include ULF Toilets and Urinals, High Efficiency Toilets and Urinals, Multi-Family and Multi-Family 4-Liter HETs, Zero Water Urinals, High Efficiency Clothes Washers, Cooling Tower Conductivity Controllers, Ph Cooling Tower Conductivity Controllers, Flush Valve Retrofit Kits, Pre-rinse Spray heads, Hospital X-Ray Processor Recirculating Systems, Steam Sterilizers, Food Steamers, Water Pressurized Brooms, Laminar Flow Restrictors, and Ice Making Machines.

[2]Totals include hidden rows for agencies that no longer exist

WATER SAVINGS INCENTIVE PROJECTS BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Totals	Cumulative Water Savings
Brea	0	0	0	0	0	0	0
Buena Park	0	0	0	0	0	2	911
East Orange	0	0	0	0	0	0	0
El Toro	0	0	0	0	0	1	62
Fountain Valley	0	0	0	0	0	1	197
Garden Grove	0	0	0	0	0	2	26
Golden State	0	0	0	0	0	2	379
Huntington Beach	0	0	0	0	0	6	1,893
Irvine Ranch	0	1	10	0	1	24	1,724
La Habra	0	0	0	0	0	1	3
La Palma	0	0	0	0	0	0	0
Laguna Beach	0	0	0	0	0	0	0
Mesa Water	0	0	0	0	0	0	0
Moulton Niguel	0	0	0	0	0	0	0
Newport Beach	0	0	0	1	0	2	229
Orange	0	0	0	0	0	5	1,223
San Clemente	0	0	0	0	0	0	0
Santa Margarita	0	0	0	0	0	0	0
Seal Beach	0	0	0	0	0	0	0
Serrano	0	0	0	0	0	0	0
South Coast	0	0	0	0	0	2	1,148
Trabuco Canyon	0	0	0	0	0	0	0
Tustin	0	0	0	0	0	0	0
Westminster	0	0	0	0	0	1	715
Yorba Linda	0	0	0	0	0	0	0
MWDOC Totals	**0**	**1**	**10**	**1**	**1**	**49**	**8,509**
Anaheim	0	0	0	0	0	0	0
Fullerton	0	0	0	0	0	1	1,587
Santa Ana	0	0	0	0	0	1	1,363
Non-MWDOC Totals	**0**	**0**	**0**	**0**	**0**	**2**	**2,951**
Orange County Totals	**0**	**1**	**10**	**1**	**1**	**51**	**11,460**

[1] Acre feet of savings determined during a one year monitoring period.

If monitoring data is not available, the savings estimated in agreement is used.

TURF REPLACEMENT BY AGENCY[1][2]

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22		FY 22/23		FY 23/24		FY 24/25		FY 25/26		Total Program		Cumulative Water Savings across all Fiscal Years
	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res	Comm.	
Brea	6,066	0	13,979	6,598	8,997	40,459	930	32,570	1,230	0	**267,328**	**601,425**	**1,704**
Buena Park	3,094	0	14,435	0	9,798	54,144	2,085	71,385	1,112	0	**138,788**	**143,645**	**285**
East Orange	5,000	0	12,116	7,914	2,589	0	0	0	0	0	**67,825**	**7,914**	**126**
El Toro	3,153	2,379	18,364	7,739	8,780	31,396	1,270	43,948	435	0	**180,991**	**667,721**	**1,572**
Fountain Valley	14,031	0	11,871	3,260	11,427	1,394	7,329	7,739	1,343	0	**185,953**	**74,817**	**399**
Garden Grove	1,228	0	16,756	0	17,356	0	3,967	0	0	32,614	**327,228**	**150,017**	**786**
Golden State	0	0	2,614	0	3,716	603	9,977	1,044	3,027	0	**601,236**	**396,514**	**2,092**
Huntington Beach	32,411	19,914	44,842	89,264	29,038	64,199	20,037	72,389	4,407	0	**723,943**	**721,928**	**2,373**
Irvine Ranch	20,397	54,418	72,550	399,559	32,342	332,433	28,573	288,486	6,975	44,002	**1,651,243**	**4,606,441**	**10,864**
La Habra	4,183	3,263	15,254	6,654	13,062	65,496	5,980	0	0	0	**119,162**	**165,432**	**298**
La Palma	0	0	0	0	0	0	0	0	0	0	**15,141**	**59,760**	**207**
Laguna Beach	2,905	0	5,702	0	1,161	0	723	0	0	0	**87,378**	**48,788**	**307**
Mesa Water	29,375	0	34,191	55,661	21,321	97,512	11,922	86,176	1,035	8,804	**549,482**	**592,182**	**1,505**
Moulton Niguel	37,648	115,313	59,372	394,839	29,606	311,146	23,335	128,512	11,919	118,880	**1,928,474**	**4,125,941**	**10,503**
Newport Beach	823	99,613	6,247	24,470	7,118	37,101	3,461	13,099	0	0	**147,127**	**722,282**	**1,458**
Orange	22,783	2,816	50,016	102,170	41,474	8,807	12,794	66,221	8,260	0	**640,919**	**580,790**	**2,184**
San Clemente	6,466	67,354	15,942	156,022	11,950	17,008	1,380	107,624	748	3,652	**458,425**	**889,650**	**2,290**
Santa Margarita	8,694	41,534	44,083	132,194	23,349	65,782	15,718	175,702	2,334	87,539	**1,009,793**	**1,805,341**	**4,979**
Seal Beach	4,226	0	2,901	0	627	13,614	0	4,427	0	0	**47,654**	**38,418**	**123**
Serrano	0	0	7,183	0	0	0	0	0	0	0	**190,123**	**4,403**	**449**
South Coast	1,409	76,798	7,575	85,956	3,937	67,910	3,325	69,866	0	55,315	**352,560**	**949,239**	**2,201**
Trabuco Canyon	6,817	50,000	5,379	106,068	3,459	50,000	2,244	0	1,864	0	**100,720**	**366,313**	**547**
Tustin	21,688	5,698	36,476	0	28,841	16,386	12,632	0	4,958	1,226	**488,951**	**84,639**	**969**
Westminster	4,614	0	8,042	0	10,392	4,932	9,036	14,932	0	0	**148,122**	**78,397**	**374**
Yorba Linda	6,529	10,068	25,784	50,488	15,576	36,482	4,691	57,084	1,646	21,288	**581,139**	**320,813**	**1,566**
MWDOC Totals	**243,540**	**549,168**	**531,674**	**1,628,856**	**335,916**	**1,316,804**	**181,409**	**1,241,204**	**51,293**	**373,320**	**11,375,120**	**18,595,276**	**51,423**
Anaheim	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**-**
Fullerton	0	0	0	0	0	0	0	0	0	0	**0**	**9,214**	**15**
Santa Ana	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**-**
Non-MWDOC Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9,214**	**15**
Orange County Totals	**243,540**	**549,168**	**531,674**	**1,628,856**	**335,916**	**1,316,804**	**181,409**	**1,241,204**	**51,293**	**373,320**	**11,375,120**	**18,604,490**	**51,438**

[1]Installed device numbers are listed as square feet

[2]Totals include hidden rows for agencies that no longer exist

LANDSCAPE DESIGN REBATE PROGRAM BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY21/22		FY22/23		FY23/24		FY24/25		FY25/26		Total Program	
	LDAP	LMAP	LDAP	LMAP	LDAP	LMAP	LDAP	LMAP	LDAP	LMAP	LDAP	LMAP
Brea	3	2	10	2	1	1	0	0	0	0	**20**	**8**
Buena Park	5	1	5	2	1	1	1	0	0	0	**17**	**6**
East Orange	1	1	2	0	0	0	0	0	0	0	**4**	**1**
El Toro	11	0	6	6	4	1	0	0	1	0	**35**	**9**
Fountain Valley	8	4	13	3	5	4	0	0	0	0	**43**	**12**
Garden Grove	6	0	11	2	2	1	1	0	0	0	**20**	**3**
Golden State	0	0	2	1	3	1	1	0	0	0	**6**	**2**
Huntington Beach	38	18	34	19	9	5	3	0	0	0	**130**	**59**
Irvine Ranch	40	8	16	16	4	15	8	0	2	0	**92**	**53**
La Habra	7	0	8	3	0	0	1	0	0	0	**27**	**4**
La Palma	0	0	0	0	0	0	0	0	0	0	**0**	**0**
Laguna Beach	1	0	2	0	0	0	0	0	0	0	**3**	**0**
Mesa Water	14	6	18	11	4	6	0	0	0	0	**63**	**32**
Moulton Niguel	25	5	11	14	1	6	10	0	7	0	**71**	**41**
Newport Beach	3	0	6	2	0	2	1	0	0	0	**13**	**5**
Orange	22	3	22	6	10	6	0	0	2	0	**76**	**20**
San Clemente	4	1	4	1	0	4	0	0	0	0	**13**	**11**
Santa Margarita	11	4	19	12	4	6	5	0	1	0	**71**	**33**
Seal Beach	1	1	3	3	0	1	0	0	0	0	**7**	**9**
Serrano	0	0	0	0	0	0	0	0	0	0	**1**	**0**
South Coast	4	0	2	1	1	2	1	0	0	0	**13**	**5**
Trabuco Canyon	4	0	4	3	0	0	1	0	0	0	**13**	**7**
Tustin	10	3	12	5	2	4	1	0	2	0	**54**	**16**
Westminster	6	1	4	2	1	0	0	0	0	0	**17**	**4**
Yorba Linda	8	1	6	6	0	3	0	0	0	0	**21**	**11**
MWDOC Totals	**232**	**59**	**220**	**120**	**52**	**69**	**34**	**0**	**15**	**0**	**830**	**351**
Anaheim	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
Fullerton	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
Santa Ana	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
Non-MWDOC Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Orange County Totals	**232**	**59**	**220**	**120**	**52**	**69**	**34**	**-**	**15**	**-**	**830**	**351**

TREE REBATE PROGRAM BY MONTH

through MWDOC and Local Agency Conservation Programs

Month	FY23/24	FY24/25	FY25/26	Total Program
	Trees	Trees	Trees	Trees
July	0	9	36	**45**
August	0	15	60	**75**
September	0	18	44	**62**
October	0	9	22	**31**
November	0	17	38	**55**
December	0	28	0	**28**
January	0	23	0	**23**
February	0	24	0	**24**
March	0	18	0	**18**
April	0	24	0	**24**
May	0	33	0	**33**
June	3	40	0	**43**
Orange County Totals	**3**	**258**	**200**	**461**

SPRAY-TO-DRIP BY AGENCY[1][2]

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22		FY 22/23		FY 23/24		FY 24/25		FY 25/26		Total Program		Cumulative Water Savings across all Fiscal Years
	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res.	Comm.	Res	Comm.	
Brea	949	0	9,294	7,830	9,289	29,866	1,097	0	1,361	0	26,114	68,529	**51.25**
Buena Park	354	3,365	2,921	0	4,103	18,548	1,296	12,504	0	0	10,263	38,231	**13.24**
East Orange	5,000	0	6,314	0	0	0	0	0	0	0	11,314	0	**5.17**
El Toro	1,175	0	11,911	7,939	4,185	1,761	0	8,735	3,499	13,831	25,354	101,149	**78.93**
Fountain Valley	10,271	0	2,275	0	7,357	2,506	4,472	6,093	492	0	30,066	29,455	**31.20**
Garden Grove	0	0	0	0	0	0	0	0	0	0	2,125	0	**3.08**
Golden State	0	0	2,905	0	6,812	0	10,057	0	867	0	21,641	0	**6.22**
Huntington Beach	17,600	0	22,073	58,877	16,370	42,300	7,505	98,964	674	0	82,246	214,933	**79.59**
Irvine Ranch	14,046	30,118	50,139	208,019	25,863	432,567	41,127	365,869	16,987	92,888	197,601	1,384,354	**492.74**
La Habra	3,343	1,447	8,236	5,779	11,730	46,659	10,643	0	0	0	36,973	53,885	**24.62**
La Palma	0	0	0	0	0	0	0	0	0	0	0	0	**0.00**
Laguna Beach	2,426	0	4,065	0	1,204	0	0	0	0	0	12,494	0	**8.97**
Mesa Water	13,073	7,972	22,386	49,775	15,877	32,313	5,050	17,021	0	20,132	81,353	139,657	**76.00**
Moulton Niguel	0	66,612	0	144,223	0	258,353	0	103,990	0	74,445	15,125	973,871	**478.88**
Newport Beach	457	49,456	6,573	5,845	6,890	21,725	3,247	0	0	0	20,563	129,270	**88.70**
Orange	6,426	72,290	27,414	28,224	42,171	0	9,702	43,373	5,938	50,000	101,247	207,039	**87.39**
San Clemente	3,135	45,000	7,612	15,368	11,314	45,172	0	12,231	0	0	31,775	126,276	**54.30**
Santa Margarita	655	72,052	32,804	138,469	15,638	18,306	15,903	192,177	628	64,065	131,878	726,424	**443.61**
Seal Beach	0	0	3,509	0	0	3,623	0	16,280	0	0	3,509	19,903	**4.06**
Serrano	0	0	2,183	0	0	0	0	0	0	0	5,487	0	**4.88**
South Coast	0	130,495	10,339	11,560	2,166	2,490	2,653	16,832	0	27,076	22,571	253,609	**129.29**
Trabuco Canyon	0	0	997	0	1,881	0	0	0	2,050	0	6,676	0	**1.91**
Tustin	19,787	5,305	24,575	0	15,977	0	15,884	1,397	1,786	1,977	97,646	14,140	**50.60**
Westminster	0	0	1,557	0	7,383	437	2,014	18,162	0	0	12,737	33,938	**22.84**
Yorba Linda	3,772	15,982	12,413	48,824	11,705	46,606	758	54,499	1,289	30,727	35,839	200,763	**54.35**
MWDOC Totals	**102,469**	**500,094**	**272,495**	**730,732**	**217,915**	**1,003,232**	**131,408**	**968,127**	**35,571**	**375,141**	**1,024,722**	**4,715,426**	**2,294.69**
Anaheim	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Fullerton	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Santa Ana	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Non-MWDOC Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Orange County Totals	**102,469**	**500,094**	**272,495**	**730,732**	**217,915**	**1,003,232**	**131,408**	**968,127**	**35,571**	**375,141**	**1,024,722**	**4,715,426**	**2,294.69**

[1]Installed device numbers are listed as square feet

[2]Totals include hidden rows for agencies that no longer exist

ROTATING NOZZLES INSTALLED BY AGENCY[1]

through MWDOC and Local Agency Conservation Programs

Agency	FY 20/21	FY 21/22			FY 22/23			FY 23/24			FY 24/25			FY 25/26			Total Program			Cumulative Water Savings across all Fiscal Years
	Large	Small		Large	Small		Large	Small		Large	Small		Large	Small		Large	Small		Large	
	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	Res	Comm.	Comm.	
Brea	0	0	0	0	47	0	0	15	0	0	0	1,130	0	0	0	0	634	3,879	0	109.84
Buena Park	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	573	173	2,535	1,090.25
East Orange	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	781	0	0	29.82
El Toro	0	0	0	0	0	0	0	0	1,919	0	0	0	0	0	0	0	3,435	48,141	890	2,049.60
Fountain Valley	0	36	0	0	0	0	0	0	0	0	75	0	0	0	0	0	1,030	283	0	38.09
Garden Grove	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	1,117	299	0	52.49
Golden State	0	0	0	0	15	0	0	0	0	0	109	0	0	15	0	0	3,896	11,080	0	476.69
Huntington Beach	0	0	0	0	79	0	0	72	0	0	98	0	0	0	0	0	4,154	12,526	2,681	1,843.84
Irvine Ranch	0	462	0	0	196	0	0	411	195	0	309	0	0	42	0	0	49,708	94,541	2,004	6,851.52
La Habra	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	542	1,236	900	485.01
La Palma	0	0	0	0	15	0	0	18	0	0	0	0	0	0	0	0	122	2,890	0	80.50
Laguna Beach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,139	2,896	0	518.51
Mesa Water	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	2,137	385	343	265.61
Moulton Niguel	0	300	0	0	131	421	1,270	463	0	0	99	0	0	0	0	0	15,515	20,974	4,215	2,567.99
Newport Beach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46,723	21,413	0	2,507.21
Orange	0	0	0	0	184	0	0	96	0	0	38	0	0	0	0	0	3,615	1,072	0	173.66
San Clemente	0	80	0	0	0	210	0	0	170	0	0	230	0	20	0	0	10,314	8,148	1,343	1,178.27
Santa Margarita	0	132	0	0	197	0	0	353	495	0	168	0	0	90	0	0	17,618	7,416	611	1,212.58
Seal Beach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155	10,298	0	325.45
Serrano	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,405	0	0	139.43
South Coast	0	0	0	0	69	510	0	0	480	0	0	440	0	0	0	0	8,199	20,300	0	899.76
Trabuco Canyon	0	50	0	0	20	0	0	0	0	0	0	0	0	130	0	0	2,286	5,130	0	247.96
Tustin	0	0	0	0	0	0	0	42	0	0	75	0	0	0	0	0	3,650	1,058	0	182.14
Westminster	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	556	0	0	19.87
Yorba Linda	0	95	0	0	16	0	0	63	0	0	0	0	0	0	0	0	6,289	4,359	500	656.84
MWDOC Totals	0	1,155	0	0	1,005	1,141	1,270	1,548	3,259	0	1,046	1,800	0	297	0	0	204,008	288,986	16,022	24,665.22
Anaheim	0	147	0	0	33	0	0	0	0	0	54	0	0	0	0	0	4,327	49,799	105	2,073.59
Fullerton	0	131	0	0	152	0	0	66	0	0	0	0	0	0	53	0	3,534	11,362	1,484	1,065.03
Santa Ana	0	50	0	0	42	0	0	0	0	0	0	0	0	0	0	0	985	5,752	0	225.86
Non-MWDOC Totals	0	328	0	0	227	0	0	66	0	0	54	0	0	0	53	0	8,846	66,913	1,589	3,364.47
Orange County Totals	0	1,483	0	0	1,232	1,141	1,270	1,614	3,259	0	1,100	1,800	0	297	53	0	212,854	355,899	17,611	28,029.69

[1]Totals include hidden rows for agencies that no longer exist

SMART TIMERS INSTALLED BY AGENCY[1]

through MWDOC and Local Agency Conservation Programs

Agency	FY21/22		FY22/23		FY23/24		FY24/25		FY25/26		Total Program		Cumulative Water Savings across all Fiscal Years
	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm	Res	Comm.	
Brea	25	4	18	0	18	8	16	0	4	0	357	92	1,003.86
Buena Park	10	2	13	0	39	1	16	0	4	0	195	56	454.27
East Orange	4	0	0	0	10	0	4	0	0	0	56	1	86.37
El Toro	23	1	21	77	18	175	10	178	6	0	305	794	4,218.01
Fountain Valley	24	6	28	0	13	0	24	0	1	0	324	60	554.60
Garden Grove	15	5	28	6	23	1	15	0	6	0	305	55	483.89
Golden State	65	16	63	0	68	2	35	0	10	0	807	231	2,084.63
Huntington Beach	52	18	78	2	72	20	47	8	22	5	864	439	3,182.51
Irvine Ranch	320	104	257	223	319	4	240	87	67	38	5,359	3,175	25,547.63
La Habra	11	1	13	0	7	5	14	1	4	0	153	52	460.42
La Palma	6	0	5	0	8	0	3	0	1	0	65	2	36.29
Laguna Beach	5	2	9	0	10	0	5	1	4	0	575	23	575.95
Mesa Water	18	4	25	14	28	8	11	0	4	0	548	240	1,945.71
Moulton Niguel	381	104	156	38	121	91	72	71	30	15	3,185	1,340	9,404.64
Newport Beach	16	21	9	15	14	16	13	0	1	0	1,163	505	5,146.92
Orange	39	12	47	0	53	16	28	0	16	1	816	250	2,240.71
San Clemente	14	41	29	1	28	19	14	16	8	3	1,289	541	5,310.62
Santa Margarita	184	75	177	12	283	35	244	5	73	29	3,059	1,992	15,163.25
Seal Beach	5	0	3	0	8	0	6	0	1	0	57	87	609.11
Serrano	7	1	10	0	3	0	6	0	3	0	107	3	61.87
South Coast	5	1	11	8	9	1	9	13	6	5	358	252	2,307.32
Trabuco Canyon	17	2	18	0	21	0	11	0	1	0	297	159	1,751.55
Tustin	29	5	41	0	27	0	25	2	6	0	427	88	860.58
Westminster	11	0	17	0	18	0	7	0	2	0	203	44	471.20
Yorba Linda	85	16	64	1	45	7	61	0	16	0	996	235	2,150.89
MWDOC Totals	1,380	446	1,140	397	1,263	409	936	382	296	96	22,185	10,861	87,530.56
Anaheim	74	19	83	1	82	0	69	2	18	0	1,066	581	5,461.90
Fullerton	50	17	42	0	59	0	24	13	10	0	660	239	2,111.68
Santa Ana	18	2	15	0	24	6	13	0	6	0	251	257	1,552.14
Non-MWDOC Totals	142	38	140	1	165	6	106	15	34	0	1977	1077	9,125.71
Orange County Totals	1,522	484	1,280	398	1,428	415	1,042	397	330	96	24,162	11,938	96,656

[1]Totals include hidden rows for agencies that no longer exist

RAIN BARRELS INSTALLED BY AGENCY[1]

through MWDOC and Local Agency Conservation Programs

Agency	FY 21/22	FY 22/23	FY 23/24	FY 24/25	FY 25/26	Total Program	Cumulative Water Savings across all Fiscal Years
Brea	0	2	0	4	0	95	1.66
Buena Park	1	0	2	0	0	201	3.61
East Orange	1	3	0	2	0	50	0.84
El Toro	3	0	2	1	0	125	2.13
Fountain Valley	2	10	5	1	0	421	7.37
Garden Grove	7	8	10	3	0	393	6.79
Golden State	2	19	9	2	0	573	9.91
Huntington Beach	6	14	9	5	1	1,261	23.92
Irvine Ranch	14	18	25	15	2	1,135	19.57
La Habra	1	10	1	1	0	86	1.47
La Palma	2	0	2	0	0	12	0.17
Laguna Beach	5	4	0	0	0	459	9.07
Mesa Water	4	6	3	3	0	384	6.87
Moulton Niguel	10	15	12	2	0	468	8.05
Newport Beach	0	2	1	0	0	78	1.35
Orange	6	5	11	3	1	421	7.36
San Clemente	5	6	4	0	0	189	3.37
Santa Margarita	4	9	4	7	0	389	6.85
Santiago	0	0	0	0	0	0	-
Seal Beach	0	2	0	0	0	73	1.39
Serrano	2	0	0	0	0	42	0.77
South Coast	2	0	0	2	0	188	3.61
Trabuco Canyon	1	3	0	1	0	64	1.13
Tustin	2	8	4	0	0	268	4.70
Westminster	0	7	17	1	0	298	4.61
Yorba Linda	0	8	6	0	3	250	4.40
MWDOC Totals	80	159	127	53	7	8,218	146.53
Anaheim	3	8	5	4	0	340	5.90
Fullerton	0	6	4	4	0	244	4.29
Santa Ana	0	9	5	5	1	274	4.79
Non-MWDOC Totals	3	23	14	13	1	858	14.98
Orange County Totals	83	182	141	66	8	9,076	161.51

[1]Totals include hidden rows for agencies that no longer exist

RECYCLED WATER ON-SITE RETROFITS BY AGENCY

through MWDOC and Local Agency Conservation Programs

Agency	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	Total	Cumulative Water Savings across all Fiscal Years
Brea	0	0	0	0	0	**0**	**0**
Buena Park	0	0	0	0	0	**0**	**0**
East Orange CWD	0	0	0	0	0	**0**	**0**
El Toro WD	4	0	0	0	0	**47**	**10,651**
Fountain Valley	0	0	0	0	0	**0**	**0**
Garden Grove	0	0	0	0	0	**0**	**0**
Golden State WC	0	0	0	0	0	**0**	**0**
Huntington Beach	0	0	0	0	0	**0**	**0**
Irvine Ranch WD	0	1	1	1	0	**13**	**2,735**
La Habra	0	0	0	0	0	**0**	**0**
La Palma	0	0	0	0	0	**0**	**0**
Laguna Beach CWD	0	0	0	0	0	**0**	**0**
Mesa Water	0	0	0	0	0	**1**	**322**
Moulton Niguel WD	0	0	0	2	0	**44**	**1,131**
Newport Beach	0	0	0	0	0	**1**	**1,301**
Orange	0	0	0	0	0	**0**	**0**
San Clemente	0	0	0	0	0	**23**	**7,172**
Santa Margarita WD	0	1	1	0	0	**37**	**4,495**
Seal Beach	0	0	0	0	0	**0**	**0**
Serrano WD	0	0	0	0	0	**0**	**0**
South Coast WD	0	1	3	1	0	**19**	**1,909**
Trabuco Canyon WD	0	0	0	0	0	**1**	**2,297**
Tustin	0	0	0	0	0	**0**	**0**
Westminster	0	0	0	0	0	**0**	**0**
Yorba Linda WD	0	0	0	0	0	**0**	**0**
MWDOC Totals	4	3	5	4	0	**193**	**32,420**
Anaheim	0	0	0	0	0	**1**	**386**
Fullerton	0	0	0	0	0	**0**	**0**
Santa Ana	0	0	0	0	0	**0**	**0**
Non-MWDOC Totals	0	0	0	0	0	**1**	**386**
Orange County Totals	**4**	**3**	**5**	**4**	**0**	**194**	**32,806**

APPENDIX H

2025 ORANGE COUNTY WATER DEMAND MODEL TECHNICAL MEMORANDUM

Hazen and Sawyer
11260 El Camino Real, Suite 102
San Diego, CA 92130 • 858.764.5520

2025 Orange County Water Demand Projection Model Technical Memorandum

December 30, 2025

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List of Modeling Terms

Term	Working Definition
Billing Class	Group of customers defined in rate schedule for revenue collection
Billing Accounts	Group of accounts defined in rate schedule for revenue collection
Sector	One or more billing classes combined for modeling
Driver Unit (Driver)	Indicator of scale or growth for a given sector (counts)
Rate of Use	Measure of water use per driver unit
Econometric Model	Multiple regression model specifying economic variables
Explanatory Variable (i.e. water price and maximum monthly temperature)	A variable specified in a regression model to explain variability in water use
Coefficient	Elasticity (multiplier) that measures the response of water use to changes in explanatory variables
Model Fitting	Process of estimating parameters that measure the response of water use to changes in explanatory variables
Model Prediction	Calculation of water use for assumed values of explanatory variables
Nominal Income	The amount of money a person or an entity earns, without accounting for inflation or changes in purchasing power
Nominal Price	The stated price of an item without any adjustments for inflation representing its value in currency at the time of a transaction
Relative Sectoral Employment	Employment in each Commercial, Industrial, or Institutional sector

List of Acronyms

Term	Working Definition
CalAdapt	California Climate Adaptation Platform
CCF	Hundred Cubic Feet
CII	Commercial, Industrial & Institutional
CMIP6	Coupled Model Intercomparison Project (Phase 6)
DOF	California Department of Finance
GDP	Gross Domestic Product
GIS	Geographic Information System
LEHD/LODES	Longitudinal Employer Household Dynamics / Origin Destination Employment Statistics
MF	Multifamily (Residential)
MGD / MG / AFY	Million Gallons per Day / Million Gallons / Acre Feet per Year
NRW	Non-Revenue Water
PPH	Persons per Household
SF	Single-family (Residential)
UWMP	Urban Water Management Plan
UWUO	Urban Water Use Objective

Executive Summary

The Municipal Water District of Orange County (MWDOC) supplies water to 26 retail agencies, and the Orange County Water District (OCWD). The Orange County demand forecasts include the MWDOC service area as well as 3 cities who are direct customers of the Metropolitan Water District of Southern California (MWD): Anaheim, Fullerton, and Santa Ana. Water demand forecasts are a foundational element of water supply and infrastructure planning, and MWDOC and OCWD selected Hazen and Sawyer (Hazen) to update the demand forecasts for Orange County's retail agencies for the 2025 Urban Water Management Plan. The update is necessary both because current demands are lower than previously projected, and new demographic and climate projections were made available in 2025.

Hazen created four demand models for each Orange County retail agency. The four models represent demand sectors in which agency billing sector uses are similar in magnitude, and in which changes in billing sector water use can be attributed to the same variables. The four sectors are:

1) Single-family Residential
2) Multifamily Residential
3) Commercial, Industrial, and Institutional (CII)
4) Dedicated Irrigation (potable, recycled & raw water)

The demand across all four models, plus other uses for each agency, is summed to a total forecast for each agency, the MWDOC service area, the OCWD service area, and total Orange County.

Econometric Approach and Data Acquisition

A regression, or econometric, approach to demand forecasting statistically links retail level water use to weather, economic, and socioeconomic factors (explanatory variables). Orange County agencies provided comprehensive datasets of historical water use, and Hazen worked with MWDOC to obtain explanatory variables from reputable sources, including weather databases and Census-based reports. The explanatory variables used in the regression are based on Hazen's experience regarding what factors affect water use nationwide and in Southern California.

By statistically linking water use to explanatory variables, econometric models provide a robust foundation for understanding variability and projecting future consumption patterns. Modeled water use is the product of the driver count, and the rate of water use per driver (**Equation ES-1**).

$$Water\ use = Driver\ Count * Rate\ of\ Use\ per\ Driver$$ **Equation ES-1**

Driver units change into the future based on housing, employment, and population projections. The rate of water use per driver is based on the historical response of the use rate to explanatory variables (measured by coefficients) and the future values of those same explanatory variables. **Equation ES-2** shows an example use per account, where water price and temperature are examples of explanatory variables, and $C_{Intercept}$, C_R, and C_T are example coefficients.

$$Historical\ Use\ per\ Account = C_{Intercept} + C_R \times Historical\ Water\ Price + C_T \times Historical\ Temperatures + \cdots$$ **Equation ES-2**

The coefficients explain how (both in terms of magnitude and sign) water use responds to changes to explanatory variables.

Hazen identified driver units based on data provided by agencies and the Center for Demographic Research at Cal State Fullerton (CDR) that can be easily projected into the future. The rate of water use per driver is based on agency provided billing sector uses from 2010 through 2024. **Table ES-1** shows the driver units and rate of use for each of the four models.

Table ES-1: Summary of Demand Sectors

Sector	Driver Units	Rate of Use Definition
Single-family Residential	Accounts	Gallons / account / day
Multifamily Residential		Gallons / account / day
Commercial, Institutional, Industrial (CII)	Jobs	Gallons / job / day
Dedicated Irrigation (potable, recycled & raw water)	Accounts	Gallons / account / day

The rates of water use for each sector model are based on the historical responses to explanatory variables, and the future values of those explanatory variables. Addressing multiple influences on demand improves the accuracy and precision of all estimated parameters, and the Hazen team identified a large range of explanatory variables based on our experience with demand modeling and available data. **Table ES-2** displays the explanatory variables.

Table ES-2: Summary of Historical Data Collected for Model Development

Dataset	Data Source(s)
Observed weather (monthly precipitation, monthly maximum temperature)	Parameter-elevation Regressions on Independent Slopes Model (PRISM)
Water Price	Retail agency provided (2010 – 2024)
Drought Restrictions	State Water Resources Control Board
Gross Domestic Product (GDP)	Federal Reserve Bank of St. Louis Real Gross Domestic Product: All Industries in Orange County, CA
Median income	US Census American Community Survey (ACS)
Housing density	US Census American Community Survey (ACS), California State University Fullerton Center for Demographics Research (CDR), Southern California Association of Governments (SCAG) land use data
Persons Per Household	
Relative sectoral economic activity	US Census LODES, CDR
Passive Efficiency Estimates	Analysis of trend indicators and MWDOC/FLUME insight
COVID Binary Indicator	Assumed active from March 2020 – May 2023

The MWDOC Water Use Efficiency Group provided annual savings achieved by various active conservation measures. To avoid additional calculations and potential errors in the classification of historical conservation data, total historical conservation was captured in each sectoral model using a linear trend term. While historical conservation is captured in a linear trend, projected passive conservation is based on the 2021 Orange County Residential Water Efficiency Potential and Opportunities Study (2021 Study) and assumes a 1.9% decrease in annual residential demand from 2025 to 2030, at which point passive conservation will remain constant going forward. Active conservation is not accounted for in the models.

The process of identifying the explanatory variables to include in the regression equation and developing coefficients that accurately measure the response of water use to changes in these variables is the most time-intensive part of the demand forecasting process.

Econometric Model Development

Orange County water use varies by time with changes to the price of water, drought restrictions, and weather, as well as by geography. For example, different agency income levels and household densities result in different water use rates. Hazen fit the four sectoral econometric models using a panel regression approach to account for explanatory variables that vary primarily over geography as well as those that

vary over time. The panel approach fits consumption data from all retail agencies simultaneously, improving model accuracy with a larger sample size.

Hazen evaluated model fits using R^2 values as well as visual confirmation that the modeled historical water use captured long-term trends, drought restrictions, and COVID pandemic work from home orders. The models demonstrated strong performance in replicating historical consumption patterns over the past decade. Most regressions achieved R^2 values of 0.80 or higher, indicating a high degree of explanatory power. Model results show:

- Single-family consumption is highly seasonal, and the econometric model correlates well to seasonality and temperature.
- Multifamily use is generally less responsive to weather than single-family demands as some outdoor use has been shifted into the irrigation sector. Seasonal price elasticity varies the least between months for the multifamily sector.
- CII use per job is positively correlated to each job proportion as well as gross domestic product throughout Orange County.
- Irrigation is much more responsive to temperature and precipitation than the other sectors. Seasonal price elasticity varies the most between months for the irrigation sector.

The Hazen team worked with each retail agency to calibrate sectoral model equations and quantify other uses (those not included in the single-family, multifamily, irrigation, or CII demand sectors).

Baseline Forecast

Forecasted demand is a function of both the change in driver units into the future as well as the change in explanatory variables. **Table ES-3** summarizes the future drivers and variables.

Table ES-3: Future Model Parameters

Data Category	Variable	Source	Assumptions
Driver Units	Single-family and multifamily accounts	CDR	Historical households per account; averages are multiplied by households projected by CDR
	Irrigation accounts	Agency Billing Data	Accounts are assumed to be constant into the future
	Sectoral employment	CDR	Proportion of jobs within CII sectors projected by CDR
Explanatory Variables	Monthly Maximum Temperature and Total Precipitation	PRISM	30-year historical normal weather
	Water Price	Retail Agencies	Prices increase by 3% per year above inflation for 2025-2030 and keeps pace with inflation thereafter (zero difference from inflation trend)

Data Category	Variable	Source	Assumptions
	Water Use Restrictions	State & Local Restrictions	None
	Seasonality		Sine/cosine functions to capture monthly pattern
	Median income	US Census	Constant income at 2022 value (real dollars)
	Housing density	CDR	Derived from CDR housing unit projections, assuming residential area remains at 2024 levels
	Persons Per Household	CDR	CDR projected demographics
	Gross Domestic Product	Federal Reserve	Long-term GDP trend
	Relative Sectoral Employment	CDR	Calculated based on CDR projections
	Passive Efficiency Estimates	Flume Insight	Assumes a 2% decrease in residential demand due to conservation by 2030 (linearly extrapolated), then no change
	COVID Binary Indicator		None (occurred between March 2020 and May 2023)

The baseline scenario assumes no active conservation measures.

Residential use (single-family and multifamily) accounts for approximately 60% of total Orange County demand and is expected to drive changes to the total demand forecast, despite CII use increasing as jobs increase. **Figure ES-1** indicates that multifamily growth is expected to outpace single-family growth out to 2050.

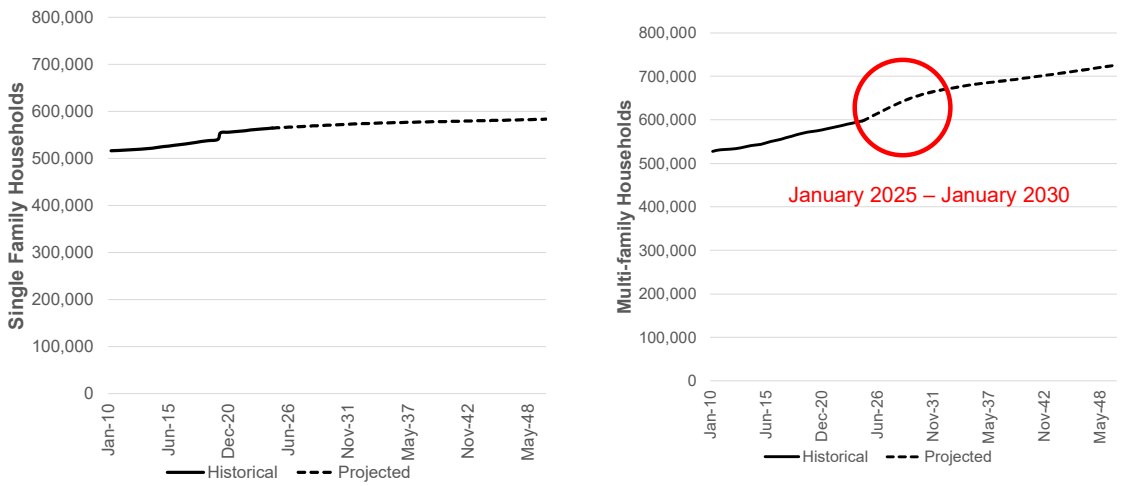


Figure ES-1: Single-family and Multifamily Growth

Additionally, **Figure ES-2** shows that average persons per household is expected to decrease for both residential sectors while household density increases.

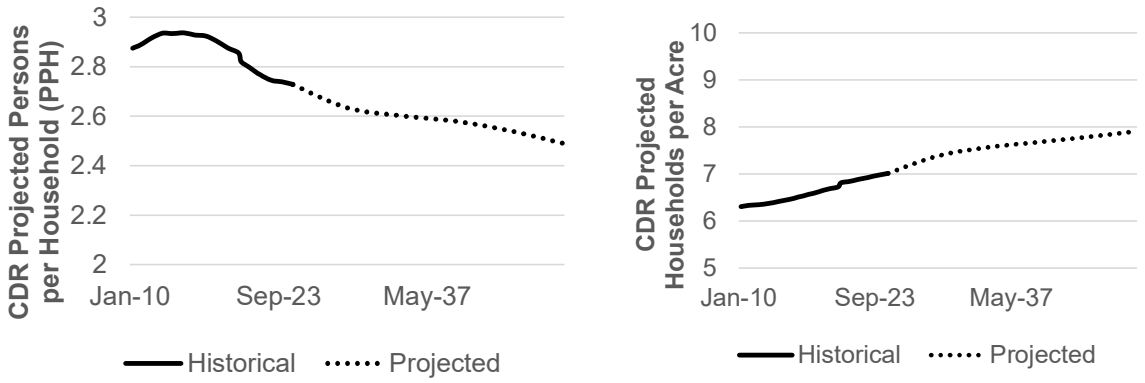


Figure ES-2: Demographic Parameters

While increasing density, decreasing persons per household, and increasing prices are expected to moderate demand, they do not fully offset growth in multifamily driver units. **Table ES-4** shows the slow growth trend out to 2050 for all of Orange County.

Table ES-4: Orange County Forecast

Forecast Year	2025	2030	2035	2040	2045	2050
Single-family Demand (AFY)	196,682	189,600	189,594	190,010	189,146	188,368
Multifamily Demand (AFY)	91,462	93,631	95,823	97,339	97,976	98,583
Irrigation Demand (AFY)	88,837	86,849	86,849	86,966	86,849	86,849
CII Demand (AFY)	82,873	87,224	89,565	91,928	93,866	95,492
Other Demands (AFY)	28,194	28,007	28,314	28,613	28,735	28,831
Total Demand (AFY)	488,049	485,312	490,145	494,856	496,572	498,124

Single-family demand remains relatively flat due to limited growth in single-family housing units, and multifamily demands are forecasted to increase steadily, driven by rising multifamily housing development. Irrigation demand is expected to remain flat, and other uses (e.g., fire flows, construction) are projected as a fixed percentage of total use. Under expected future conditions, total Orange County demand is projected to remain relatively stable through 2050.

Alternative Forecasts and UWMP Scenarios

As part of this model, alternative demand forecasts were developed to evaluate the impacts of climate change and long-term water rate increases on future water use in Orange County. Using CMIP6 climate models and downscaled LOCA2 data from CalAdapt, the model applied temperature and precipitation deltas to historical weather patterns across four Flume-defined microclimate quadrants. These projections

were used to simulate two climate scenarios, dry/warm and wet/cool. The dry/warm scenario showed increased water demand due to higher temperatures, while the wet/cool scenario, when paired with a 3% annual price increase above inflation, demonstrated demand suppression.

The 2025 Urban Water Management Plan (UWMP) requires agencies to project long-term water demand under three hydrologic conditions, normal year, single dry year, and five consecutive dry years, over a 20-year horizon in 5-year increments. In this model, the single dry year scenario used a hot-dry index (HDI) to identify the year with the most weather-sensitive demand, with 2014 selected for most agencies. The multiple dry year was developed to describe the potential impact of consecutive dry years. **Figure ES-3** summarizes all forecasts.

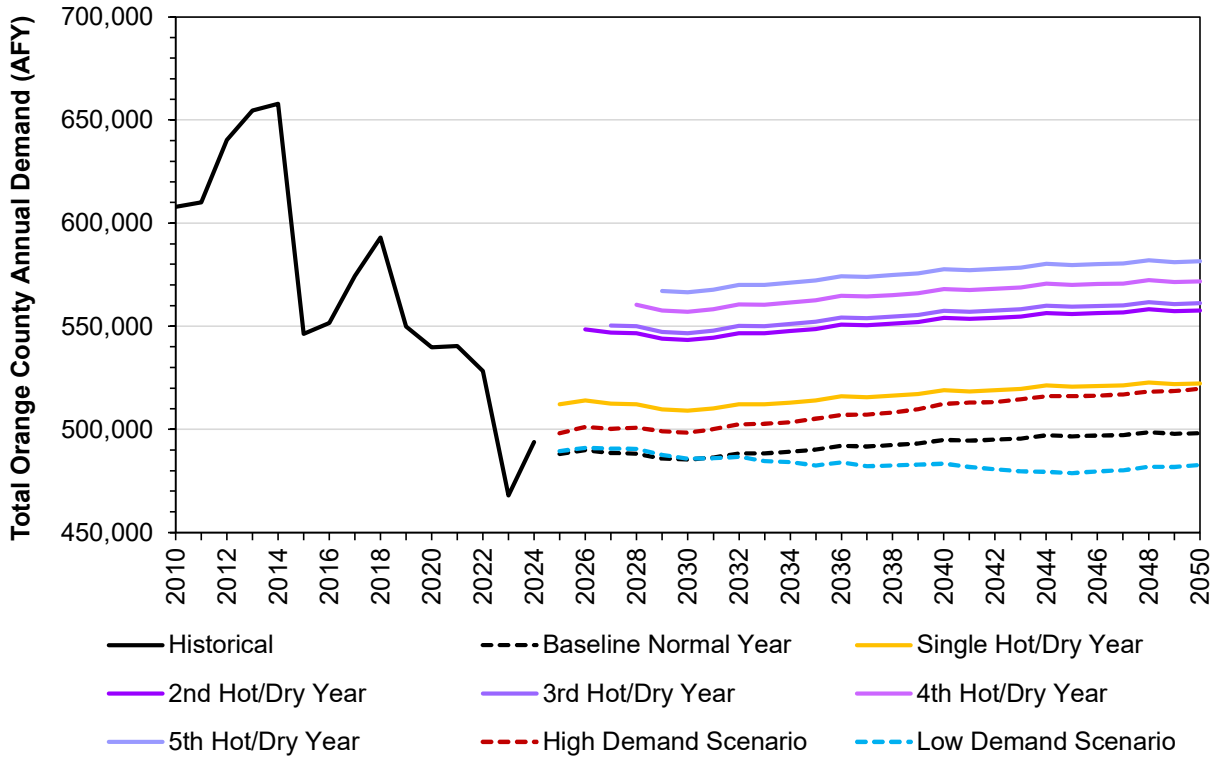


Figure ES-3: Baseline, Alternative, and UWMP Forecasts

Although Orange County demands are forecast to be relatively flat into the future, Figure ES-3 shows that annual variations in weather could cause high fluctuations.

1. Introduction

The Municipal Water District of Orange County (MWDOC) supplies water to 26 retail agencies and the Orange County Water District (OCWD). The 3 cities: Anaheim, Fullerton, and Santa Ana, who are direct customers of the Metropolitan Water District of Southern California (MWD) are also analyzed to provide a complete picture of the county. Water demand forecasts are a foundational element of water supply and infrastructure planning. MWDOC, OCWD, and representatives of the retail agencies selected an econometric model approach for the update. Hazen and Sawyer (Hazen) developed the demand model was developed by regressing historical water consumption against several explanatory variables known to influence water demand (including weather, water price, regional economic conditions, and housing density).

This technical memorandum (TM) describes the econometric demand model developed to produce regionally consistent forecasts across all Orange County agencies. Model development was funded by both MWDOC as the imported water wholesale provider and OCWD the OC Groundwater Basin manager.

Table 1-1 highlights a range of available approaches to long-term demand forecasting. Among these, an econometric approach incorporates high-resolution data at the agency scale and integrates many explanatory variables to properly identify the individual influence of each variable on historical and future demand.

Table 1-1: Pros and Cons of Several Demand Models

Model	Pro's	Con's
Time Series	• Simple and easily estimated in a Spreadsheet	• Trends are simply extended into the future • Model provides no indication of what causes trends in water use
Gross per Capita	• Ability to decouple the rate of water use from growth	• GPCD is often held constant at the historical rate • No indication of what causes trends in GPCD
End Use Accounting	• Estimates the amount of use associated with individual purposes • Addresses technological change and water use efficiency	• Consists of many assumptions for each time period • Difficult to explain observed variability in water use due to weather, price, or demographic influences
Regression (Econometric)	• Links water use statistically to explanatory variables • Provides estimates of how variability in explanatory factors affect water use • Allows for scenario design around inputs	• Difficult to address the historical impacts of technology • Statistical parameters contain a degree of potential error • Uncertainty in future values of inputs

MWDOC, OCWD, and Hazen chose the econometric approach as it provides estimates of how variability in explanatory variables affect water use. An econometric model also facilitates future scenario planning because the future values of explanatory variables are easy to change to present different scenarios.

The model relies on a comprehensive dataset of historical water-use data collected from Orange County retail agencies. Water use is provided from 2010 to 2025 (where available) for almost 40 different billing sectors; the 15-year history enables Hazen to fit the models to a range of historical droughts, price variations, and socioeconomic patterns. Hazen fit the approximately 40 different billing sectors into 4 demand sectors to limit the total project effort while providing a reliable forecast.

Prior to developing the forecasts, model calibration and fine tuning for each of the four demand sectors occurred at the individual retail agency level. The forecasts for individual agencies were then summed to the regional level.

This TM first discusses data collection and the model fitting process and ends with the demand forecasts as presented in **Figure 1-1**.

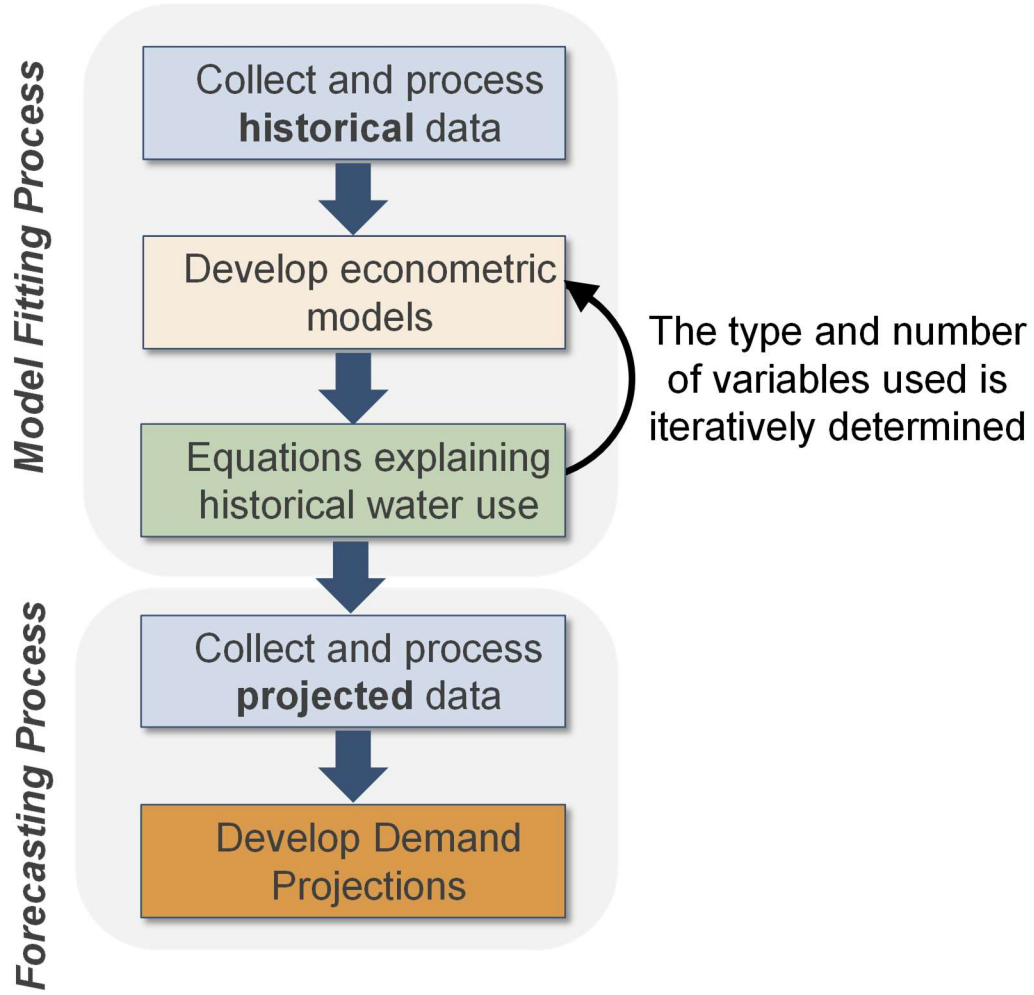


Figure 1-1: Econometric Demand Forecast Development Process

The process of identifying the explanatory variables to include in the regression equation and developing coefficients that accurately measure the response of water use to changes in these variables is called model fitting. Fitting the model is the most time-intensive part of the demand forecasting process, because a model must be fitted for each demand sector, and the type and number of variables used are iteratively determined. Once the model is fitted, the coefficients derived for historical water use are applied to the assumed future values of the associated explanatory variables to generate a forecast.

2. Historical Data Collection and Review

Demand model development requires a robust historical data set comprised of water consumption, driver units (billing accounts), and explanatory variables to explain historical changes in water use. The explanatory variables used in the models reflect both data availability and Hazen's nationwide demand modeling experience, which has focused heavily on variables that affect long term demand in California. **Table 2-1** provides a summary of the data used to develop the econometric models.

Table 2-1: Summary of Historical Data Collected for Model Development

Data Category	Dataset	Data Source(s)
Water Use	Historical billed consumption and accounts	Retailer billing records (2010 – 2024)
Driver Units	For SF, MF, and Irr uses: Single-family, and multifamily, commercial, and irrigation accounts, Dedicated Irrigation (potable, recycled & raw water)	Retailer billing records (2010 – 2024)
	For CII uses: CII Sectoral employment	US Census
Explanatory Variables	Observed weather (monthly precipitation, monthly maximum temperature)	Parameter-elevation Regressions on Independent Slopes Model (PRISM)
	Water Price	Retail agency provided (2010 – 2024)
	Drought Restrictions	State Water Resources Control Board
	Gross Domestic Product (GDP)	Federal Reserve Bank of St. Louis Real Gross Domestic Product: All Industries in Orange County, CA
	Median income	US Census American Community Survey (ACS)
	Housing density	US Census American Community Survey (ACS), California State University Fullerton Center for Demographics Research (CDR), Southern California Association of Governments (SCAG) land use data
	Persons Per Household	
	Relative sectoral economic activity	US Census LODES, Center for Demographics Research (CDR)
	Passive Efficiency Estimates	Analysis of trend indicators and MWDOC/FLUME insight
	COVID Binary Indicator	Assumed active from March 2020 – May 2023

The following sections provide a detailed description of each dataset summarized in Table 2-1. Data sources documented in this section are limited to historical datasets; a review of datasets describing projected future conditions and assumptions are documented in **Section 4**.

2.1 Data Collected from Retail Agencies

Orange County retail agencies responded to a questionnaire spreadsheet that asked for their historical billed water consumption volumes and account data by customer class for the 2010 to 2024 period, as well as water rate schedules covering the same period, and, where possible, a summary of water shortage management activities implemented over the last decade. **Figure 2-1** summarizes the historical duration of data provided by each agency as well as an identification of the billing cycle (monthly or bimonthly) that defines the general frequency of water bills.

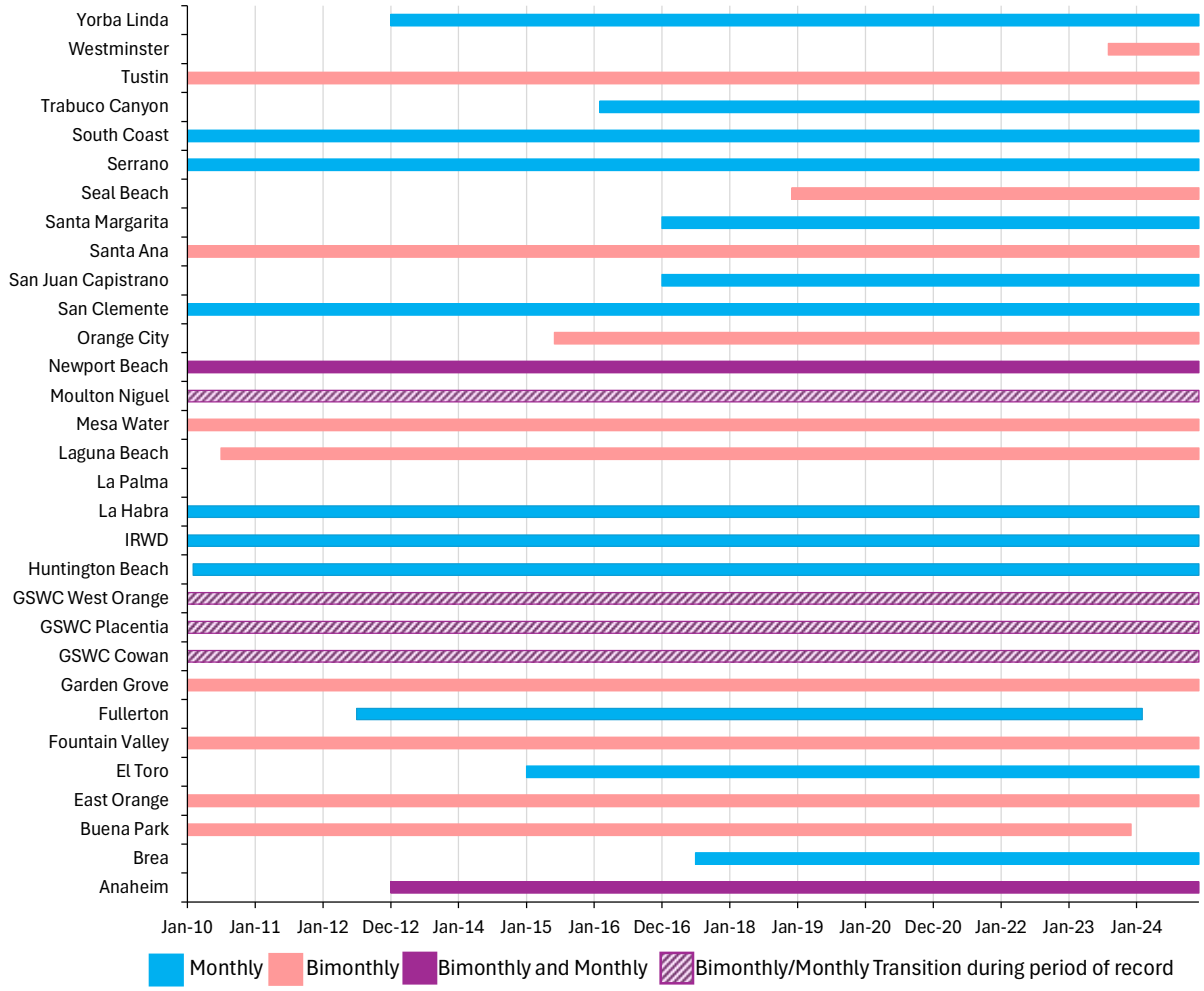


Figure 2-1: Summary of Time Range of Available Billing Data Provided by Retail Agencies

The water use and account data provided by the agencies varied. Billing sectors and their definitions can be agency-specific (almost 40 billing classifications were collected from 29 retail agencies), and water use data was not always consistently available back to 2010 for all retailers. Billing cycles differ between agencies: monthly, bimonthly, or a combination of the two.

After the water use and account data were obtained, the data needed to be standardized into consistently defined demand sectors and to a monthly basis. The following sections discuss how billing-sector data

were standardized into four demand sectors, and how water use per account was standardized to yield monthly use per account accounting for differences in billing cycles.

2.1.1 Standardized Agency Billing Sectors

Retail agencies provided billing and account data organized by each agency's own internal billing classifications. Billing classifications were relatively consistent across retail agencies for defining residential water use, as most retail agencies characterized separate classifications for single-family and multifamily sectors. Water use of mobile home and other housing customer classes not associated with single-family detached structures was generally found to be similar to water use rates within the multifamily sector.

Billing classifications were less consistent in describing non-residential uses. Most agencies defined a commercial billing classification; however, the distinction and definition of industrial, institutional, and irrigation classes were inconsistent across retail agencies. For example, certain retail agencies include industrial or institutional uses within their commercial billing classification. Similarly, landscape use is not necessarily limited to a single end use, and not all retailers reported irrigation use as a class. Water billed within a landscape or irrigation category could represent use at commercial, industrial, institutional, and residential properties. Uncertainty and inconsistency in retail agency definitions of commercial, industrial, and institutional water use can affect the accuracy and performance of statistical demand models. To address this, the commercial, industrial, and institutional sectors were combined into an aggregate Commercial, Industrial, Institutional (CII) sector for modeling.

Table 2-2 provides the general breakdown of sector classifications across MWDOC agencies.

Table 2-2: Summary of Standardized Water Use Sectors

Standardized Water Use Sector (Modeled Sector)	Description
Single-family	Water use associated with single-family residential homes.
Multifamily	Water use associated with multifamily residential properties. Multifamily use shows less seasonal variation than single-family use due to shared irrigable area per dwelling unit and some multifamily irrigation is likely to be attributed to the irrigation class. Multifamily use generally includes all residential accounts not defined as single-family
CII (Commercial, Industrial, Institutional)	Water use associated with commercial developments, industrial applications, and institutional activity. CII use includes non-irrigation recycled uses.
Irrigation	Water use associated with outdoor (typically non-residential) and agricultural irrigation. This irrigation use includes recycled water for irrigation.
Other	Other water use includes classifications not well represented by the water use sectors above (including fire flows, temporary meters, construction, power uses, water loss, and other small miscellaneous uses).

Agency staff provided additional information (via email and phone conversations) to support parsing landscape and recycled water use into modeled sectors. **Figure 2-2** shows the agency billing classes separated into the four modeled sectors and the Other category.

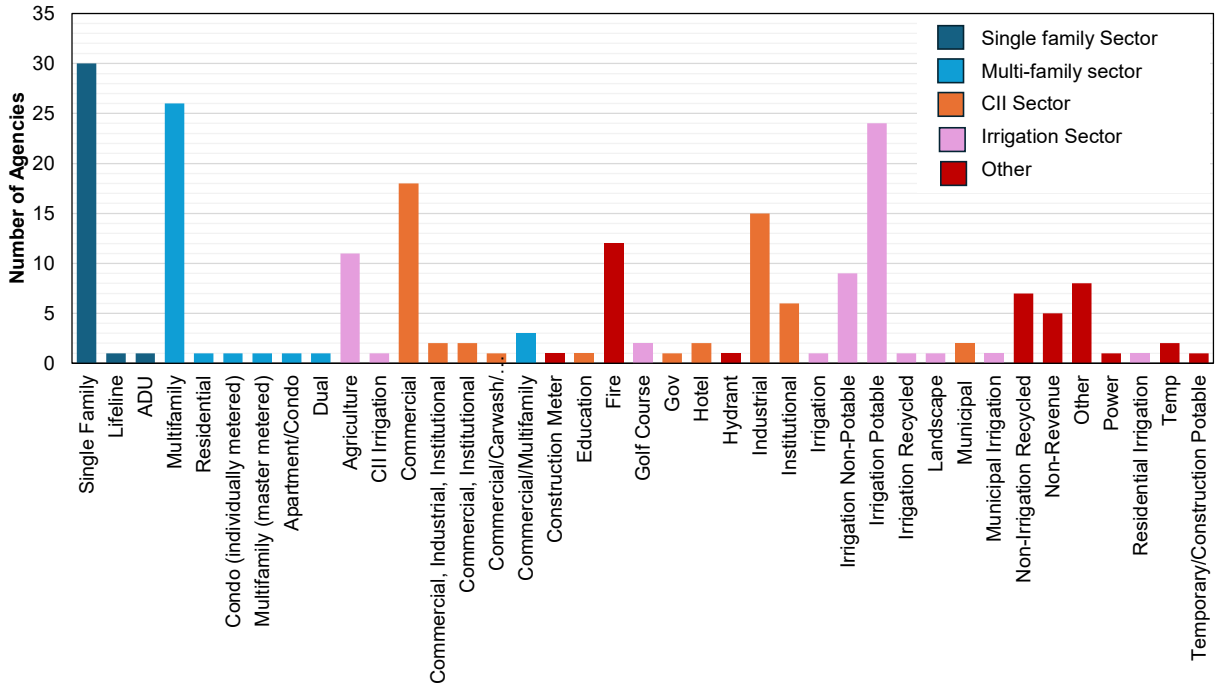


Figure 2-2: Billing Sectors by standardized demand sector

Figure 2-2 indicates that across all agencies, single-family and multifamily use were the most consistently classified.

2.1.2 Standardized Agency Rate of Use

Retail agencies have different billing and meter reading frequencies. Additionally, within each agency, meter reading cycles can vary by customer. Many agencies universally adopt either monthly or bimonthly billing; however, some utilize a combination of the two billing cycles depending on customer class and date. Water use rates for the different agency billing cycles were standardized to a calendar-month to better reflect the actual seasonal timing of water use for each of the four modeled sectors (other uses are applied as a percentage of total use across the single-family, multifamily, CII, and irrigation sectors).

Water use billed at monthly intervals can generally overlap with two consecutive calendar months. A smoothing equation extracts a single calendar-month use from the two monthly billing periods. For example, April water use is equal to the fraction of the April consumption billed in April plus the fraction of the April consumption billed in May (**Equation 2-1**).

$$April\ Use = \left(Billed\ April\ Consumption \times \frac{April\ Accounts}{April\ Accounts + May\ Accounts}\right) + \left(Billed\ May\ Consumption \times \frac{May\ Accounts}{April\ Accounts + \quad Accounts}\right)$$

Equation 2-1

Customers billed at bimonthly intervals are divided into two groups, and each group is billed every second month. Bimonthly meter readings contain water use that occurs over a span of three calendar months. For example, April use equals the fraction of April consumption billed in April and June (billing group 1) plus the fraction of April consumption billed in May (billing group 2), per **Equation 2-2**.

$$April\ Use = \left(\left(\frac{1}{4} Billed\ April\ Consumption + \frac{1}{4}\ Billed\ June\ Consumption\right) \times \frac{\frac{1}{2}April\ Accounts + \frac{1}{2}June\ Accounts}{\frac{1}{2}April\ Accounts + May\ Accounts\ \ \frac{1}{2}June\ Accounts}\right) + \left(\frac{1}{2} Billed\ May\ Consumption \times \frac{May\ Accounts}{\frac{1}{2}April\ Accounts + May\ Accounts + \frac{1}{2}June\ Accounts}\right)$$

Equation 2-2

Figure 2-3 depicts smoothed water use for an agency whose billing structure changes from bimonthly to monthly in late 2022.

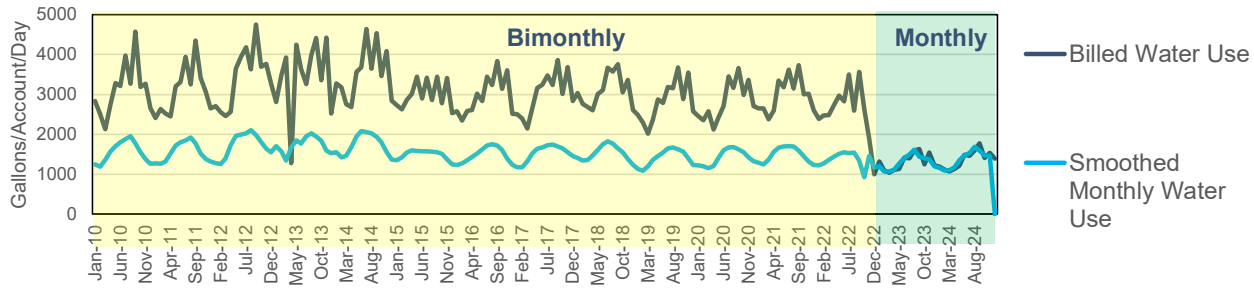


Figure 2-3: Example smoothing of consumption for an Agency with a Billing Structure that Changes Over Time

If an agency employs both monthly and bimonthly billing cycles for billing sectors that fall into a single model demand sector, a weighting of smoothed monthly (m) and bimonthly (b) water use (q) is employed to average use ($q_{M,avg}$) over the two cycles (**Equation 2-3**).

$$q_{M,avg} = w_m \times q_m + w_b \times q_b$$

Equation 2-3

The weighting factors are defined in **Equations 2-4** and **2-5**.

$$w_m = \frac{A_{M,m} + A_{M+1,m}}{(A_M + 2A_{M+1,b} + A_{M+2,b}) + (A_{M,m} + A_{M+1,m})}$$

Equation 2-4

$$w_b = \frac{A_{M,b} + 2A_{M+1,b} + A_{M+2,b}}{(A_M + 2A_{M+1,b} + A_{M+2,b}) + (A_{M,m} + A_{M+1,m})}$$

Equation 2-5

2.1.3 Development of Retail Agency Driver Units

Driver units reflect the scale of a water use sector indicative of the number of water users. Total water consumption (Q) is derived by multiplying the number of driver units (N) by the rate of water use per driver unit (q), as shown in **Equation 2-6**.

$$Q = N \cdot q \rightarrow q = \frac{Q}{N}$$ **Equation 2-6**

To be useful for model development and forecasting, driver units must have a consistent historical record coincident with consumption and have a corresponding future dataset representing projected driver unit counts. Driver units were selected for each model sector, as shown in **Table 2-3**. The following sections detail the data sources and data processing used to develop estimates of drivers for each retail agency and model sector.

Table 2-3: Driver Units and Rates of Use for each Demand Sector

Sector	Driver Units	Rate of Use Definition
Single-family Residential	Accounts	Gallons / account / day
Multifamily Residential		Gallons / account / day
Commercial, Institutional, Industrial (CII)	Jobs	Gallons / job / day
Dedicated Irrigation (potable, recycled & raw water)	Accounts	Gallons / account / day

Other water uses that are small and do not neatly fit above classifications are projected using a long-term average of historical consumption.

2.1.4 Residential Housing Units

Driver units for both single-family and multifamily residential water use were set to the number of accounts provided by retail agencies. Distinct housing unit data was available through the Center for Demographic Research at California State University, Fullerton (CDR) by retailer service area boundaries.

The number of single-family accounts recorded by retail agencies may be slightly greater than the number of single-family housing units reported by CDR due to auxiliary dwelling units (ADUs), other property-specific meter additions, and subtle differences in how the single-family class is defined (e.g., some agencies may include individually metered townhomes). Multifamily dwellings are generally billed collectively on a single meter, and the number of units per account is higher than for single-family accounts.

The total number of accounts are used as a driver for the residential sectors, and units per account is used as an explanatory variable providing a means of using CDR projections of residential households as a driver for residential sector forecasts. Both values are reported in **Table 2-4**.

Table 2-4: 2024 Estimated Residential Driver Units by Retailer

	Total SF Units	Total SF Accounts	SF Units/Account	Total MF	Total MF Accounts	MF Units/Account
Anaheim	46,323	52,743	0.88	69,041	4,311	16.02
Brea	9,979	11,091	0.90	8,855	210	42.18
Buena Park	14,885	16,865	0.88	11,142	696	16.01
East Orange CWD	1,141	1,174	0.97	96	26	3.69
El Toro WD	6,725	5,670	1.19	18,193	2,619	6.95
Fountain Valley	13,266	16,090	0.82	7,061	190	37.20
Fullerton	25,248	26,687	0.95	25,334	1,933	13.11
Garden Grove	28,148	30,114	0.93	22,611	1,795	12.60
GSWC Cowan	2,376	2,443	0.97	85	48	1.77
GSWC Placentia	9,497	11,886	0.80	7,023	1,222	5.75
GSWC West Orange	19,397	24,710	0.79	18,209	3,511	5.19
Huntington Beach	39,828	44,950	0.89	43,299	4,329	10.00
Irvine Ranch WD	72,377	71,228	1.02	105,949	40,636	2.61
La Habra	10,728	11,094	0.97	9,920	877	11.31
La Palma	Not Provided					
Laguna Beach CWD	7,076	7,093	1.00	3,583	1,125	3.19
Mesa WD	15,943	14,350	1.11	26,671	6,302	4.23
Moulton Niguel	33,583	47,418	0.71	35,269	2,017	17.48
Newport Beach	14,994	19,706	0.76	20,291	4,077	4.98
Orange City	26,112	23,452	1.11	22,480	6,091	3.69
San Clemente	12,664	12,478	1.01	9,419	3,706	2.54
San Juan Capistrano	6,684	6,802	0.98	6,079	3,148	1.93
Santa Ana	35,197	35,334	1.00	47,658	3,732	12.77
Santa Margarita WD	38,217	38,260	1.00	22,574	15,137	1.49
Seal Beach	4,666	4,438	1.05	10,011	569	17.58
Serrano WD	2,214	2,229	0.99	24	Not Provided	
South Coast WD	9,997	10,994	0.91	8,483	1,591	5.33
Trabuco Canyon WD	3,620	3,907	0.93	497	31	16.03
Tustin	10,252	12,035	0.85	12,329	849	14.52
Westminster	16,273	19,724	0.83	13,139	1,103	11.92
Yorba Linda WD	20,674	23,510	0.88	5,919	264	22.43

2.1.5 CII Jobs

Total employees, or jobs, within the CII sector are estimated from the U.S. Census Bureau Longitudinal Employer Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) dataset (U.S. Census Bureau, 2020). The most recent LODES data set provides total employment data from 2002 to 2022 at a census tract level based on job location. LODES also categorizes jobs by North American Industry Classification System (NAICS) sector, which is the standard used by federal statistical agencies.

Jobs were appropriately calculated for each agency's service area in two steps:

1) Geoprocessing jobs to water service area boundaries: Census tract-level jobs by industry are geo-processed to align with Orange County retail agency service area boundaries. During

geoprocessing, a scaling ratio is developed for each agency, for each census tract. The number of jobs within a census tract multiplied by an agency-specific scaling ratio equals the number of jobs for a given retail agency in that tract.

2) Verifying job numbers with CDR data: CDR provided employment data for city boundaries in Orange County from 2019 to 2025. The CDR jurisdictional forecasts are spatially aligned with Orange County water agency boundaries using the same technique applied to the LODES data, and the 2019 job numbers were compared with the LODES 2019 job numbers.

Comparison of the LODES data to the CDR data helped with the assignment of appropriate GIS census tracts and agency boundaries. The differences are shown in **Table 2-5**.

Table 2-5: 2019 LODES and CDR Jobs Comparison

Agency	Total 2019 Jobs (LODES)	Total 2019 Jobs (CDR)	CDR Projection Difference from LODES (CDR-LODES)/LODES
Anaheim	196,461	209,100	6.43%
Brea	43,818	45,716	4.33%
Buena Park	36,214	37,474	3.48%
East Orange CWD	493	354	-28.19%
El Toro WD	21,280	18,290	-14.05%
Fountain Valley	32,804	31,917	-2.70%
Fullerton	66,899	66,622	-0.41%
Garden Grove	53,476	60,948	13.97%
GSWC Cowan (assumes City of Orange service)	986	1,383	40.21%
GSWC Placentia	15,885	18,238	14.81%
GSWC West Orange	53,365	51,862	-2.82%
Huntington Beach	71,084	84,726	19.19%
Irvine Ranch WD	364,318	422,026	15.84%
La Habra	17,795	18,643	4.77%
La Palma	5,230	5,589	6.86%
Laguna Beach (includes Emerald Bay)	7,317	10,343	41.36%
Mesa Water	107,313	98,526	-8.19%
Moulton Niguel WD	60,584	70,203	15.87%
Newport Beach	51,627	48,769	-5.54%
Orange City	112,543	109,218	-2.95%
San Clemente	17,994	20,669	14.87%
San Juan Capistrano	15,058	16,990	12.83%
Santa Ana	161,955	164,884	1.81%
Santa Margarita WD	39,661	43,717	10.22%
Seal Beach	10,484	13,059	24.56%

Agency	Total 2019 Jobs (LODES)	Total 2019 Jobs (CDR)	CDR Projection Difference from LODES (CDR-LODES)/LODES
Serrano WD	1,521	2,288	50.43%
South Coast WD	13,305	14,936	12.26%
Trabuco Canyon WD	1,312	2,605	98.52%
Tustin	37,530	22,765	-39.34%
Westminster	30,892	28,153	-8.87%
Yorba Linda WD	24,139	25,866	7.15%

The differences in actual job numbers across the two data sources vary by agency. The actual jobs implemented in the forecast were based on conversations with each agency. For most retail agencies, the job growth rate predicted by CDR, rather than actual job numbers, is used. However, in cases where agencies indicated that CII demands differed from observed Fiscal Year 2024-2025 values, Hazen substituted the job source (CDR or LODES) that provided a forecast closer to observations.

2.2 Collection and Processing of Explanatory Variables

Explanatory variables are variables specified in a regression model to explain variability in water use, such as water rates, maximum monthly temperature, housing density, and other socioeconomic parameters. Explanatory variables used in the econometric demand model are identified based on adherence to three key characteristics:

1) Logical or understood connection to explaining changes in water consumption;
2) Historical records available for the historical modeling period; and
3) Availability of future projections consistent with the desired forecast horizon (2025-2050) or a reasonable means for assuming or deriving projected values.

Table 2-6 provides an overview of the collected explanatory variables for Orange County water agencies' demand models and their relevance to explaining changes in water consumption.

Table 2-6: Summary of Explanatory Variables

Explanatory Variable	Relevance to Water Consumption
Temperature	Higher than normal temperatures are associated with higher demands.
Precipitation	Higher than normal rainfall is associated with lower demands.
Price	Economic theory suggests a negative correlation with demand.
Economic Index	Water demand is positively correlated with real GDP, which is modeled as departure from the long-term trend.
Median Income	Economic theory suggests a positive correlation between income and demand; generally, areas with higher median incomes tend to use more water.

Explanatory Variable	Relevance to Water Consumption
Mix of industries	The representation of industries within a geographical area is related to the amount of water used within the CII sector.
Housing density	Housing density is negatively correlated with demand; on average, residences with more units per acre (or smaller parcel sizes relative to dwellings) tend to use less water for outdoor uses.
Persons per Household	Positively correlated with demand; generally, residences with more people tend to use larger amounts of water on average.
Households per account	Higher units per account are associated with higher average demands per account.
Conservation	Decreases the amount of water customers consume.
Drought Restrictions	The presence of drought restrictions on water use tends to decrease the amount of water consumed by customers.
COVID Pandemic	The presence of COVID restrictions tends to increase the amount of water consumed by residential customers and decrease the amount used in the CII sector.

The following sections document the raw data sources and the processing involved to derive each explanatory variable.

2.1.6 Historical Weather Data

Based on Hazen's modeling experience, total monthly precipitation and maximum monthly temperature will have the greatest impact on demand. These weather characteristics best define demand when calculated for each retail service area boundary, which accounts for microclimates driven by elevation gradients and proximity to large water bodies. The Northwest Alliance for Computational Science and Engineering at Oregon State University produces the PRISM (PRISM Climate Group 2004) weather dataset from a wide monitoring network, including the California Data Exchange Center (CDEC) and the California Irrigation Management Information System (CIMIS) gages. PRISM provides gridded weather data at a 4-kilometer resolution, and Python scripts were then used to process the total monthly precipitation (inches per month) and monthly average maximum daily temperature (degrees Fahrenheit) for each member agency's service area based on the coordinates of agency centroids.

Weather data are normalized to average conditions to disconnect weather variations from systematic seasonal cycles. Historical normal weather values were calculated for each member agency as the average monthly values over the period 1991 to 2024. Departures from the historical normal were then calculated as the actual monthly value minus the monthly historical norm in the natural log-scale, as shown in **Equation 2-6**.

$$Departure = \ln X_{i,m,t} - \overline{\ln X_{i,m}} \qquad \textbf{Equation 2-6}$$

Where $X_{i,m,t}$ is an observed weather value for agency i in month m for year t and $X_{i,m}$ is the historical normal value for agency i in month m. A positive departure indicates above-normal conditions, and a negative value indicates below-normal conditions.

2.1.7 Water Price

Agencies provided historical water prices (in dollars per volumetric unit), which Hazen used to measure the effects of pricing on water usage. Three types of price structures were present across the agencies:

- Uniform volumetric prices which are constant across demand sectors or equivalent for all demand sectors, which do not vary by amount of water purchased;
- Volumetric tier prices, which vary by amount of water purchased by demand sector or are equivalent for all demand sectors; or
- Water-balance based (also called budget-based) prices in which prices for single and multifamily demand sectors are based on specific indoor use thresholds and outdoor irrigation characteristics.

Several agencies changed price structures over time; however, volumetric prices used in modeling reflect the marginal (or incremental) portion of the water rate that can be avoided by reducing consumption, consistent with economic theory. Any changes to price structure are incorporated in the marginal rate. The marginal price of water used in the demand model is defined as the cost of the 10th hundred cubic foot (CCF) for the single-family residential sector, and the cost of the 20th CCF for the multifamily residential, irrigation, and CII sectors.

Prior to modeling, all marginal prices were converted into real, inflation-adjusted, 2022 dollars using the Bureau of Labor Statistics, Consumer Price Index – All Urban Consumers for the Urban West (Series ID: CUUR0400SA0, CUUS0400SA0).-

2.1.8 Economic Indices

Water demand is positively correlated with economic fluctuations of the business cycle. Periods of economic growth generally see increased water use. Annual Real Gross Domestic Product (GDP) is used to reflect general economic trends. GDP for all industries in Orange County, CA, was downloaded from the Federal Reserve Bank of St. Louis Economic Research Division (FRED Economic Data). The trend in the time series of the GDP index was removed during model development to better identify short-term fluctuations in economic activity. Departure from the trend **(Figure 2-4**) was calculated by running a regression on the natural log of GDP on a linear time counter (each subsequent year means the time counter is increased by 1) and the residual is used as the explanatory variable. This is standard econometric practice for addressing common statistical problems with trending variables and allows for a more flexible interpretation of forecast scenarios.

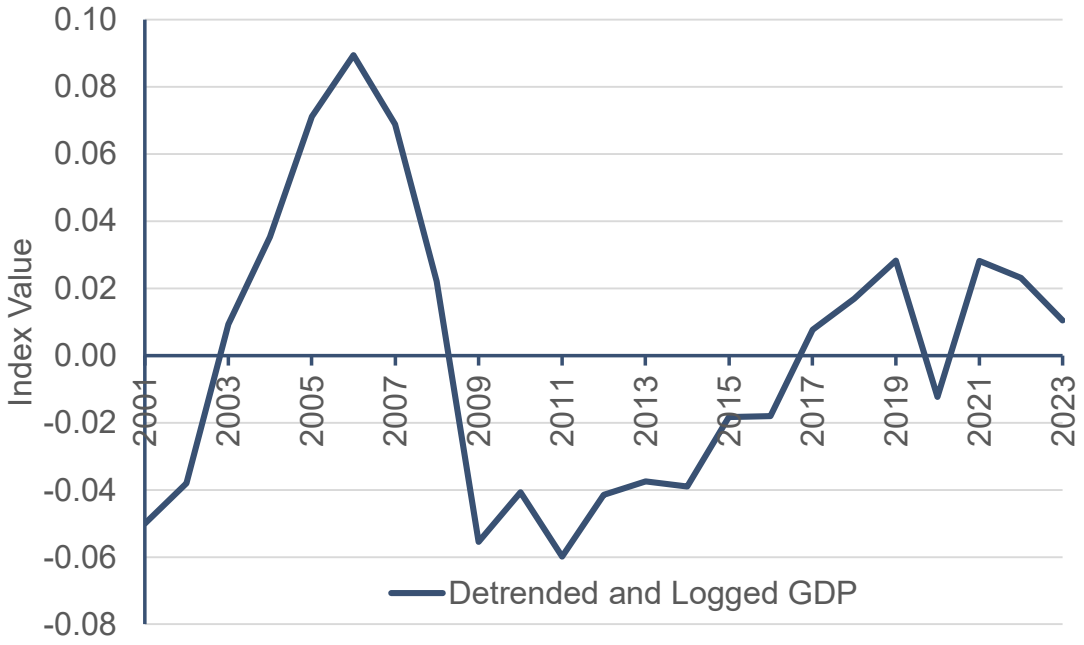


Figure 2-4: GDP Departure from Trend

The detrended GDP series shows the timing and magnitude of economic expansion prior to the effects of the Great Recession (after 2008) and COVID (in 2020) on macroeconomic output, while highlighting periods of positive and negative economic growth relative to the long-term trend.

2.1.9 Median Household Income

Median household income was identified as a potential explanatory variable for the residential sectors. Economic theory suggests a positive correlation between income and demand; generally, areas with higher median incomes tend to use more water. Median income was estimated from the US Census American Community Survey (ACS) data as the median value of all census tracts within each retailer's service area boundary. Median income was adjusted for inflation by normalizing to 2022-dollar values and held constant over time for each retailer (**Table 2-7**) because future changes in income are unknown and will likely change slowly.

Table 2-7: 2024 Median Income by Retailer (2022 $)

Agency	Income
Anaheim	$102,629
Brea	$119,135
Buena Park	$106,284
East Orange CWD	$192,611
El Toro WD	$118,718
Fountain Valley	$113,579
Fullerton	$104,061
Garden Grove	$91,554
GSWC Cowan	$191,042
GSWC Placentia	$191,042
GSWC West Orange	$191,042
Huntington Beach	$124,294
Irvine Ranch WD	$142,613
La Habra	$105,816
La Palma	$116,923
Laguna Beach CWD	$145,655
Mesa WD	$120,134
Moulton Niguel	$137,457
Newport Beach	$169,322
Orange City	$130,669
San Clemente	$131,079
San Juan Capistrano	$144,210
Santa Ana	$92,739
Santa Margarita WD	$153,652
Seal Beach	$127,699
Serrano WD	$164,156
South Coast WD	$134,980
Trabuco Canyon WD	$175,218
Tustin	$122,041
Westminster	$92,741
Yorba Linda WD	$144,687

2.1.10 Mix of Industries

Additional explanatory variables were developed to reflect the mix of CII activity within each member agency's service area. The presentation of the model drivers covers the LODES employment data and the geoprocessing used to generate the number and category of jobs for each retail agency. Historical employment data supplied by LODES was categorized by the North American Industry Classification System (NAICS) of the US Census Bureau. The LODES NAICS sectors were aggregated into four employment categories previously defined by CDR in other employment-related datasets: Retail, Public School K-12, Service, and Other **(Table 2-8**).

Table 2-8: NAICS Sector Jobs by Model Sector

CDR Sector	LODES NAICS sector
Retail	- Retail Trade
K-12 Public School	- No exact LODES NAICS match for this CDR sector. The NAICS sector *Educational Services* was incorporated both into services and included as a separate explanatory variable to determine its relative importance to CII demand.
Service	- Information - Real Estate and Rental and Leasing - Professional, Scientific and Technical Services - Management of Companies and Enterprises - Administrative and Support and Waste Management and Remediation Services - Health Care and Social Assistance - Arts, Entertainment, and Recreation - Accommodation and Food Services - Educational Services
Other	- Agriculture, Forestry, Fishing and Hunting - Mining - Utilities - Construction - Manufacturing - Wholesale Trade - Transportation and Warehousing - Public Administration

The log of the percentage of each of these four sectors relative to total jobs was used as an explanatory variable to linearize the data and improve its suitability for modeling. For example, for the Retail sector in **Equation 2-7**.

$$Retail = log\left(1 + \left(100 \times \frac{Jobs\ in\ the\ CDR\ Service\ Classification}{Total\ Jobs}\right)\right) \quad \textbf{Equation 2-7}$$

The CDR grouping Other was not included as an explanatory variable representing a reference point captured within the CII model intercept terms.

2.1.11 Housing Density

Housing density is negatively correlated with demand; on average, residences with more units per acre (or smaller parcel sizes) tend to use less water for outdoor uses. Housing density is calculated as the CDR provided housing units for each retail agency divided by the total single-family and multifamily parcel area, respectively. The total parcel area for each agency was determined based on processed GIS records from the Southern California Association of Governments (SCAG) and verified with ESRI's Regrid Nationwide Parcel Boundaries for the United States. **Table 2-9** shows the total parcel area for each agency.

Table 2-9: 2024 Total Residential Acreage

Agency	Single-family Residential Acreage	Multifamily Residential Acreage
Anaheim	9,977.09	4,912.70
Brea	1,811.03	482.29
Buena Park	2,466.53	476.03
East Orange	473.04	17.42
El Toro	1,088.96	1,753.94
Fountain Valley	2,337.74	205.75
Fullerton	6,162.68	1,148.85
Garden Grove	5,099.65	965.29
Gold Cowan	1,528.76	7.22
Gold Placentia	1,843.66	346.31
Gold West Orange	3,148.31	826.74
Huntington Beach	6,451.57	1,823.83
IRWD	19,932.92	6,120.52
La Habra	2,053.92	526.46
La Palma	454.42	42.67
Laguna Beach	1,448.16	384.09
Mesa Water	2,436.95	1,338.02
Moulton Niguel	9,375.38	2,232.31
Newport Beach	2,962.92	814.65
Orange City	5,841.42	1,165.48
San Clemente	4,091.96	722.78
San Juan Capistrano	4,087.79	545.10
Santa Ana	5,336.01	2,189.99
Santa Margarita	14,333.86	1,608.48
Seal Beach	542.81	513.34
Serrano	1,050.94	0.46
South Coast	2,088.12	584.61
Trabuco Canyon	1,754.56	30.76
Tustin	2,547.23	690.39
Westminster	2,541.25	680.32
Yorba Linda	6,556.85	508.99

Figure 2-5 shows the household density (households per acre) for each agency. (Serrano WD has no multifamily housing and the households per acre is abnormally high and is not shown.)

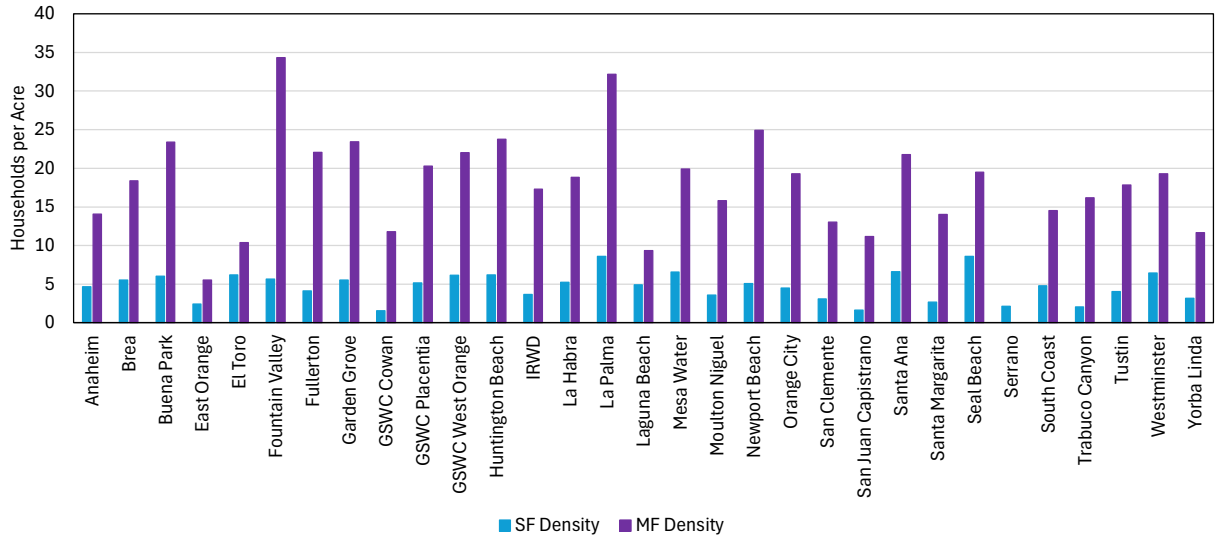


Figure 2-5: 2024 Household Density (average households per acre)

Multifamily density can be as much as an order of magnitude (i.e., ten times) higher than single-family density.

2.1.12 Persons per Household

Generally, households with more people tend to use larger amounts of water i.e. “persons per household” is an explanatory variable that is positively correlated with demand. The American Community Survey (ACS) is census-based data that provides information on housing units, total household population, and a breakdown of single-family and multifamily populations. ACS datasets are available at the census tract level. To derive ACS data specific to Orange County water agency boundaries, a geoprocessing approach was implemented to match census tract boundaries with MWDOC’s service area boundaries, as was done for employment data. Using the single-family and multifamily population split, an estimate of persons per household (PPH) for both single-family and multifamily housing was developed based on water agency boundaries

Hazen used ACS data because it calculates population in each single-family and multifamily household categories. CDR provides total population. To ensure consistency with the CDR provided housing unit and population data, the ACS-derived single-family and multifamily PPH estimates were calibrated to align with the CDR’s single-family and multifamily housing unit data.

The persons per household ratio was calculated separately for single-family and multifamily residences as shown in **Figure 2-6**.

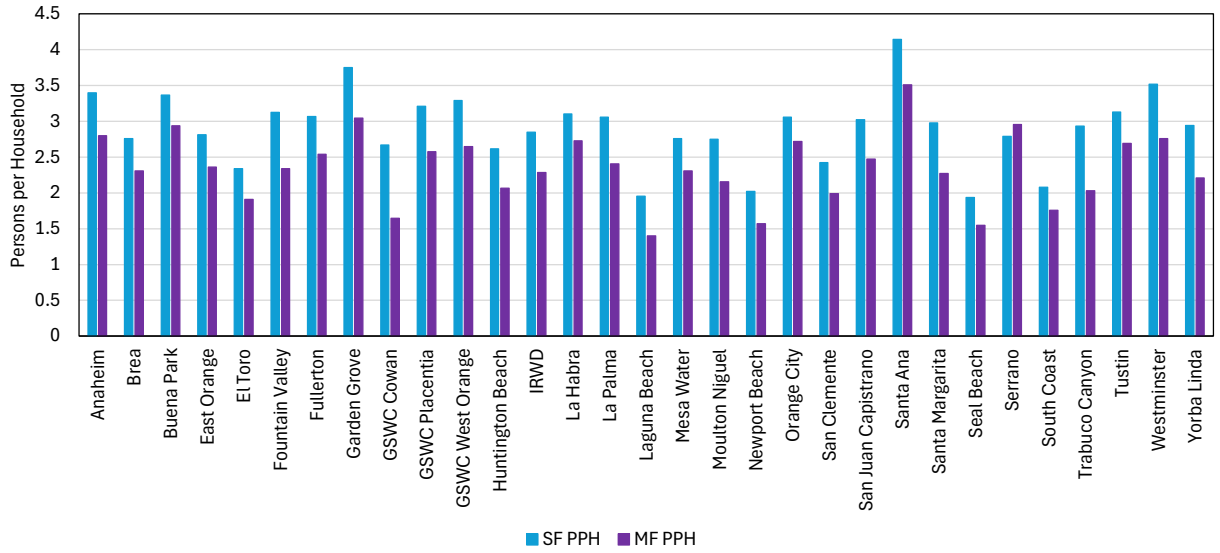


Figure 2-6: 2024 Estimated Persons per Household

In general, single-family homes have more residents per household.

2.1.13 Households Per Account

The number of households is not always equal to the number of accounts. Higher units per account is associated with higher demands. Average annual units per account for each residential class was used to (a) account for differences in the number of units per account in the historical modeling and (b) to permit the translation of CDR projections of households to be translated into accounts for forecasting purposes.

2.1.14 Conservation

The MWDOC Water Use Efficiency Group (WUE) provided annual savings achieved by various active conservation measures (represented by rebate program participation from the start of that specific program to present) for each MWDOC member agency and the adjacent cities of Anaheim, Fullerton, and Santa Ana. The sum of residential and commercial programs yields the total active annual conservation for each retail agency. Many of these programs were not specified as residential versus CII and were difficult to label as either passive conservation (water savings that occur without incentives) or active conservation practices.

To avoid additional calculations and potential errors in the classification of historical conservation data, total historical conservation was depicted in each sectoral model as a linear increasing trend. The coefficient derived for this trend in the regression explains whether agency water use that could not be explained by the other explanatory variables tended to increase or decrease with time; decreases over time were attributed to conservation, independent of the effects of price.

2.1.15 Drought Restrictions

The presence of drought restrictions tends to decrease the amount of water consumed by customers. Water use restrictions were represented by the presence of Statewide drought declarations or mandatory restrictions (both assigned a binary value of 0 or 1, meaning either the restriction is in place or it is not), and the state-required cutback (as a decimal from 0 to 1 corresponding to the restriction percentage) if a restriction was in place. The time series of historical water restrictions is shown in **Figure 2-7**.

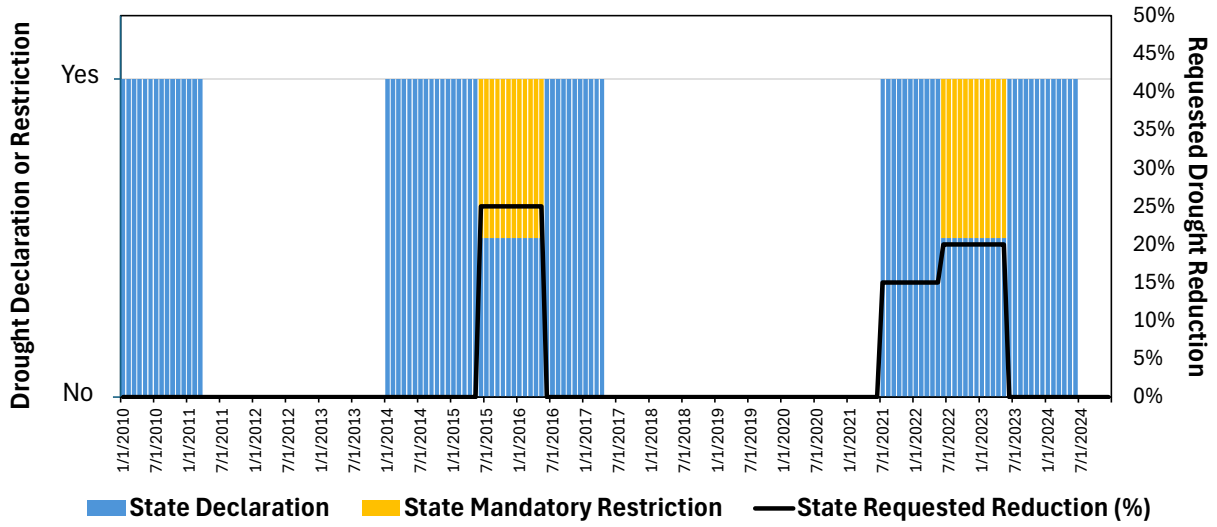


Figure 2-7: Time Series of Historical Water Restrictions Imposed by the State

Retail agencies also provided their agency-specific drought stages, which were categorized as level 1, level 2, or level 3 and greater. During the model fitting process, Hazen determined that while the State Declarations resolved water use for the single-family, multifamily, and CII sectors, the agency-specific drought stages (which did not always coincide with the State binary or percentage requests) yielded a better fit across the irrigation sector models.

2.1.16 COVID

COVID is introduced as a binary variable for March 2020 through May 2023, the period in which the World Health Organization designated COVID-19 a pandemic. The presence of COVID restrictions tended to increase the amount of water consumed by residential customers and decreased the amount used in the CII sector.

3. Model Approach and Development

The development of historical econometric models provides a significant analytical benefit for forecasting demand, as Historical models enable the capture of cause-and-effect relationships among weather, prices, socioeconomic factors, and other factors that drive water demand variability. Quantifying these causal relationships enables forensically sound analysis of "what-if" scenarios that are uncertain but important for planning considerations (for example, climate change, development patterns, and drought recovery).

3.1 Modeling Approach

The econometric demand model relies on the comprehensive set of historical water use data discussed in **Section 2** to develop a set of equations that equates total water use to the rate of water use per driver multiplied by the specific sectoral driver (**Equation 3-1**). Each of the four demand sectors modeled (single-family, multifamily, CII, and irrigation) has a separate equation.

$$\underset{Q}{Water\ use} = \underset{N}{Driver\ Count} \times \underset{q}{Rate\ of\ Use\ per\ Driver} \qquad \textbf{Equation 3-1}$$

Driver units for a particular demand sector (e.g., household water accounts or employment) will change in the future. The rate of water use per driver (e.g. gallon/account/day) is based on the historical response of the water use rate to the explanatory variables (independent variables in the econometric equations) and on the future values of those explanatory variables.

Linear regression produces the coefficients for each explanatory variable to closely reproduce the historical rate of use per driver unit. **Equation 3-2** shows an example linear regression for single-family water use, where water rates and temperatures are examples, and represent only a subset of possible explanatory variables. C_R and C_T represent the water rate coefficient and temperature coefficient, respectively.

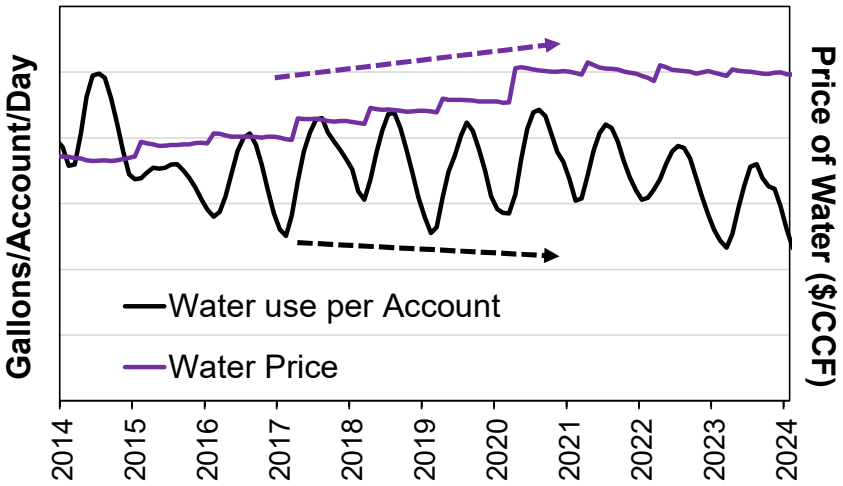
$$Rate\ of\ Use\ per\ Driver = \frac{Historical\ Single\ Family\ Use}{Single\ Family\ Account} = C_{Intercept} + C_R \times Historical\ Water\ Rates + C_T \times Historical\ Temperatures + \ldots \qquad \textbf{Equation 3-2}$$

Panel fixed effects ordinary least squares (OLS) regression is used to estimate the coefficients that relate multiple independent explanatory variables (such as weather and water price) to the dependent variable (water user per account) by minimizing the sum of the squares in the difference between observed and predicted values of the water use rate. OLS regression can be coded to incorporate:

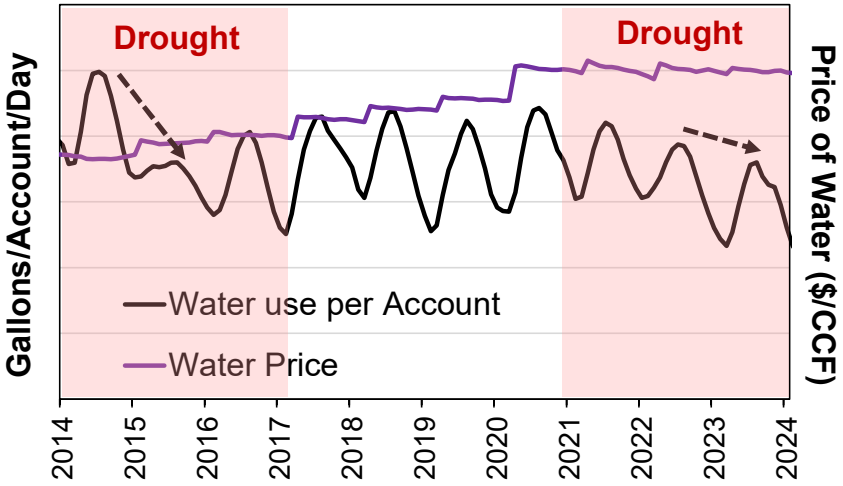
- A systematic and predictable relationship between the explanatory variable and use per account;
- Agency-specific coefficients (the effect of seasonal trends might differ between agencies); and
- Potential interdependence, or interactions, between fixed effects (for example, the dependence of water use on price may differ depending on the season).

The derivation of appropriate coefficient values (both sign and magnitude) through regression requires sound judgment of demand behavior and the inclusion of numerous explanatory variables to address multiple influences on demand. **Figure 3-1** illustrates that excluding key explanatory variables from the regression, which account for reasons not associated with responses to price (such as mandatory state restrictions or local conservation), could incorrectly attribute changes in demand to the volumetric price of water (i.e., incorrectly magnifying the effect price has on demand).

Long term decrease in water use and increase in water price: we expect water use to be negatively correlated to price



Assigning a coefficient to water price without accounting for drought restrictions would generate a price coefficient that is too negative



Assigning a coefficient to water price without accounting for COVID could bias the price coefficient

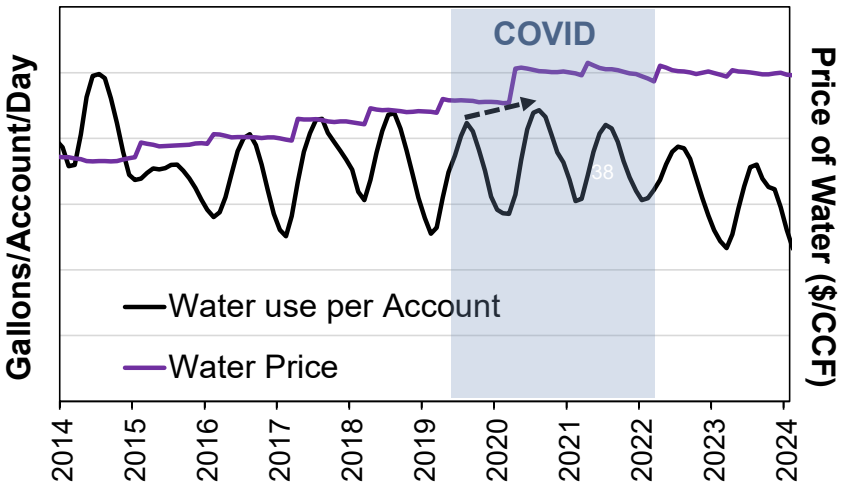


Figure 3-1: Improving Coefficient Accuracy by Addressing Multiple Demand Factors

There are additional expectations for model coefficients affiliated with the explanatory variables that helped in model development. Estimated coefficients needed to be rational (both in signs and magnitudes), aligning with Hazen's experience and yielding as high of an explanatory power as practically possible. Orange County water use varies widely by geography (agency) and time. A panel regression modeling approach is best suited to explicitly account for variables that have historically varied highly across geography but not time (for example, median income, persons per household, and housing density). The panel approach enhances forecast accuracy for each agency by simultaneously fitting consumption data from all member agencies. The larger sample size enables more robust fits for agencies with data gaps. All agencies still receive their own unique statistical equations and outputs, although some coefficients may apply to all (or be the same across) agencies. Because consumption data was not consistently available back to 2010 for all member agencies, the dataset represents what is called an "unbalanced panel" (not all retail agencies have the same number of observations for the same time periods), requiring these special techniques to account for missing information and potential cross-sectional biases.

3.2 Model Development

The development of econometric models is an iterative process as outlined in **Section 3.2.1.** Model fitting results in a set of explanatory variables used to forecast water use. In **Section 3.3**, model fits and performance are organized by water-use sector.

3.2.1 Model Fitting

Table 3-1 outlines the model fitting process.

Table 3-1: Iterative Process for Developing Econometric Models

Model Fitting Procedure	Description
Pre-process model input data	Conduct necessary pre-processing calculations prior to model fitting: • Geographical processing of driver units. • Calculate per-unit use. • Calculate natural logarithms of per-unit use and appropriate explanatory variables. • Calculate departures from normal conditions for appropriate explanatory variables (i.e., economic trend and weather). • Calculate any index, "dummy", or interacted parameters (e.g., seasonal cycle, geography, drought severity). • Smooth monthly and bimonthly data to adjust for irregular billing cycles.
Fit regression models for each sector	Use statistical estimation software (e.g., R, SAS, EViews) to fit linear regression equations to per unit use with the initially selected explanatory variables.
Examine coefficient estimates and measure of fit	Check measures of fit (such as R^2) and coefficient values for reasonable magnitude, direction/sign, and significance.

Model Fitting Procedure	Description
Refine the model to improve measures of fit and coefficient estimates	If the model fit is poor or if coefficient estimates are illogical or insignificant, several actions can be taken, including but not limited to: • Identifying and removing outlier data points that have significant leverage on coefficient estimates. • Remove explanatory variables with insignificant or illogical coefficient estimates from the regression equation. • Testing alternate specifications of explanatory variables.
Check models for cross-sector consistency	Model fits and explanatory variables are compared across sectors to judge estimates relative to prior expectations, for example, testing if the relative effects of price and socioeconomic variables vary by sector in a logical way based on past experience.

The models are fit to historical data using a combination of data management and statistical analysis software (R, SAS, or EViews). The model estimation results were checked to ensure strong measures of fit (e.g., R^2) and that coefficients were significant and reasonable. Goodness of fit is a holistic exercise requiring judgement based on two classifications of indicators:

1) Overall summary statistics used to evaluate relative model performance: these may include R^2, Measures of average error (mean absolute error, standardized error metrics such as SAME and RMSE), and measures of bias; and

2) Visual inspection applied to plots of historical data provides an indication of the model's ability to represent long-term trends, perform as expected during periods of interest (for example, COVID and State water use restrictions), allows the modeler to evaluate the presence of systematic biases and assess the variance in the underlying data.

Section 3.3 summarizes the statistical model fits and their performance in comparison to historical observations of water consumption.

3.2.2 Summary of Explanatory Variables

The initial selection of explanatory variables is discussed in detail in Section 2. However, during the model fitting process, derivatives of initially selected variables were also developed and included in model equations. For example, an agency's monthly water use may also be influenced by the precipitation, or temperature, in the prior month. In some cases, time lags of 1 to 3 months in weather variables improved the estimation of weather impacts on demand.

Table 3-2 details the explanatory variables used to develop the demand models and identifies the expected sign and magnitude of the coefficient estimates resulting from the linear regression. The coefficient sign represents whether an explanatory variable will have a negative or positive impact on demand, for example, water use will decrease as price increases and the price coefficient should be negative. The coefficient magnitude illustrates the importance of the explanatory variable relative to all others. For example, a persons per household coefficient of 0.3 indicates that persons per household has a lesser influence on demand than a coefficient of -0.5 assigned to density.

Table 3-2: Description of Demand Model Explanatory Variables

Explanatory Variable	Log Transformed?	Expectations about Coefficient Estimates	Description
Departure from normal monthly maximum temperature (lagged values of temperature were also evaluated and included as explanatory variables as the influence of weather on water demand can persist for several months.)	Yes	Positive Sign	Represents the difference from long-term temperature. Higher than normal temperatures are associated with increased demands.
Departure from normal monthly precipitation (lagged values precipitation were also evaluated and included as explanatory variables as the influence of weather on water demand can persist for several months.)	Yes	Negative sign	Represents the difference from long-term precipitation. Higher than normal rainfall is associated with lower demands.
Seasonal index	No	Larger magnitudes for agencies with greater seasonal peaking	Reflects the cyclical pattern in water use, where demands are generally higher in the summer and lower in the winter. Represented in the model as a sine / cosine pair of variables. (Most sectors have a single sine/cosine pair representing the seasonal cycle).
Price	Yes	Negative sign with absolute value between 0 and 1	Economic theory suggests negative correlation with demand.
GDP	Yes	Positive Sign	Water demand is positively correlated with economic fluctuations of the business cycle. The index is modeled as departures from long-term trends.
Mix of jobs across industries	Yes	N/A	The representation of jobs in many industries within a geographical area is related to the amount of water used within the CII sector. There is generally no expectations on the range of coefficient estimates.
Housing density	Yes	Negative sign (commonly between 0 and -1)	Housing density is negatively correlated with demand; on average, residences with more units per acre (or smaller parcel sizes) tend to use less water on outdoor uses.

Explanatory Variable	Log Transformed?	Expectations about Coefficient Estimates	Description
Median income	Yes	Positive sign (commonly between 0 and 1)	Economic theory suggests positive correlation of income with demand; generally geographical areas with higher median incomes tend to use more water.
Persons per household	Yes	Positive sign (commonly between 0 and 1)	Positively correlated with demand; generally, residences with more people tend to use larger amounts of water
Water Use Restrictions	No	Negative sign	Reflects the effect of drought restrictions

Most explanatory variables are log-transformed because some variables are orders of magnitude larger than others (for example, income is in the tens of thousands of dollars while monthly precipitation may be smaller than 1 inch). Log transformation compresses the large values and spreads out smaller ones, balancing the data and facilitating the regression's ability to interpret how each variable affects demand.

3.3 Single-family Regression Development

This section reviews the development of the statistical regression for the single-family residential sector.

3.3.1 Explanatory Variables and Fitted Coefficients

The fit for the final single-family regression is presented in **Table 3-3**. While all coefficients are generated with the panel regression approach, Hazen relied on experience and the model fitting process to allows some coefficients to vary by agency (shown as a range of values) and restricted some to be constant across all agencies (and a single value is shown in Table 3-3). Coefficient estimates are within the expected range for all explanatory variables).

Table 3-3: Single-family Regression Variables and Coefficients

Explanatory Variable	General Directional Influence	Model Coefficient Range
Persons per Household	+	0.32
Single-family Units per Account	+	0.52
Housing Density	-	-0.52
Average Agency Income	+	0.09
Marginal Price (per 10 CCF)	-	-0.12
Departure from normal monthly maximum temperature	+	0 to 0.93
Departure from normal monthly maximum temperature (lagged 1 month)	+	0 to 0.95
Departure from normal monthly precipitation	-	0 to -0.031
Departure from normal monthly precipitation (lagged 1 month)	-	0 to -0.05
Departure from normal monthly precipitation (lagged 2 months)	-	0 to -0.023
Departure from normal monthly precipitation (lagged 3 months)	-	0 to -0.0139
Residual Trend	-	-0.0027 to 0.0003
COVID Indicator	+	0.02 to 0.15
State Requested Percent Restriction	-	0 to -0.81
State Drought Declaration	-	-0.08 to 0.01

Variables with an increasing effect on water demands included temperature, economic index, median income, and persons per household. Variables with a negative effect on water demands included precipitation, price, housing density, and water-use restrictions. Consumption is highly seasonal in the Orange County region, and the econometric model correlates well to seasonality and temperature. The single-family sector model produced the best fit among the four demand sectors.

3.3.2 Historical Model Performance

Visual inspection of the time series plots and review of the model fit parameters showed good performance across all agencies. **Figure 3-2** shows an example model fit for a single retail agency in the single-family sector in gallons per account per day. The model accounts for all dips in demand.

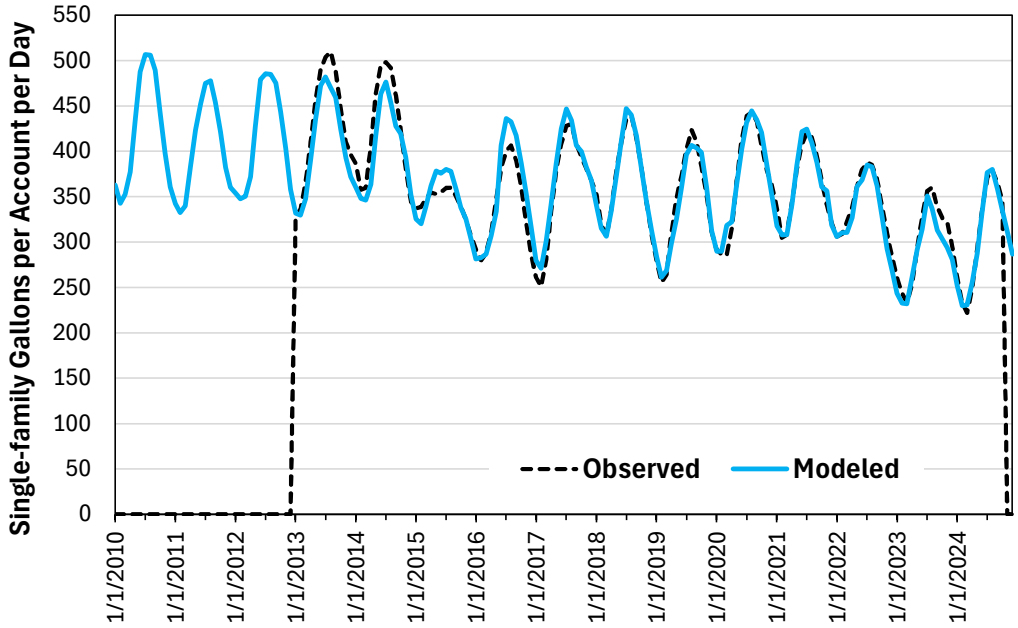


Figure 3-2: Modeled vs Historical Water Use per Account for Single-Family for One Agency

The R^2 values for all retail agencies are all above 80%, which indicates that the explanatory variables used in the model as well as their multipliers (model coefficients) explain 80% or more of the historical variability in the single-family use per account measurements.

3.4 Multifamily Regression Development

This section reviews the development of the statistical regression model for the multifamily residential sector.

3.4.1 Explanatory Variables and Fitted Coefficients

Most explanatory variables for the multifamily sector are the same as for the single-family sector. Median income and a 2-month lagged departure from precipitation were dropped. These modifications to the model design resulted in stronger measures of fit and more reasonable coefficient estimates. Final coefficient estimates presented in **Table 3-4** are within the expected range for all explanatory variables

Table 3-4: Multifamily Regression Variables and Coefficients

Explanatory Variable	General Directional Influence	Model Coefficient Range
PPH	+	0.5 (restricted)*
Housing Density	-	-0.33
MF Units per Account	+	0.79
Marginal Price (per 20 CCF)	-	-0.035
Departure from normal monthly maximum temperature	+	0 to 1.07
Departure from normal monthly maximum temperature (lagged 1 month)	+	0 to 1.46
Departure from normal monthly precipitation	-	0 to -0.04
Departure from normal monthly precipitation (lagged 1 month)	-	0 to -0.06
Residual Trend	-	-0.007 to 0.0017
COVID Indicator	+	-0.05 to 0.14
State Requested Percent Restriction	-	-0.8 to 0.32
State Drought Declaration	-	-0.16 to -0.04
*The persons per household coefficient was set to 0.5, which was lower than the initial econometric estimate (which was >1). This change avoided instabilities, with little effect on the other coefficient estimates.		

The multifamily use per account is less influenced by water price than single-family (lower coefficient).

3.4.2 Historical Model Performance

Visual inspection of the time series plots and review of the model fit parameters showed good model performance, with most fits exceeding an R^2 of 80%. **Figure 3-3 s**hows the performance of the multifamily regression for an example agency.

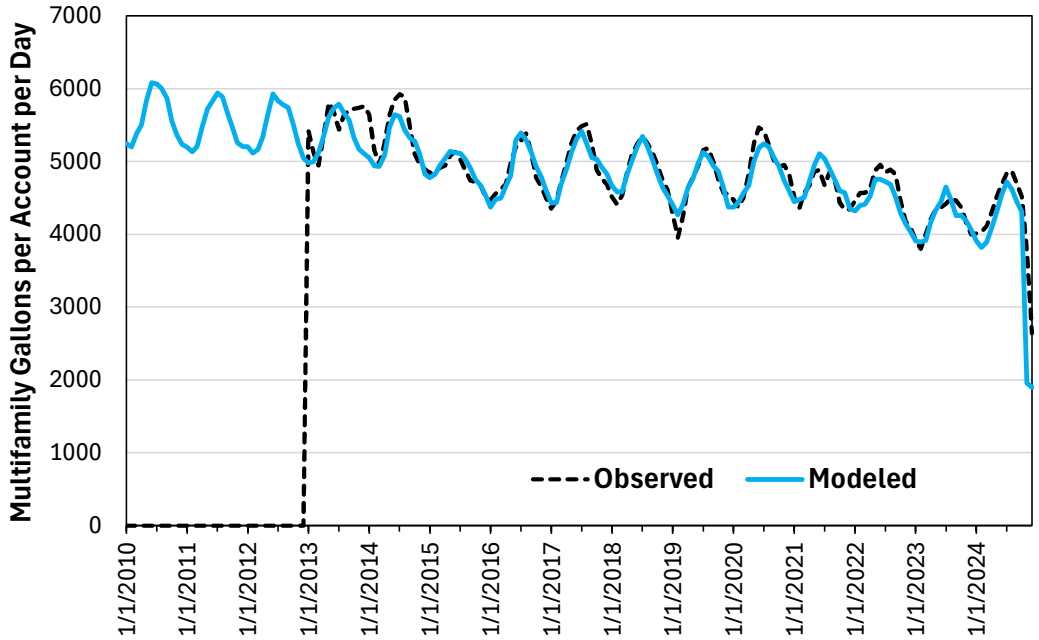


Figure 3-3: Modeled vs Historical Water Use per Account for Multifamily for an Agency

Multifamily use is generally less responsive to weather than the single-family demands; some of the outdoor use has been shifted over into the irrigation sector, and the reported multifamily use is primarily indoor.

3.5 CII Regression Development

Different billing classification schemes among retail agencies introduced definitional uncertainty in sectoral water use and driver units. For example, certain agencies lacked a distinct industrial billing classification while others combined commercial and institutional categories. Additional verification of water use at the account level was not possible, given the data constraints for this project. In response to these constraints and uncertainties, total use within the commercial, industrial, and institutional sectors was consolidated into a single composite CII regression. The benefit of combining these classifications is a more "parsimonious representation" (i.e., a simpler, clearer approach) with one sector, while providing a means to use the mix of industries to explain CII water-use variability across retail agencies.

3.5.1 Explanatory Variables and Fitted Coefficients

Explanatory variables for the final CII regression equation, along with their coefficients, are reported in **Table 3-5**.

Table 3-5: CII Regression Variables and Coefficients

Explanatory Variable	General Directional Influence	Model Coefficient Range
Proportion of Total Jobs in Retail	+	0.42
Proportion of Total Jobs in Education	+	0.287
Proportion of Total Jobs in Services	+	0.294
GDP	+	0.81
Marginal price (per 20 CCF)	-	-0.114
Departure from normal monthly maximum temperature	+	0 to 1.63
Departure from normal monthly maximum temperature (lagged 1 month)	+	0 to 0.7
Departure from normal monthly precipitation	-	0 to -0.50
Departure from normal monthly precipitation (lagged 1 month)	-	0 to -0.06
Departure from normal monthly precipitation (lagged 2 month)	-	0 to -0.034
Residual Trend	-	-0.01 to 0.01
State Requested Percent Restriction	-	-0.24 to 0.17

The coefficients for CII indicate the job proportion used: total services portion, total education portion, and total retail portion. CII use per job is positively correlated with each job proportion as well as gross domestic product throughout Orange County.

3.5.2 Historical Model Performance

Visual inspection and performance metrics showed good model performance, including the same seasonal cycle and quantities. Like other classes, most fits exceed an R^2 of 80%. **Figure 3-4** shows the model performance for an example agency.

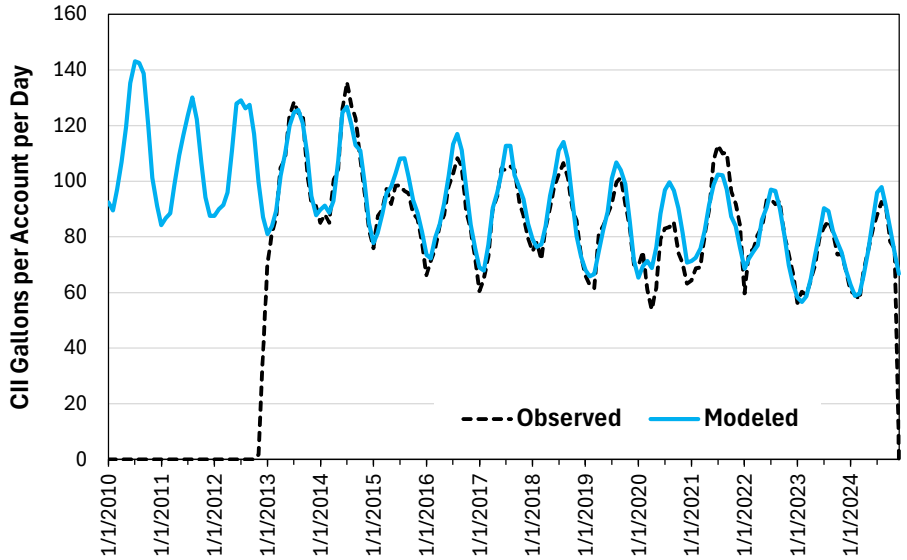


Figure 3-4: Modeled vs Historical Water Use per Account for CII Use for an Agency

3.6 Irrigation Regression Development

This section reviews the development of the statistical regression model for the irrigation sector. Both potable and recycled irrigation water demands were included in the analysis.

3.6.1 Explanatory Variables and Fitted Coefficients

Explanatory variables for the final Irrigation regression equation, along with their coefficients, are reported in **Table 3-6**.

Table 3-6: Irrigation Regression Variables and Coefficients

Explanatory Variable	General Directional Influence	Model Coefficient Range
Marginal Price (per 20 CCF)	-	-0.14
Normal monthly maximum temperature	+	0 to 2.58
Normal monthly maximum temperature (lagged 1 month)	+	0 to 2.34
Normal monthly precipitation	-	0 to -0.13
Normal monthly precipitation (lagged 1 month)	-	0 to -0.11
Normal monthly precipitation (lagged 2 month)	-	0 to -0.068
Agency Stage 1	-	-0.46
Agency Stage 2	-	-0.13
Agency Stage 3	-	-0.37
COVID		-0.18 to 0.26

During the model fitting process, historical precipitation values were found to generate a better fit than departures from normal weather precipitation. Additionally, irrigation use is better defined by agency-declared stages than by State declarations. Irrigation is much more responsive to temperature and precipitation than the other sectors, as expected.

3.6.2 Historical Model Performance

Visual inspection and performance metrics showed good model performance, matching the seasonal cycles and quantities with high overall accuracy. **Figure 3-5** shows the model performance for an example agency.

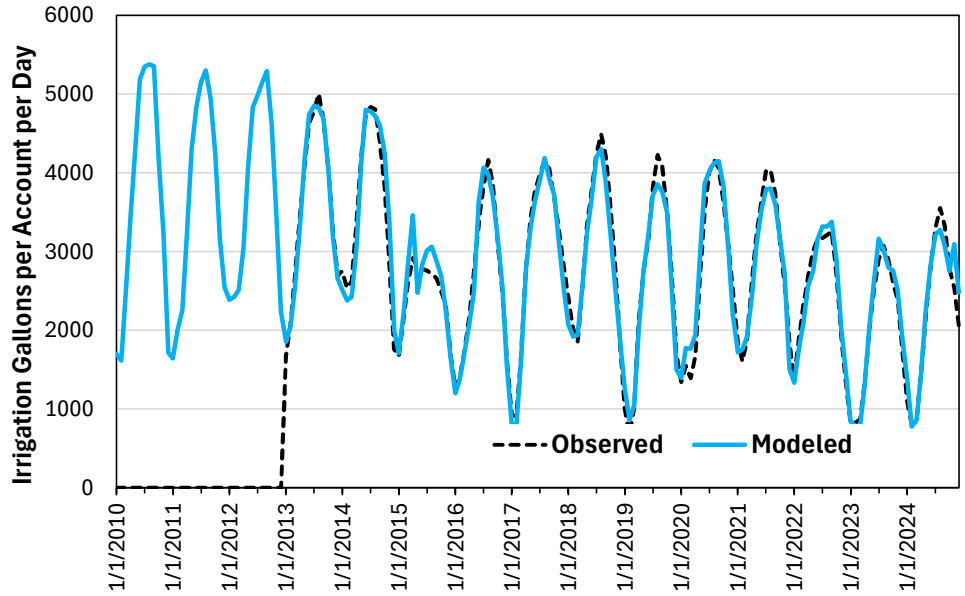


Figure 3-5: Modeled vs Historical Water Use per Account for Irrigation for an Agency

3.7 Price Elasticity

The sensitivity of the quantity of water demand to a change in its price is known as the price elasticity. The sector-specific results showed average price elasticities across the year, but the demand models allow the elasticity to vary by time of year. As water use becomes more discretionary in the summer, the estimated price elasticity (the response to price changes) tends to increase. Comparison of the four elasticity values in **Figure 3-6** reveals that multifamily demand is the least price-responsive (i.e., the least elastic of the demand sectors). The other sectors show a blend in terms of when the price signal starts mattering more. For single-family use, price changes have a large impact in late spring and early summer. Prices for CII and irrigation have the biggest impact in the summer (irrigation price elasticity approaches a coefficient of -0.25, which means that a 1% increase in the volumetric price of water leads to a 0.25% decrease in water use per account). The average regional response to price varies for a given sector over the calendar year.

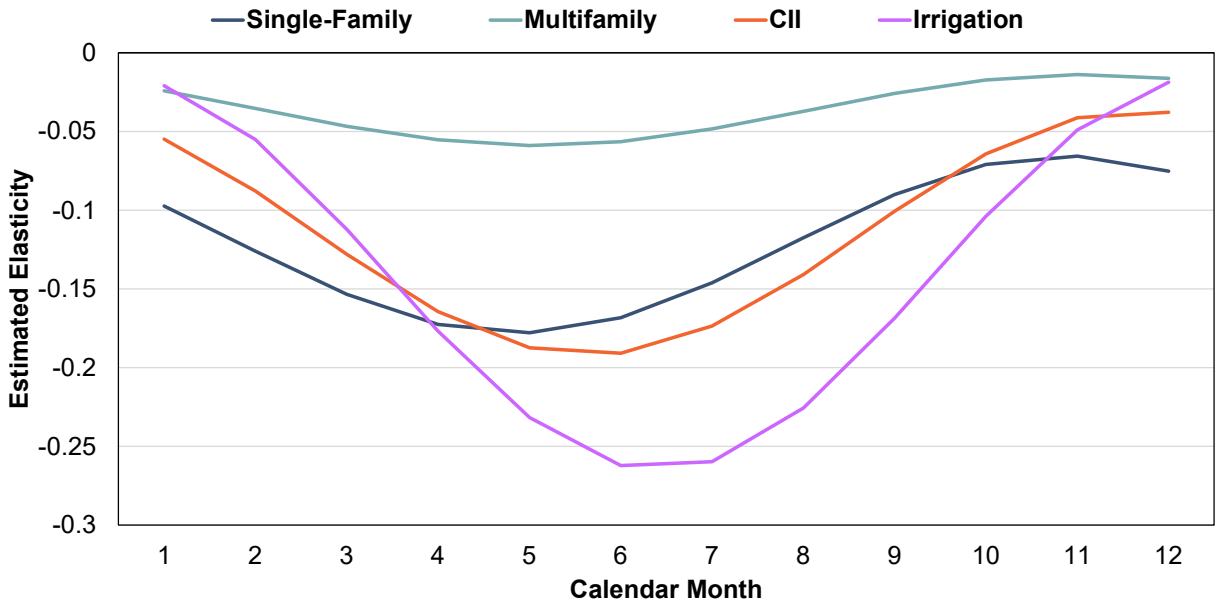


Figure 3-6: Estimated Seasonal Price Elasticities by Demand Sector for Orange County Water Agencies

Even though the model coefficient for price is equal for each agency across all four sectors, the actual water rate data each agency provided is in the panel dataset, so the data by which this price coefficient is multiplied differs. Additionally, agencies adopt different block structures (different prices for the 10th or the 20th CCF) over time. Both the spatial and temporal variability in water rates allows us to estimate these elasticities, even though the coefficients are applied at the regional level.

3.8 Model Development Summary

The econometric regressions show strong performance in explaining historical patterns of consumption over the 15 years from 2010 to 2024, including two major droughts and the COVID pandemic. Most of the regressions had R-squared values of 0.80 or greater. None of the regressions demonstrated a large, consistent bias. Based on this analysis, the estimated regression equations reflect a suitable basis for forecasting.

The overall model approach allows for demand forecast scenario analysis based on varying assumptions of future conditions. Several forecast scenarios may be explored, including climate change-adjusted weather, alternate assumptions around the timing and magnitude of drought recovery, alternate assumptions around urban development, and/or different assumptions around future economic conditions. For any of these future scenarios, the model coefficients presented in this section should be maintained as they reflect the best-fitted estimates of the causal relationships between external socioeconomic conditions and historical water demand, given the available modeling data.

Model scenarios can also be developed to address uncertainties in future explanatory variables, such as housing/job growth and density. Future inputs in these scenarios could be conducted as a sensitivity analysis or be driven by alternate growth projections. On a regular basis, overall model performance

should be evaluated. Annually, forecasted consumption and input assumptions (driver unit counts, economic conditions, water rates, etc.) can be compared with observed conditions as data becomes available to monitor predictive performance. Less frequent (approximately every 5 years), model explanatory variables should be re-evaluated. Major events, such as another drought or a severe economic recession, may necessitate reexamination and/or refitting model coefficients and may cause changes in longer-term expectations over the forecast period.

4. Future Demand Analysis

The four sector-specific econometric models are used to establish baseline demand projections from 2025 to 2050 at a monthly timestep for each retail agency[1]. Prior to forecasting, the models are calibrated to a specific observation year, and other uses are quantified (other uses are miscellaneous uses not included in the original four demand sectors).

Hazen worked with each agency separately to change the calibration factors or household and job variables to yield a forecast start year value (Fiscal Year 2024-2025) that was reasonably close to agency observations. Calibration refers to adjustments for residual biases in the output of fitted econometric models to establish a historical point in time to anchor projections of the future to a recent, representative historical period for each agency and sector. The calibration approach implemented a simple scalar calibration at the per-account (rate-of-use) level for each agency and sector. The use of simple scalar (i.e., a constant multiplicative factor) preserves the econometric relationships (e.g., weather and price elasticities) while removing differences/errors in the statistical model predictions for the selected calibration period.

For each member agency and model sector a calibration factor was calculated as the ratio needed to make the model's average predicted per-unit use equal the observed per-unit use over the selected calibration period. Calculated factors were then applied multiplicatively to all forward-looking monthly rate-of-use predictions. Model output for each sector (water use per unit) was multiplied by calibration factors to account for biases in the historical model fits. Calibration factors were derived from the ratio of predicted to observed water demand for historical normal weather years for each retail agency, or historical water demand based on agency-requested time periods (**Equation 4-1**).

$$Calibration\ Factor = \frac{Historical\ (observed)\ water\ use}{Modeled\ (predicted)\ water\ use}$$ **Equation 4-1**

Calibration factors were unique to each retail agency and sector and are summarized in **Table 4-1**.

Table 4-1: Calibration Factors

Agency	SF Calibration Factor	MF Calibration Factor	CII Calibration Factor	Irr Calibration Factor
Anaheim	0.99	0.99*	1.09*	0.78
Brea	1.00	1.00	0.98	1.08
Buena Park	0.99	0.99	1.04	0.97
East Orange CWD	1.06	0.99	0.99	0.99
El Toro WD	1.00	1.00	1.02	0.69
Fountain Valley	1.03	1.01	1.04	0.33
Fullerton	1.01	1.00	0.98	0.99
Garden Grove	1.02	1.01	1.32	0.99

[1] Due to the timing of the project, water use data were collected up to December 2024. The model projections begin in January 2025.

Agency	SF Calibration Factor	MF Calibration Factor	CII Calibration Factor	Irr Calibration Factor
GSWC Cowan	0.97	1.00*	0.00	0.91
GSWC Placentia	1.00	1.43*	0.00	0.93
GSWC Orange	0.98	1.33*	0.55	0.97
Huntington Beach	1.00	0.93	0.98	0.80
Irvine Ranch WD	1.01	0.99*	0.85*	0.66
La Habra	1.01	0.99	1.02	1.01
La Palma	1.00	1.00	1.00	1.00
Laguna Beach CWD	0.97	1.00	1.10	0.84
Mesa WD	1.00	1.00	1.01	1.00
Moulton Niguel	1.02	1.01	0.26	1.08
Newport Beach	1.03	1.01	1.08	0.77
Orange City	1.00	1.00*	0.94*	1.11
San Clemente	1.01	1.00	0.99	0.64
San Juan Capistrano	1.00	0.93	1.00	0.96
Santa Ana	1.03	1.01	1.00	1.39
Santa Margarita WD	1.00	0.99	0.61	0.83
Seal Beach	0.95	0.97	1.01*	1.01
Serrano WD	1.07*	0.00	0.00	1.05
South Coast	1.03	0.99	1.14	0.66
Trabuco Canyon WD	0.96	0.93	1.00	0.68
Tustin	1.02	1.00	1.04	0.99
Westminster	1.00	1.17	0.99	1.05
Yorba Linda WD	1.07	1.08	1.03	1.02
*Agencies have several billing sectors within this demand sector and have several different calibration factors in their specific spreadsheet model				

Total water use was summed for each sector to derive annual total use for each agency (**Equation 4-2**).

$$Forecast\ Water\ Use = \sum_{Four\ Demand\ Sectors} Driver\ Count \times Use\ per\ Driver \times Calibration$$ **Equation 4-2**

Other uses are predominantly low flows and include fire flows, temporary meters, construction and power uses, and losses. **Equation 4-3** shows these computed as a fraction of the annual total use after calibration.

$$Other\ Use\ \% = \frac{(Delivered - Bill\ \ )}{Billed}$$ **Equation 4-3**

Table 4-2 quantifies the other uses for each agency.

Table 4-2: Other Uses by Agency

Agency	Other Use (Percent of Volume Billed)
Anaheim	3%
Brea	7%

Agency	Other Use (Percent of Volume Billed)
Buena Park	8%
East Orange CWD	12%
El Toro WD	3%
Fountain Valley	6%
Fullerton	4%
Garden Grove	8%
GSWC Cowan	6%
GSWC Placentia	6%
GSWC Orange	6%
Huntington Beach	11%
Irvina Ranch WD	5%
La Habra	4%
La Palma	4%
Laguna Beach	8%
Mesa Water	13%
Moulton Niguel	5%
Newport Beach	8%
Orange City	6%
San Clemente	4%
San Juan Capistrano	6%
Santa Ana	6%
Santa Margarita WD	4%
Seal Beach	4%
Serrano WD	5%
South Coast WD	2%
Trabuco Canyon WD	16%
Tustin	12%
Westminster	8%
Yorba Linda WD	10%

Calibrated models with other uses are used to forecast future total water use[2].

4.1 Baseline Scenario Assumptions

Future growth in driver units (housing and jobs) was tied to CDR projections through 2050. Future conditions for all other explanatory variables were selected to represent expected changes or to remain constant. **Table 4-3** summarizes the baseline demand scenario assumptions for driver units and explanatory variables.

[2] Values of calibration factors (Table 4-1) and other uses % (Table 4-2) may change from these initial values as agencies refine their individual model.

Table 4-3: Future Model Parameters and Assumptions for Baseline Demand Forecast

Data Category	Variable	Source	Assumptions
Driver Units	Single-family and multifamily accounts	CDR	Historical households per account; averages are multiplied by households projected by CDR
	Irrigation accounts	Agency Billing Data	Accounts are assumed to be constant into the future
	Sectoral employment	CDR	Proportion of jobs within CII sectors projected by CDR
Explanatory Variables	Monthly Maximum Temperature and Total Precipitation	PRISM	30-year historical normal weather
	Water Price	Retail Agencies	Prices increase by 3% per year above inflation for 2025-2030 and keeps pace with inflation thereafter (zero difference from inflation trend)
	Water Use Restrictions	State & Local Restrictions	None
	Seasonality		Sine/cosine functions to capture monthly pattern
	Median income	US Census	Constant income at 2022 value (real dollars)
	Housing density	CDR	Derived from CDR housing unit projections, assuming residential area remains at 2024 levels
	Persons Per Household	CDR	CDR projected demographics
	Gross Domestic Product	Federal Reserve	Long-term GDP trend
	Relative Sectoral Employment	CDR	Calculated based on CDR projections
	Passive Efficiency Estimates	Flume Insight	Assumes a 2% decrease in residential demand due to conservation by 2030 (linearly extrapolated), then no change
	COVID Binary Indicator		None (occurred between March 2020 and May 2023)

Future assumptions were defined for every element of the water demand models, including sectoral driver units and explanatory variables.

4.2 Development of Forecast Inputs

Data sources documented in this section are limited to projected future datasets.

4.2.1 Retailer Driver Units

Driver units reflect the size or scale of a water use sector and allow for differentiation of the rate of use from total consumption. CDR provided the Orange County Projections 2022 (OCP-2022) as an update of the 2018 Orange County Projections. OCP-2022 estimates single-family residential housing units,

multifamily residential housing units, jobs by sector, and total population at five-year intervals from 2025 through 2050.

CDR job projections were available at census tract level geographies, which required geoprocessing to retail service area boundaries. Geoprocessing was performed using GIS overlays of census tract boundaries and retail agency service area boundaries to aggregate CDR projections by retail agency as described in Section 2. CDR projections at the retailer level did not always align in magnitude with the historical driver units. To ensure consistency between historical and future datasets, the future time series for driver units were developed by calculating the rate of change in the CDR projections and applying the corresponding CDR rate of change to the last historical value of the driver units.

The econometric forecast models were developed using individual retail agencies' socioeconomic data. The averaged Orange County trends were examined for their potential impacts on future demands. **Figure 4-1** shows that average persons per household decreases and average household density increases. These trends are expected to provide decreased residential demand. Residential coefficients are positive for PPH, indicating demand will decrease as PPH decreases. Residential coefficients are negative for household density, indicating demand will decrease as housing density increases.

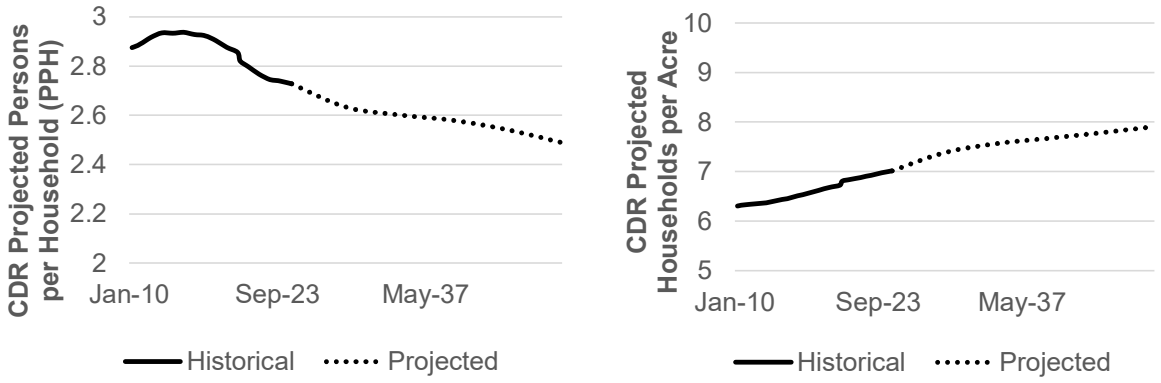


Figure 4-1: Historical and Projected Demographic Values for Orange County (2010 – 2050)

The decrease in demand inferred from the future explanatory variable values may be counteracted by the forecasted increase in driver units. Within the residential sector, average multifamily household growth exceeds average single-family household growth. **Figure 4-2** demonstrates that between 2025 and 2030, projected multifamily households increase substantially while single-family households show very little growth.

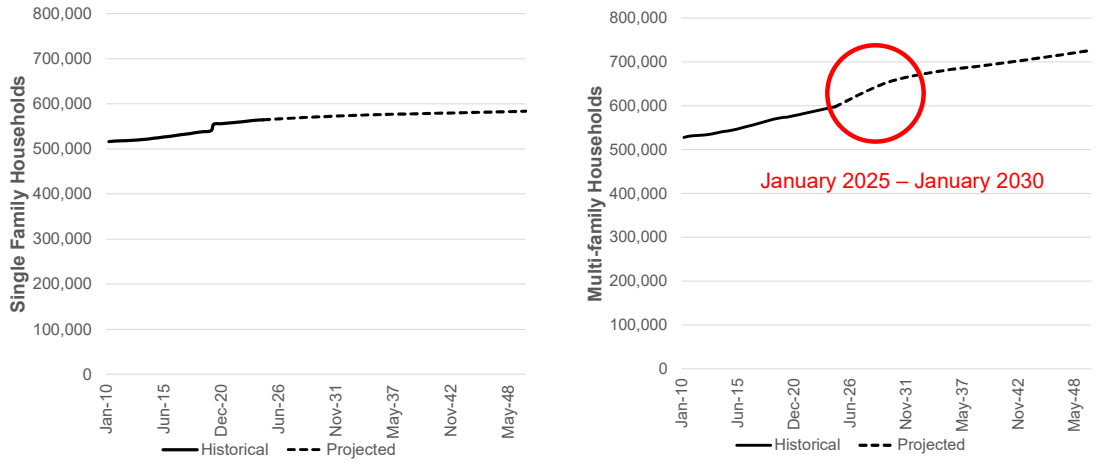


Figure 4-2: Historical and Projected Household Growth for Orange County (2010 – 2050)

CII demand is expected to increase corresponding to a projected average increase in jobs throughout Orange County (**Figure 4-3**).

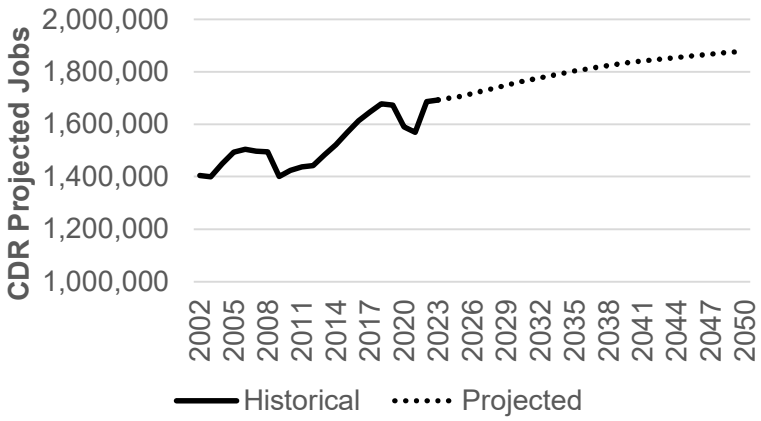


Figure 4-3: Historical and Projected Job Numbers for Orange County (2002 – 2050)

Although the counteracting explanatory variable values and driver units indicate that demands may remain flat into the future, variations in demand by sector exist at the retail agency level and underscore the importance of the econometric models for each agency.

4.2.2 Weather and Climate

For the model baseline scenario, future precipitation and temperature values were assumed to be equal to historical normal values. Historical normal values were calculated as the average monthly values based on all values from 1991 to 2024. The demand model uses departures from historical normal precipitation and temperature for the residential and CII forecasts and unadjusted historical normal precipitation and temperature for the irrigation forecasts. Given this, future weather inputs in the residential and CII

forecasts are reflected by projected departure values of 0 for the precipitation and temperature variables. Future weather inputs for the irrigation sector consist of monthly normal precipitation values.

Alternative demand scenarios (**Section 5**) consider the potential effects of climate change on precipitation and temperature using CMIP6 data from CalAdapt. CMIP6 represents the sixth phase of the World Climate Research Program (WCRP) Coupled Model Intercomparison Project (CMIP) and includes 134 models from 53 modelling centers. CMIP6 relies on Shared Socio-economic Pathways (SSPs) that describe plausible futures of societal development and impacts on greenhouse gas emissions. A 2021 report explains why the CalAdapt models best represent the California climate.[3]

4.2.3 Water Price

Projections of future water rates were included as an explanatory variable in the water demand model. The future values for water prices assumes 5 years of a 3% (above inflation) increase in price per year, after which prices are held at nominal prices adjusted for inflation. Additional water pricing scenarios can be generated as agencies formulate and become more certain about future price paths.

4.2.4 Detrended Economic Factor

The future economy was assumed to run at its long-run trend rate of growth; thus real GDP is assumed to increase at the long-term rate. The detrended GDP value used to project future demands is 0, indicating no difference from the long-term GDP growth.

4.2.5 Median Income

Median income was included as an explanatory variable in the water demand model. Median income by retailer was held constant at the historical 2024 level, denominated in inflation-adjusted 2022-dollar values.

4.2.6 Housing Density

Housing density was included as an explanatory variable in the single-family and multifamily residential model sectors. Separate variables were created for single-family housing density and multifamily housing density. The baseline density projection assumed a "build up" scenario where housing units could vary within a constant land area, thereby affecting average density. Future values for the density variables are derived from the projected number of single-family or multifamily housing units (**Section 2**) divided by the land area classified as residential land use within the retail service area boundary (which is assumed to stay constant throughout the forecast).

[3] Interim Deliverable for EPC-20-006, Prepared by: Will Krantz, David Pierce, Naomi Goldenson, Danile Cayaan; November 29, 2021

4.2.7 Persons Per Household

The ACS-derived single-family and multifamily PPH estimates were calibrated to align with the CDR's single-family and multifamily projected housing unit data.

4.2.8 Relative Sectoral Employment

Ratios of sectoral employment were included as explanatory variables in the CII model sector. These sectoral employment ratios represent the estimated mix of CII activity within each retail service area. The projected number of jobs by sector was obtained from the 2025 CDR projections of four aggregated NAICS sectors.

4.2.9 Seasonality

Seasonal indices were included as explanatory variables in the water demand model. These seasonal indices are represented in the model as a sine/cosine pair of variables to capture the cyclical monthly pattern in water use, where demands are generally higher in the summer and lower in the winter. Most sectors had a single sine/cosine pair representing the seasonal cycle; some have two sine/cosine pairs to more effectively capture seasonal effects associated with the academic calendar. These factors are maintained for the forecast horizon.

4.2.10 Conservation

The 2021 Orange County Residential Water Efficiency Potential and Opportunities Study (2021 Study) assumes that total County-wide passive conservation in the residential sectors will increase by 695 acre-feet per year through 2030, after which it will remain constant. The conservation increase to 2030 represents a 1.9% decrease in annual demand, as shown in **Table 4-4**.

Table 4-4: Projected County-wide Passive Conservation[4]

Year	Residential Demand (AFY)	Passive Conservation Volume (AFY)	Percent Demand Reduction
2025	222,572	695	0.31%
2026	222,572	1390	0.62%
2027	222,572	2085	0.94%
2028	222,572	2780	1.25%
2029	222,572	3475	1.56%
2030	222,572	4170	1.87%
2035	2021 Study does not report post-2030 demand and conservation; percent demand reduction is assumed to stay constant		1.87%
2040-2050			1.87%

[4] Data shown on Table 4-4 were obtained from the 2021 Orange County Residential Water Efficiency Potential and Opportunities Study.

The model output does not include projected active water conservation.

4.3 Baseline Sectoral Forecasts

This section provides a summary of the baseline demand forecasts by each model sector. The model output does not include projected active water conservation. This section provides a summary of the baseline demand forecasts by each model sector. The baseline scenario results represent a projection of future water demand for Orange County, assuming **no additional active conservation**.

4.3.1 Forecast Expectations

Figure 4-4 summarizes the Orange County averaged annual demand projections as well as the historical values.

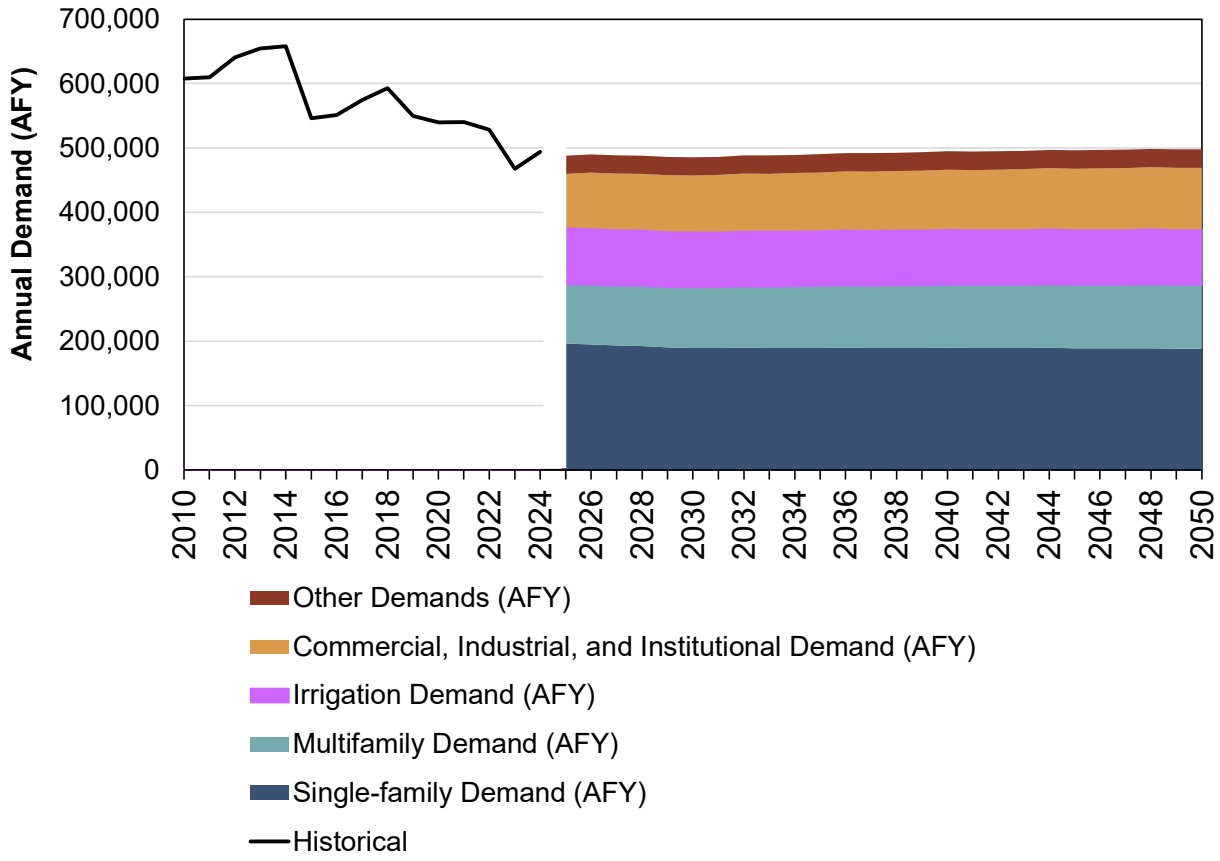


Figure 4-4: Total Orange County Demands

Annual county-wide single-family residential projected water demand values are projected to decrease from 2025 to 2030, then remain relatively constant through 2050. Multifamily residential projected water demand values are projected to steadily increase from 2025 through 2050. This increase is largely driven by rising multifamily housing units over time. CII demands are projected to steadily increase from 2025

through 2050. This increase is largely driven by an increase in the driver units of total non-agricultural jobs. Irrigation demand decreases due to higher water prices from 2025 to 2030, then remains constant thereafter.

4.3.2 Forecast Summary

The baseline scenario results represent a projection of future water demand for Orange County, assuming **no additional active conservation**. The scenario assumptions outlined in Section 4 reflect a reasonable estimate of the future conditions of parameters known to influence water demand derived from multiple available sources. The forecast uses ACS and CDR data to depict local and regional trends in demographics and development in the demand model. Consistent with regional trends, demands in the single-family sector are forecasted to remain relatively flat over the next 25 years as there is not expected to be substantial growth in single-family housing units.

Growth in residential demand is largely forecast to occur in the multifamily sector, consistent with anticipated increases in multifamily housing. Demands in the CII sector are also expected to increase, which is consistent with CDR forecasts of total jobs in the county. Increasing water rates and housing density are expected to have some modulating effect on demand (as housing density and water rates increase, water demand decreases); however, under the baseline scenario, projected changes in the values of these variables do not completely counteract the effects of growth in overall driver units.

5. Alternative Forecasts

Alternative forecasts were established using new climate data and possible additional water rate increases. Alternative demand scenarios consider the potential effects of climate change on precipitation and temperature using CMIP6 data from CalAdapt. A 2021 report explains why the CalAdapt models best represent the California climate.[5]

5.1.1 Future Climate Change

CMIP6 is the sixth phase of the World Climate Research Program (WCRP) Coupled Model Intercomparison Project (CMIP) and includes 134 models from 53 modelling centers. CMIP6 relies on Shared Socio-economic Pathways (SSPs) that describe plausible futures of societal development and impacts on greenhouse gas emissions. Downscaling originally included only dynamic downscaling, in which high-resolution physics-based simulations are used to help models reproduce the location and frequency of events that drive regional weather and climate. The State has introduced statistical downscaling, in which dynamically downscaled simulations train a new version of Localized Construction Analogs (LOCA) to downscale a broader set of GCMs than would be computationally feasible with dynamical downscaling.

Alternative forecasts were established using new climate data with the same quadrants Flume developed (**Figure 5-1**) to evaluate varying microclimates and the age of housing stock across Orange County (North and South Coastal, and North and South Inland).

[5] Interim Deliverable for EPC-20-006, Prepared by: Will Krantz, David Pierce, Naomi Goldenson, Danile Cayaan; November 29, 2021

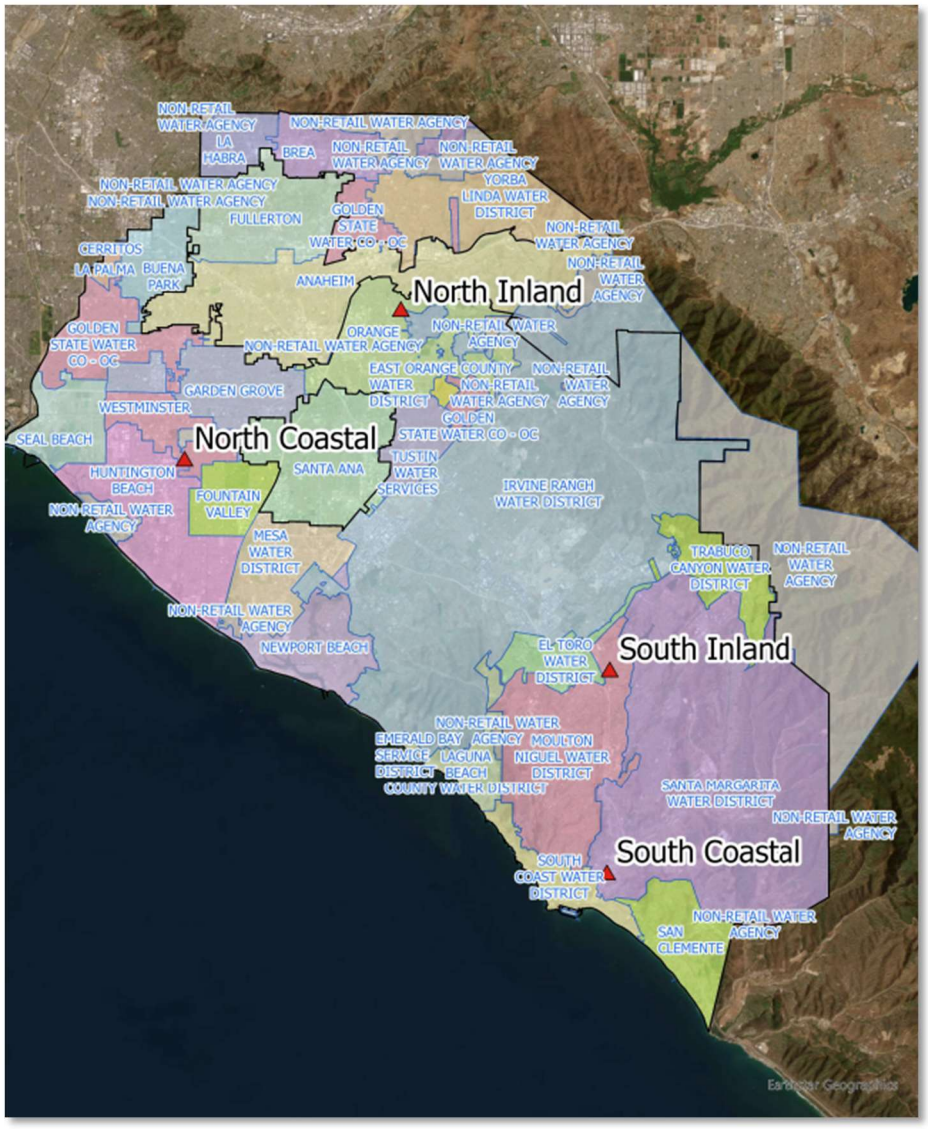


Figure 5-1: Flume Quadrants

Each retail agency was matched to the Flume-specific quadrant. **Figure 5-22** plots the CMIP6 model runs for the South Coastal Flume quadrant and plots the model results on a temperature-precipitation climate graph with quadrants of dry/warm, wet/warm, dry/cool, and wet/cool.

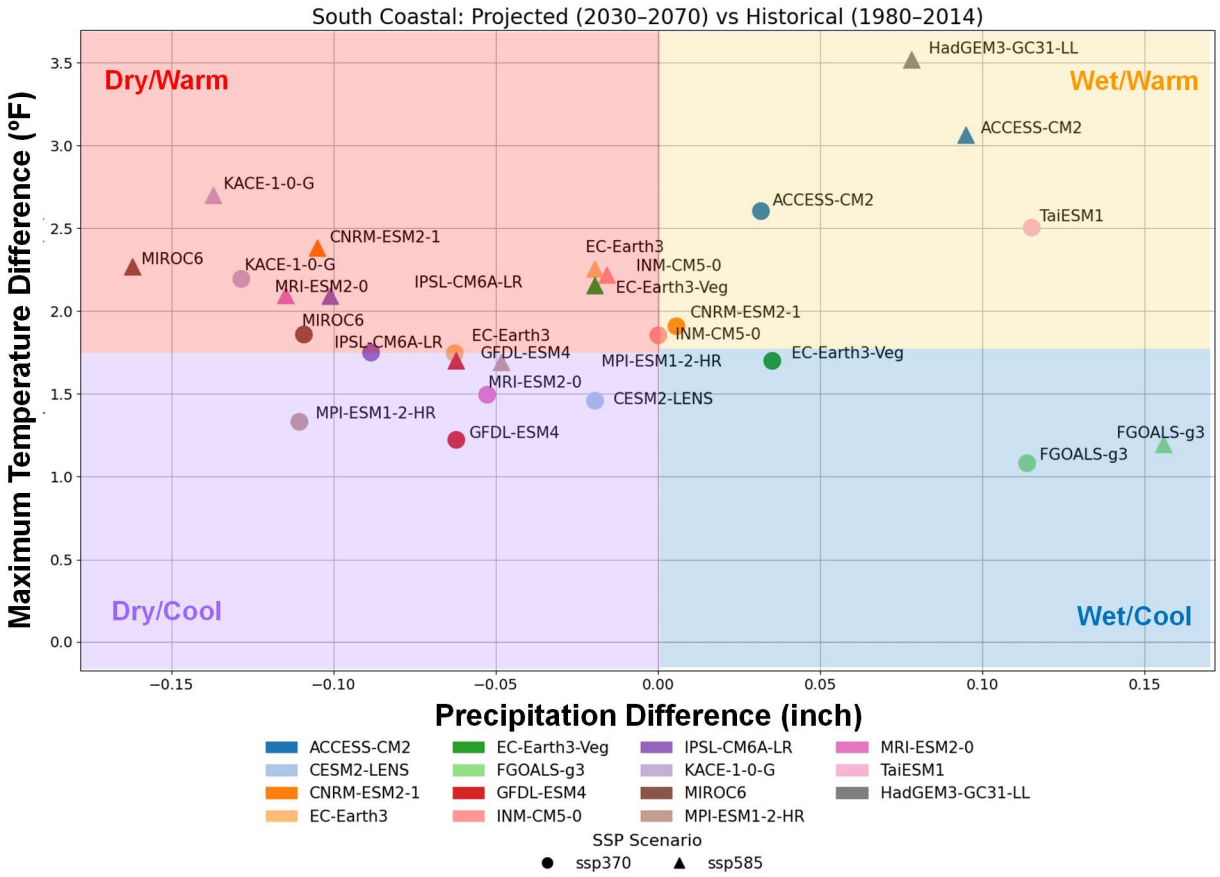


Figure 5-2: Climate Forecasts

Climate data is applied to the baseline weather patterns in a two-step process:

1) Download the CMIP6 datasets for each of the four Flume quadrants using Python scripts, then calculate the difference in the modeled future and modeled historical (delta, Δ) for temperature and precipitation (**Equations 5-1** and **5-2**):

$$\Delta Temp = Modeled\ Future\ Temp - Modeled\ Historical\ Temp \qquad \textbf{Equation 5-1}$$

$$\Delta Precip = \frac{Modeled\ Future\ Precip}{Modeled\ Historical\ Precip} \qquad \textbf{Equation 5-2}$$

The historical records produced for each model span 1950 to 2014, and the modeled historical data in the equations consist of the average weather parameter for each month over that period. Modeled futures extend from 2015 to 2100.

2) Apply the changes, or deltas, to the historical normal weather values. The historical normal has the same value each month, but applying a different delta value each month allows the climate change impacts to differ in the future. Each agency was matched to the Flume-specific quadrant and the appropriate regional delta values.

Future climate projections based on many CMIP6 models indicate a general increase in water demands over the forecast period (**Figure 5-3**). Note that the models shown are applied to a total baseline demand scenario prior to member agency review and final numbers were published.

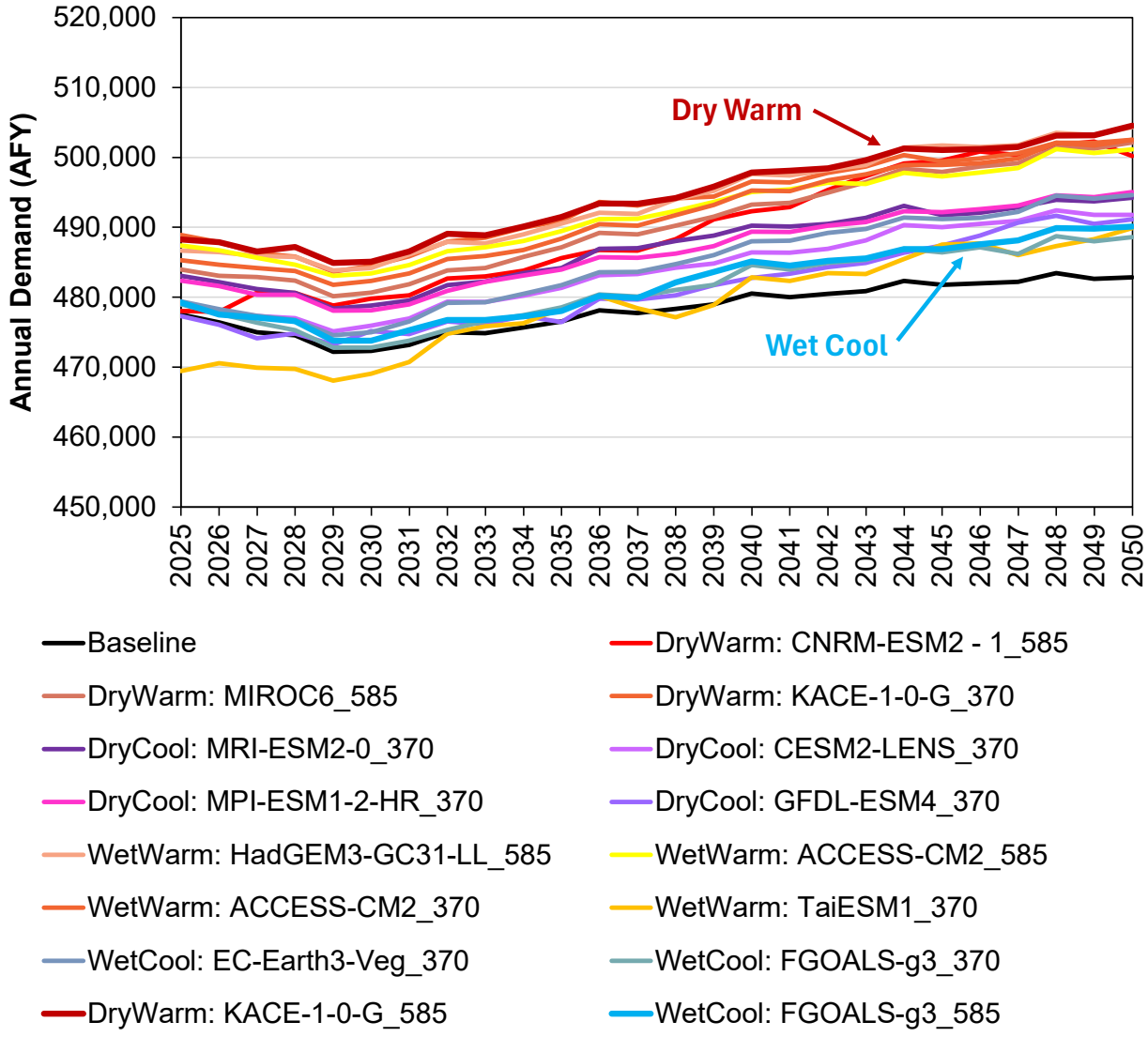


Figure 5-3: CMIP6 Climate Change Futures

CMIP6 data from the 15 model runs that were determined to be a good fit for California were substituted for baseline weather conditions in the demand model, and the resulting total Orange County demand was used to define a dry warm (high demand) scenario and a wet cool (lower demand) scenario to provide a range of possible climate impacted outcomes. Both scenarios predict increasing temperatures, and as a result, water demands that are higher than baseline demands.

5.1.2 Alternative Forecasts

The dry warm, and wet cool CMIP6 scenarios are depicted relative to historical Orange County demands in **Figure 5-4**.

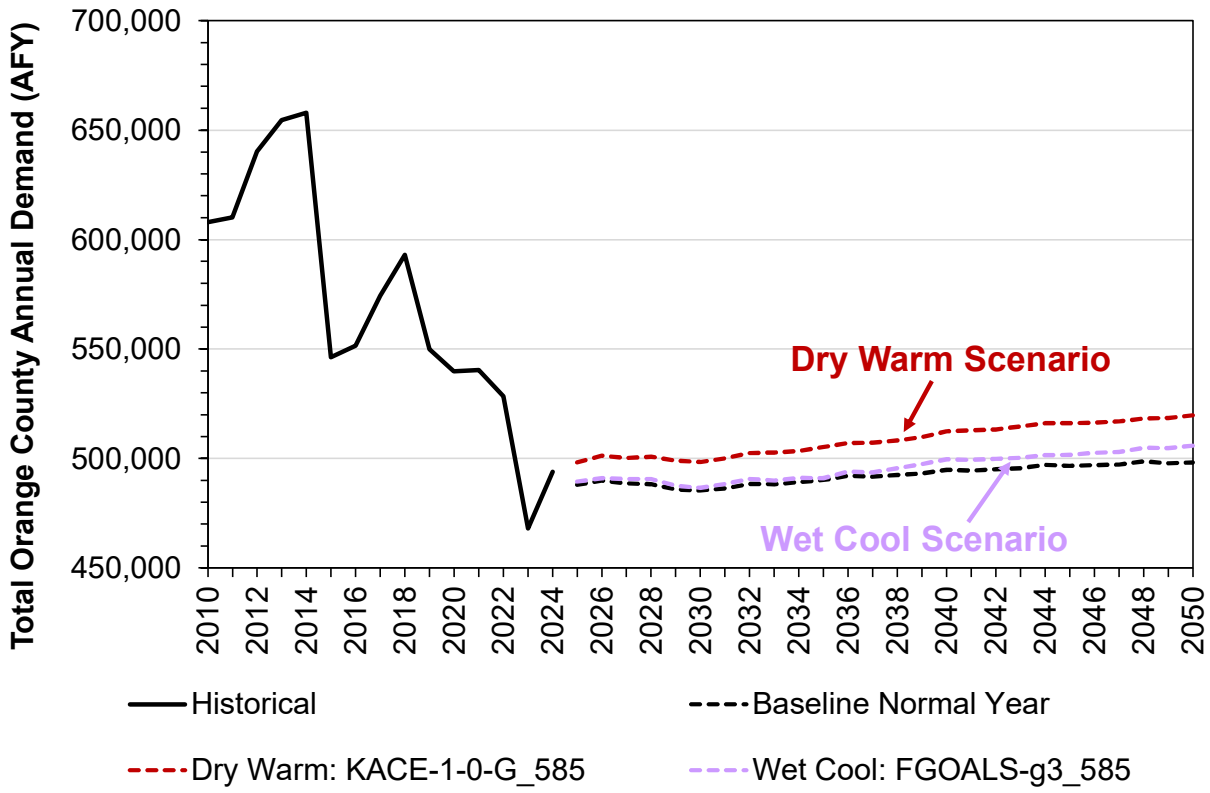


Figure 5-4: Future CMIP6 Scenarios

To create a possible envelope of demands with only two additional (non-baseline) forecasts, a long-term price increase (in addition to inflation) was imposed on the wet-cool simulation to illustrate additional price pressure (i.e., further decrease in demands). The price increase was assumed to be 3% per year for the entire forecast period. **Figure 5-5** shows that the general increases in demand are suppressed when price increases are included in the forecast.

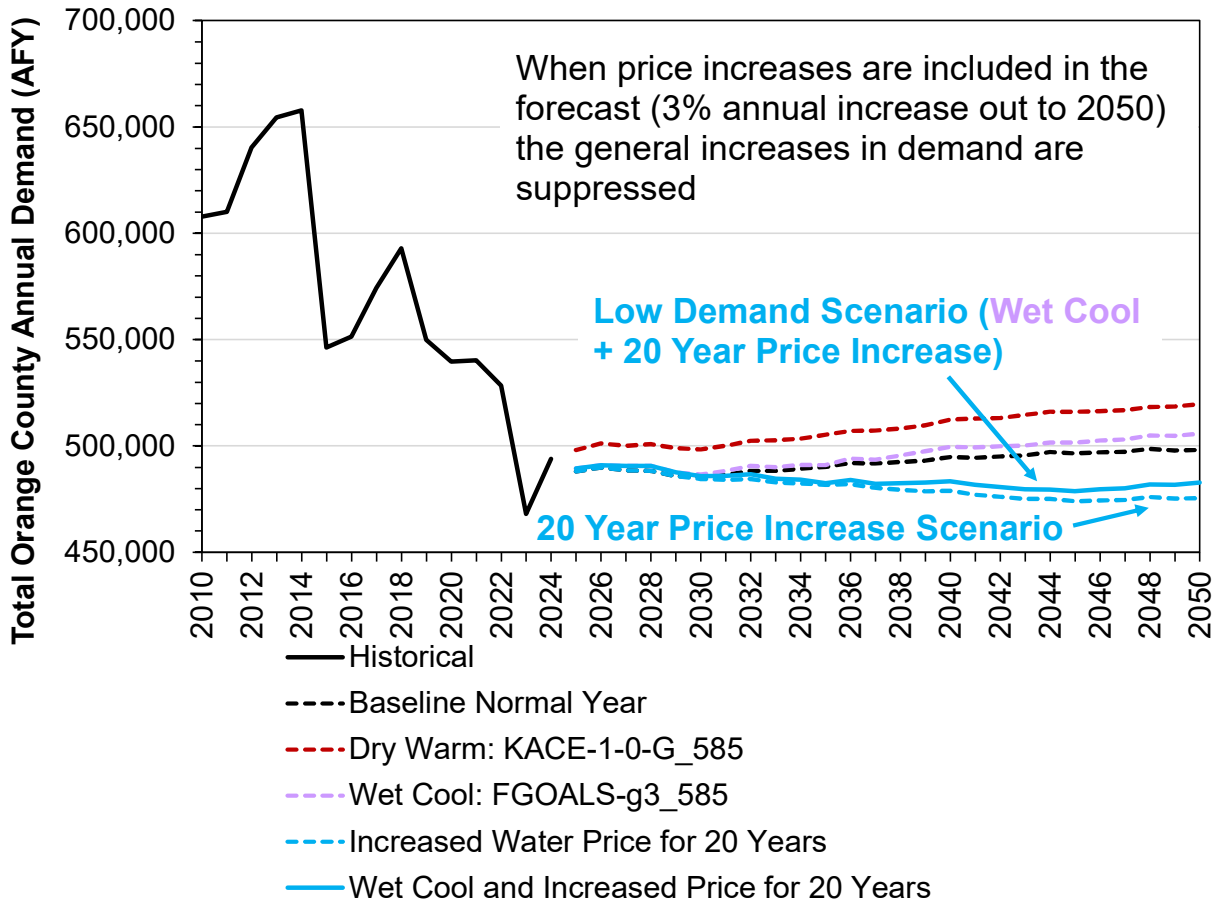


Figure 5-5: Alternative Demand Scenarios

The dry warm scenario with baseline water prices and the wet cool scenario with additional price increases constitute the two alternative forecasts.

6. UWMP Scenarios

The 2025 Urban Water Management Plan requires tabulation of the long-term projected water use over the next 20 years, in 5-year increments, for three types of hydrology:

- Normal Year: The demand a Supplier believes will occur during normal conditions. It could be a single year or an average range of years that most closely represent the average water demand. This is provided by the Baseline Forecast in Section 5.
- Single Dry Year: A year that represents higher water demand on the Supplier. Provided by finding the historical year most sensitive to all weather parameters (2010 – present)
- Five Consecutive Year Drought: The demand during the driest five-year historical sequence for the Supplier. Provided through a separate regression on total Orange County demand and historical weather (2004 – present)

6.1.1 Single Dry Year Scenario

The single dry year is the historical year in which weather factors have the largest combined impact as measured by a hot-dry index (HDI). The HDI was developed in four steps:

1) Calculate the HDI for each month in the historical weather series. This monthly hot-dry index (MHDI) is calculated for each member agency (a) and monthly observation (m) as the sum of the estimated weather effects for each sector model (j). The weather effects for each sectoral model are derived from the historical weather values (W) and weather model parameters (β) assigned to the weather variables in each model (i), which vary by member agency (**Equation 6-1**).

$$MHDI_{a,m,j} = exp\left(\sum_i \beta_{a,i,j} W_{a,i,m,j}\right) \quad \textbf{Equation 6-1}$$

2) Calculate the HDI for each calendar year in the historical weather series. The monthly index values are summed across the month of any given annual period to derive a set of annual index values (AHDI) for each member agency and sector (**Equation 6-2**).

$$AHDI_{a,j} = \sum_{m=1}^{12} MHDI_{a,m,j} \quad \textbf{Equation 6-2}$$

3) Weight the annual sector indices by the proportion of total annual water sales attributed to each sector (w) to define the final hot-dry index (HDI) values used to evaluate and select the hot-dry periods for scenario development (**Equation 6-3**). The weights are based on the estimated proportion of sales by sector for as many full annual records were available for each agency from 2010 to 2024.

$$HDI_a = \sum_{j=1}^{4} w_j \times AHDI_{a,j} \quad \textbf{Equation 6-3}$$

4) Determine the maximum value of HDI for each member agency across all years in the historical weather series. Retain weather data for the selected calendar year for each member agency.

Table 6-1 lists the calendar years containing the maximum of HDI by member agency. As shown, calendar year 2014 was selected more often than any other year in the historical weather series as the hot-dry year, and the weather data for 2014 were selected for all agencies to represent the hot-dry scenario.

Table 6-1: Selected Calendar Years for Hot/Dry Weather Scenario

Agency	Single Year Hot/Dry Periods	
	Calendar Year	HDI Value
Anaheim	2014	12.40
Brea	2018	12.26
Buena Park	2014	12.16
East Orange CWD	2014	13.14
El Toro WD	2014	12.72
Fountain Valley	2014	12.26
Fullerton	2014	12.65
Garden Grove	2014	12.28
GSWC Cowan	2014	13.27
GSWC Placentia	2014	12.61
GSWC West Orange	2014	12.42
Huntington Beach	2014	12.62
Irvine Ranch WD	2014	12.46
La Habra	2014	12.84
La Palma	No data available	
Laguna Beach WD	2014	12.62
Mesa WD	2014	12.61
Moulton Niguel	2014	13.35
Newport Beach	2014	12.52
Orange City	2014	12.70
San Clemente	2014	12.54
San Juan Capistrano	2014	12.38
Santa Ana	2014	12.32
Santa Margarita WD	2014	12.76
Seal Beach	2022	12.08
Serrano WD	2014	13.85
South Coast WD	2014	12.56
Trabuco Canyon WD	2017	11.82
Tustin	2014	12.53
Westminster	2014	12.43
Yorba Linda WD	2014	12.89

6.1.2 Multiple Dry Year Scenario

Trends in historical regional water use (supplied from all sources) were correlated with trends in observed weather conditions to develop a set of factors to describe the potential impact of consecutive dry years. The weather coefficients of the sectoral water demand equations can be used to generate weather scenarios for any given set of monthly weather data, for example, for a given hot/dry year. However, conceptually, the persistence of drier-than-normal weather could intensify water use rates in the absence of interventions, such as water-use restrictions. Because the sectoral forecasting equations, by construction, treat time periods independently, other statistical methods were derived to evaluate potential or "latent", or unconstrained, demands that could develop with the persistence of dry weather conditions.

Trends in historical total regional water use (supplied from all sources) were correlated with trends in observed Orange County weather conditions to develop a set of factors to describe the potential impact of consecutive dry years. Specifically, the running 12-month average of regional water use (USE12) was modeled as a function of the following variables:

- 12-month running average of the ratio of observed to normal average maximum daily temperature (MAXT12)
- 24-month running average of the ratio of observed to normal precipitation (PRCP24)
- 36-month running average of the ratio of observed to normal precipitation (PCRP36)
- 48-month running average of the ratio of observed to normal precipitation (PCRP48)
- 60-month running average of the ratio of observed to normal precipitation (PCRP60)
- Departure from long-term GDP trend
- Linear time trend counter (TREND)

Except for the linear time counter, all variables were transformed into natural log form prior to estimating the model using ordinary least squares regression. A binary water restriction variable was added to the regression to eliminate supply constraints (allow the regression to assume no curtailments instated during the hot dry spell). The estimated weather parameters (**Table 6-2**) are used to estimate the potential change in water use that would occur during the driest 24-month, 36-month, 48-month, and 60-month period over the historical record, assuming the warmest 12-month period estimated over the historical record.

Table 6-2: Regression Coefficients and Variable Values

	Coefficient	Historical Value
MAXT12	0.6279	1.0522
PRCP24	-0.0832	0.3783
PRCP36	-0.0076	0.4408
PRCP48	-0.0269	0.4977
PRCP60	-0.0296	0.5656

Consecutive dry-year scaling factors are derived using the historical minimums of the precipitation and historical maximum of the temperature variable from the historical weather data set.

Equation 6-4 shows the 2nd consecutive dry year scaling factor.

$$Factor = MAXT12^{0.6279} \times PRCP24^{-0.0832} = 1.1195$$ **Equation 6-4**

Equation 6-5 shows the 3rd consecutive dry year scaling factor.

$$Factor = MAXT12^{0.6279} \times PRCP24^{-0.0832} \times PRCP36^{-0.0076} = 1.1265$$ **Equation 6-5**

Equation 6-6 shows the 4th consecutive dry year scaling factor.

$$Factor = MAXT12^{0.6279} \times PRCP24^{-0.0832} \times PRCP36^{-0.0076} \times PRCP48^{-0.0269} = 1.1478$$ **Equation 6-6**

Equation 6-7 shows the 5th consecutive dry year scaling factor.

$$Factor = MAXT12^{0.6279} \times PRCP24^{-0.0832} \times PRCP36^{-0.0076} \times PRCP48^{-0.0269} \times PRCP60^{-0.0296} = 1.1673$$ **Equation 6-7**

These scaling factors are used to supplement the results of the single hot/dry year scenario. There is a 5-year sequence for any year in the forecast: single hot/dry year, followed by the second dry year, followed by the third consecutive dry year, and so on. Under these assumptions, the second consecutive dry year would result in water use that is about 12 percent higher than under normal precipitation conditions. The estimate of water use for the third consecutive dry year would be incrementally higher, or about 13 percent greater than normal. By the end of the fifth consecutive dry year, the estimated potential would grow to about 17 percent higher than the normal year baseline. The consecutive dry year scenarios are calculated based on the total baseline forecast and thus implicitly account for differences in growth occurring among Orange County's water use sectors and agencies. As indicated by the magnitudes of the scaling factors described above, this implies increasingly higher demands as conditions become drier. It is possible that demands would be restricted through demand management actions prior to reaching these levels if such conditions were to occur.

6.1.3 All UWMP Scenarios

All UWMP scenarios are shown in **Figure 6-1**, along with the baseline, high demand, and low demand scenarios discussed in the previous sections.

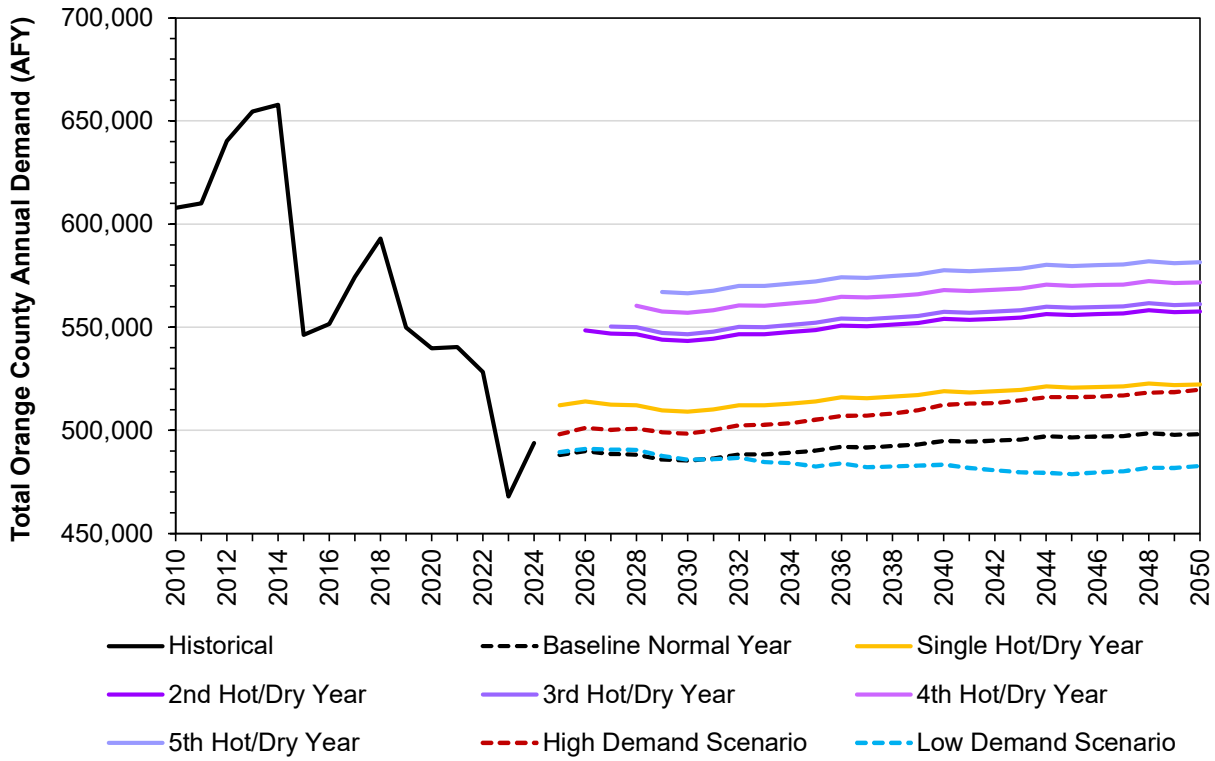


Figure 6-1: Total Orange County Historical Water Use vs Projected Water Demands for All UWMP Scenarios

The UWMP scenarios are tabulated for each agency in the Spreadsheet model.

Although Orange County demands are forecast to be relatively flat into the future, annual variations in weather could cause high fluctuations.

7. Urban Water Use Objectives (UWUO) Metrics

The Urban Water Use Objective (UWUO) requires residential indoor consumption to decrease from 47 GPCD in 2025 to 42 GPCD in 2030 and remain at 42 GPCD through 2050. Although **future active conservation is not included in the baseline forecast,** the UWUO target residential demand is calculated for each agency in this section, and active conservation may be assumed from these target values and subtracted from the baseline forecast.

While the indoor conservation target specified by the UWUO is fixed, the outdoor target depends on precipitation, evapotranspiration, landscape area, and a landscape efficiency factor (**Equation 7-1**).

$$Outdoor\ Budget\ \left(\frac{gal}{year}\right) = (ETo - Peff) \times Landcape\ Area\ \times LEF\ \times 0.62 \qquad \textbf{Equation 7-1}$$

ETo is local reference evapotranspiration, Peff is effective rainfall, and 0.62 represents a conversion factor from inches to square feet. The landscape efficiency factor (LEF) provides a way to reduce irrigation targets; water use increases as the LEF increases. The California State Water Board requires a LEF of 80% through September 2030, at which point the required LEF decreases to 63%. In October 2035, the LEF decreases to 55% for residential irrigation and 45% for CII irrigation. **When/If an agency can comply with the State UWUO outdoor conservation targets is a retail agency determination based on each agency's unique circumstances.**

Although the forecasts provided by Hazen do not include active conservation, each retail agency may compare the forecasted gallons per capita per day (GPCD) with their UWUO target to build or forecast an active conservation program.

8. Summary and Conclusions

The water demand forecasts presented in this technical memorandum provide a foundation for long-term planning across Orange County retail water agencies and aligns with needs for the 2025 Urban Water Management Plan. The model approach, which combined rigorous data collection and assessment and econometric model development, ensures that projections are grounded in historical trends and agency-approved demographic inputs.

Work with individual agencies to calibrate the forecasts revealed that the demand forecasts are highly sensitive to demographic projections. Future water use is driven primarily by changes in population, housing units, and jobs, all of which are subject to uncertainty and local planning decisions. The baseline scenario reflects CDR-OCP2022 growth rates and member agency feedback, and alternative demographic trajectories may be considered by individual agencies. Agencies may also use their calculated UWUO targets to incorporate active conservation plans, which are not included in the forecasts.

APPENDIX I

NOTIFICATION OF PUBLIC AND SERVICE AREA PROVIDERS

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Hugh Nguyen
Orange County Clerk Recorder
601 N. Ross Street
Santa Ana, CA 92701

Dear Mr. Nguyen:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

A public hearing will be held prior to adoption of the 2025 UWMP to provide an opportunity for public review and comment. A separate notice will be distributed with the hearing date, time, and location once it is scheduled.

We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Jason Reynolds
Deputy Director
County of Orange
300 N. Flower Street
Santa Ana, CA 92702

Dear Mr. Reynolds:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

A public hearing will be held prior to adoption of the 2025 UWMP to provide an opportunity for public review and comment. A separate notice will be distributed with the hearing date, time, and location once it is scheduled.

We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. John Kennedy
General Manager
Orange County Water District
18700 Ward Street
Fountain Valley, CA 92708

Dear Mr. Kennedy:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

A public hearing will be held prior to adoption of the 2025 UWMP to provide an opportunity for public review and comment. A separate notice will be distributed with the hearing date, time, and location once it is scheduled.

We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Harvey De La Torre
General Manager
MWDOC
18700 Ward Street
Fountain Valley, CA 92808

Dear Mr. De La Torre:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Jerry Vilander
General Manager
Serrano Water District
18021 Lincoln Street
Villa Park, CA 92861

Dear Mr. Vilander:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Paul Cook
General Manager
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92168

Dear Mr. Cook:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. David Youngblood
General Manager
East Orange County Water District
185 N. McPherson Road
Orange, CA 92869

Dear Mr. Youngblood:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Steve Franks
City Manager
City of Villa Park
17855 Santiago Boulevard
Villa Park, CA 92861

Dear Mr. Franks:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Aldo Schindler
City Manager
City of Tustin
300 Centennial Way
Tustin, CA 92780

Dear Mr. Schindler:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Alvaro Nunez
City Manager
City of Santa Ana
20 Civic Center Plaza
Santa Ana, CA 92701

Dear Mr. Nunez:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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We welcome coordination and input from neighboring and partner water agencies during this planning effort. If you have any questions or would like to coordinate during the preparation of the plan, please contact Tuan Cao at tcao@cityoforange.org.

Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Ms. Lisa Kim
City Manager
City of Garden Grove
11222 Acacia Parkway
Garden Grove, CA 92840

Dear Ms. Kim:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

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A public hearing will be held prior to adoption of the 2025 UWMP to provide an opportunity for public review and comment. A separate notice will be distributed with the hearing date, time, and location once it is scheduled.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

City of Orange
Public Works Department
300 E. Chapman Ave.
Orange, CA 92866

February 6, 2026

Mr. Greg Garcia
Assistant City Manager
City of Anaheim
200 S. Anaheim Blvd., Ste 733
Anaheim, CA 92805

Dear Mr. Garcia:

This letter is to inform you that our agency has begun preparation of the 2025 Urban Water Management Plan (UWMP). As part of this process, we will be conducting a comprehensive review of the current plan and evaluating potential amendments and updates to reflect regulatory requirements, planning assumptions, supply and demand projections, and system operations.

Water Code Section 10621(b) requires an urban water supplier updating its UWMP to notify cities and counties within its service area of the update at least sixty (60) days prior to holding a public hearing. This letter serves as our notice that we are preparing and updating our 2025 UWMP, to be adopted and submitted to the California Department of Water Resources (DWR) before the July 1, 2026, deadline. We will be re-adopting our 2025 Water Shortage Contingency Plan, as required by DWR, as part of the 2025 UWMP.

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Sincerely,

Sonny Tran, P.E.

Water Manager

(714) 744-5525 www.cityoforange.org pwinfo@cityoforange.org

APPENDIX J

ADOPTED UWMP RESOLUTIONS

City of Orange
Geographic Information System

2025 Water Shortage Contingency Plan

FINAL DRAFT / May 2026



carollo® in collaboration with CDM Smith and Maddaus Water Management Inc.

2025 Water Shortage Contingency Plan

May 2026 / FINAL DRAFT

Prepared By:
Carollo Engineers, Inc.
707 Wilshire Boulevard, Suite 3920
Los Angeles, California 90017
Phone: 213.489.1587
https://www.carollo.com

Prepared For:
City of Orange
189 S. Water Street
Orange, California 92866
Phone: 714.288.2475
https://www.cityoforange.org

In collaboration with:

CDM Smith listen. think. deliver.
MADDAUS WATER MANAGEMENT
Making a Difference in the World of Water ™

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Abbreviations

AF	acre-foot
AWSDA	Annual Water Supply and Demand Assessment
BPP	Basin Production Percentage
City	City of Orange
DDW	Division of Drinking Water
DRA	Drought Risk Assessment
DVL	Diamond Valley Lake
DWR	Department of Water Resources
EOC	Emergency Operations Center
EOCWD	East Orange County Water District
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FY	Fiscal Year
GRP	Groundwater Resilience Plan
GSP	Groundwater Sustainability Plan
IAWP	Interim Agricultural Water Program
IRWD	Irvine Ranch Water District
LHMP	Local Hazard Mitigation Plan
MCL	Maximum Contaminant Level
MET	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
NIMS	National Incident Management System
OC Basin	Orange County Groundwater Basin
OCWD	Orange County Water District
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfanate
PPT	parts per trillion
Producers	Groundwater Producers
SEMS	Standardized Emergency Management System
Supplier	Urban Water Supplier
SWD	Serrano Water District
SWP	State Water Project
UWMP	Urban Water Management Plan
Water Code	California Water Code
WEROC	Water Emergency Response Organization of Orange County
WSAP	Water Supply Allocation Plan

WSCP	Water Shortage Contingency Plan
WSDM	Water Surplus and Drought Management Plan

SECTION 1 INTRODUCTION AND WATER SHORTAGE CONTINGENCY PLAN OVERVIEW

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (Water Code) Section 10632, which requires that every Urban Water Supplier (Supplier) shall prepare and adopt a WSCP as part of its Urban Water Management Plan (UWMP). This level of detailed planning and preparation is intended to help maintain reliable supplies and reduce the impacts of supply interruptions.

The WSCP is the City of Orange's (City) operating manual that is used to prevent catastrophic service disruptions through proactive, rather than reactive, management. A water shortage, when the water supply available is insufficient to meet the normally expected customer water use at a given point in time, may occur due to a number of reasons, such as drought, climate change, and catastrophic events. This WSCP provides a structured guide for the City to deal with water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption. This way, if and when shortage conditions arise, the City's governing body, its staff, and the public can easily identify and efficiently implement pre-determined steps to manage a water shortage. A well-structured WSCP allows real-time water supply availability assessment and structured steps designed to respond to actual conditions, enabling efficient management of any shortage with predictability and accountability.

The WSCP also describes the City's procedures for conducting an Annual Water Supply and Demand Assessment (AWSDA) that is required by Water Code Section 10632.1 and is to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project (SWP), whichever is later. The City's 2025 WSCP is included as an Appendix to its 2025 UWMP, which will be submitted to DWR by July 1, 2026. However, while developed in conjunction with the UWMP, this WSCP is a standalone document and can be amended, as needed, without amending the UWMP. Furthermore, the Water Code does not prohibit a Supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels that correspond to water shortage percentages ranging from 10 percent to greater than 50 percent; an estimate of potential to close supply gap for each measure; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an AWSDA; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections, with Section 3 aligned with Water Code Section 16032 requirements:

- **Section 1, Introduction and WSCP Overview,** gives an overview of the WSCP fundamentals.
- **Section 2 Background Information** provides a background on the City's water service area.
- **Section 3 Water Shortage Contingency Preparedness and Response Planning.**
  - **Section 3.1 Water Supply Reliability Analysis** provides a summary of the water supply analysis and water reliability findings from the 2025 UWMP.
  - **Section 3.2 Annual Water Supply and Demand Assessment Procedures** provides a description of procedures to conduct and approve the AWSDA.
  - **Section 3.3 Six Standard Water Shortage Stages** explains WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50 percent shortages.
  - **Section 3.4 Shortage Response Actions** describes WSCP's shortage response actions that align with the defined shortage levels.
  - **Section 3.5 Communication Protocols** addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.
  - **Section 3.6 Compliance and Enforcement** describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.
  - **Section 3.7 Legal Authorities** describes the legal authorities that enable the City to implement and enforce its shortage response actions.
  - **Section 3.8 Financial Consequences of the WSCP** provides a description of the financial consequences of and responses for drought conditions.
  - **Section 3.9 Monitoring and Reporting** describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements**.**
  - **Section 3.10 WSCP Refinement Procedures** addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.
  - **Section 3.11 Special Water Feature Distinction** provides a required definition for inclusion in a WSCP per the Water Code.
  - **Section 3.12 Plan Adoption, Submittal, and Availability** describes the process the City followed to adopt its WSCP.

1.2 Integration with Other Planning Efforts

As a retail water supplier in Orange County, the City considered other key entities in the development of this WSCP, including the Municipal Water District of Orange County (MWDOC), regional wholesale supplier, the Metropolitan Water District of Southern California (MET), regional wholesaler for Southern California and the direct supplier of imported water to MWDOC, and Orange County Water District (OCWD), Orange County Groundwater Basin (OC Basin) manager and provider of recycled water in

North Orange County. As a MWDOC member agency, the City also developed this WSCP with input from several coordination efforts led by MWDOC.

Some of the key planning and reporting documents that were used to develop this WSCP are:

- **MWDOC's 2025 UWMP** provides the basis for the projections of the imported supply availability over the next 25 years for the City's service area.
- **MWDOC's 2025 WSCP** provides a water supply availability assessment and structured steps designed to respond to actual conditions that will help maintain reliable supplies and reduce the impacts of supply interruptions.
- **MWDOC's 2023 Orange County Water Reliability Study** is a planning document to help guide planning for future water supply reliability for water providers in Orange County and provide input on regional water supply issues for MET.
- **2025 Orange County Water Demand Projection Model Technical Memorandum** is a collaborative effort amongst MWDOC, OCWD, and all retail water suppliers in Orange County that developed water demand projections to produce regionally consistent forecasts across all Orange County water agencies.
- **OCWD's 2025 Groundwater Resilience Plan (GRP)** is an adaptive strategies management plan outlining strategic projects to secure reliable future water supplies in the Orange County Basin.
- **MET's 2025 UWMP** uses assumptions that fall within the plausible futures contemplated in MET's Integrated Water Resources Plan to evaluate MET's future imported water supply reliability.
- **MET's 2025 WSCP** provides a water supply availability assessment and guide for MET's intended actions during water shortage conditions.
- **OCWD's 2023 to 2024 Engineer's Report** provides information on the groundwater conditions, water supply, and basin utilization of the OC Basin.
- **OCWD's 2022 Basin 8-1 Alternative** is an alternative to the Groundwater Sustainability Plan (GSP) for the OC Basin, which provides significant information related to sustainable management of the basin in the past and hydrogeology of the basin, including groundwater quality and basin characteristics, and addresses DWR's recommendations to ensure long-term basin sustainability.
- **City of Orange's 2025 Local Hazard Mitigation Plan (LHMP)** provides the basis for the seismic and other natural disaster risk analysis of the water system facilities.
- **City of Orange Capital Improvement Plan** provides information on water infrastructure planning projects and plans to address any required water system improvements.

SECTION 2 BACKGROUND INFORMATION

Incorporated in 1888, under the general laws of the State of California, the City is situated at an average elevation of 195 feet above mean sea level and covers an area of approximately 27 square miles. The City is located in the north-central portion of Orange County, adjacent to the cities of Anaheim, Tustin, and Santa Ana. The City is governed by a seven-member City Council that provides policy direction for the City and enacts all municipal legislation. The City Council serves in a quasi-judicial role on certain

administrative appeals and directs the administration of its policy decisions through the City Manager for delegation to appropriate City staff.

2.1 City Service Area

The City's 61.9 square mile sphere of influence extends east to the Cleveland National Forest. Within the sphere of influence is the City's 37.2 square mile planning area and the Water Division's 24.3 square mile water service area lying within the planning area, as shown in Figure 1. The 24.3 square mile Water Division's service area does not follow the same boundary as the City limits. The Water Division service area extends outside of City limits and excludes several small areas inside City limits, which are served by other water purveyors, as described below:

- Areas served by the Water Division outside the City limits include:
  - Some County Islands.
  - Small area in the City of Anaheim (Along Imperial Highway north of Via Escola).
  - Irvine Regional Park.
- Other water purveyors that serve areas within the City limits include:
  - Irvine Ranch Water District (IRWD).
  - Serrano Water District (SWD).
  - East Orange County Water District (EOCWD).
  - Golden State Water Company.
  - City of Santa Ana.

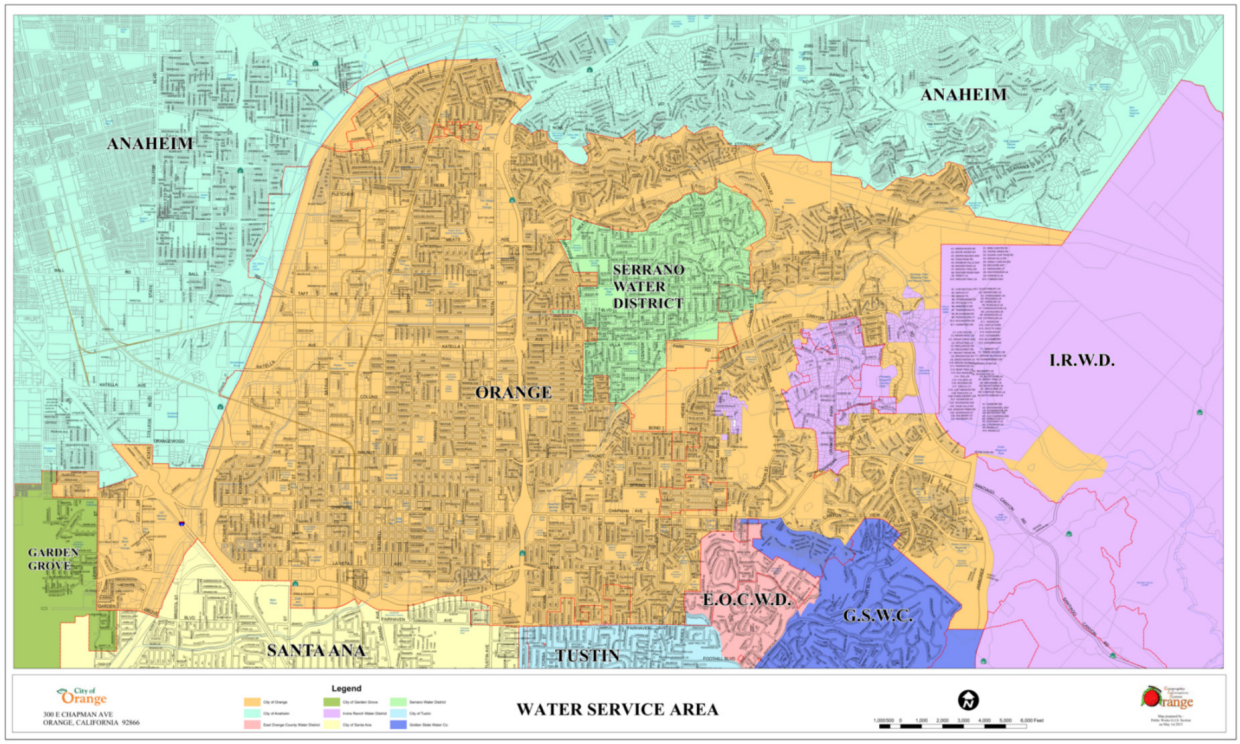


Figure 1 City of Orange Service Area

2.2 Relationship with Wholesalers

The Metropolitan Water District of Southern California : MET is the largest water wholesaler for domestic and municipal uses in California, serving approximately 19 million customers. MET wholesales imported water supplies to 26 member cities and water districts in six Southern California counties. Its service area covers the Southern California coastal plain, extending approximately 200 miles along the Pacific Ocean from the City of Oxnard in the north to the international boundary with Mexico in the south. This encompasses 5,200 square miles and includes portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Approximately 85 percent of the population from the aforementioned counties reside within MET's boundaries.

MET is governed by a Board of Directors comprised of 38 appointed individuals with a minimum of one representative from each of MET's 26 member agencies. The allocation of directors and voting rights is determined by each agency's assessed valuation. Each member of the Board shall be entitled to cast one vote for each ten million dollars of assessed valuation of property taxable for district purposes, in accordance with Section 55 of the Metropolitan Water District Act. Directors can be appointed through the Chief Executive Officer of the member agency or by a majority vote of the governing board of the agency. Directors are not compensated by MET for their service.

MET is responsible for importing water into the region through its operation of the Colorado River Aqueduct and its contract with the State of California for SWP supplies. Member agencies receive water from MET through various delivery points and pay for service through a rate structure made up of volumetric rates, capacity charges, and readiness to serve charges. Member agencies provide estimates of imported water demand to MET annually in April regarding the amount of water they anticipate they will need to meet their demands for the next five years.

The Municipal Water District of Orange County: In Orange County, MWDOC and the cities of Anaheim, Fullerton, and Santa Ana are MET member agencies that purchase imported water directly from MET. Furthermore, MWDOC purchases both treated potable and untreated water from MET to supplement its retail agencies' local supplies.

The City is one of MWDOC's 27 member agencies purchasing imported water from MWDOC. The City's location within MWDOC's service area is shown in Figure 2.

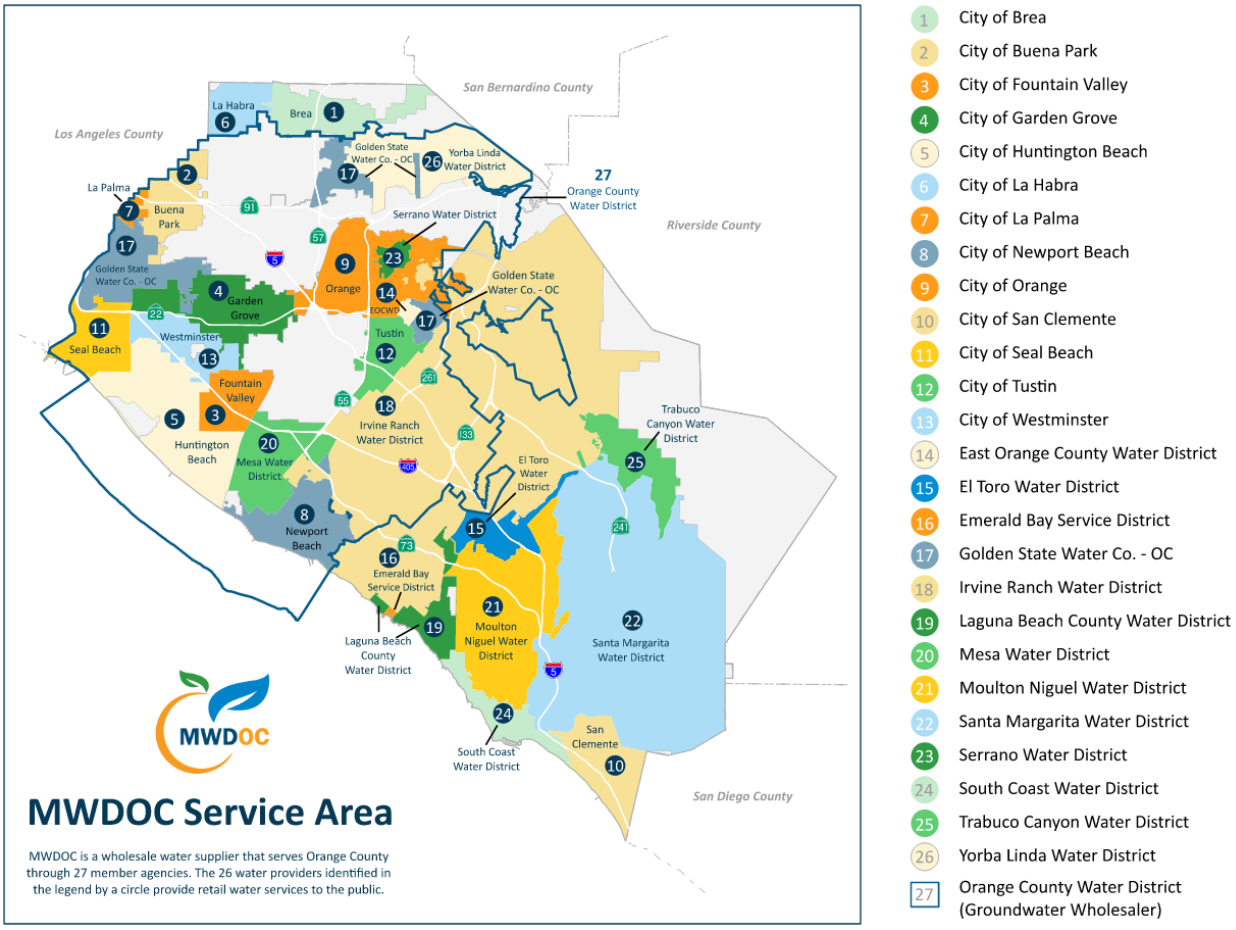


Figure 2 Regional Location of the City of Orange and Other MWDOC Member Agencies

2.3 Relationship with Wholesaler Water Shortage Planning

The WSCP is designed to be consistent with MET's Water Surplus and Drought Management (WSDM) Plan, MWDOC's Water Supply Allocation Plan (WSAP), and other emergency planning efforts as described below. MWDOC's WSAP is integral to the WSCP's shortage response strategy in the event that MET or MWDOC determines that supply augmentation (including storage) and lesser demand reduction measures would not be sufficient to meet a projected shortage levels needed to meet demands.

2.3.1 MET Water Surplus and Drought Management Plan

MET evaluates the level of supplies available and existing levels of water in storage to determine the appropriate management stage annually. Each stage is associated with specific resource management actions to avoid extreme shortages to the extent possible and minimize adverse impacts to retail customers should an extreme shortage occur. The sequencing outlined in the WSDM Plan reflects anticipated responses towards MET's existing and expected resource mix.

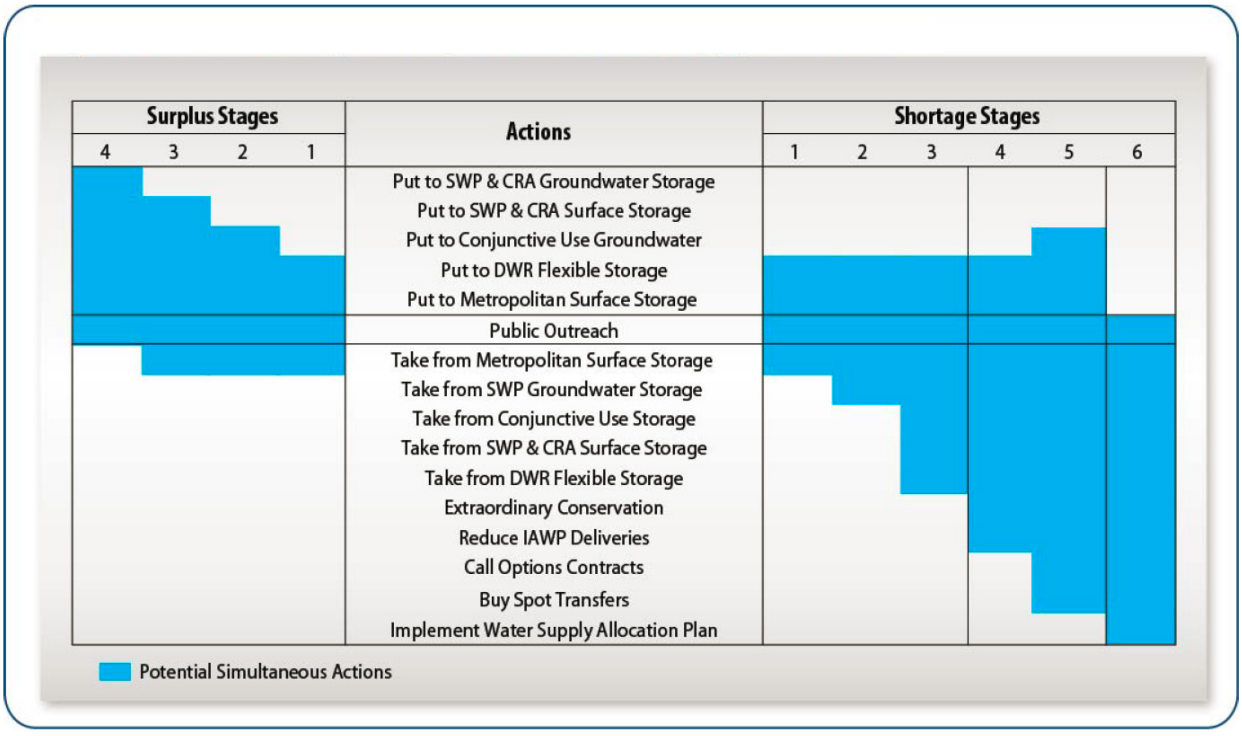
Surplus stages occur when net annual deliveries can be made to water storage programs. Under the WSDM Plan, there are four surplus management stages that provide a framework for actions to take for

surplus supplies. Deliveries in Diamond Valley Lake (DVL) and in SWP terminal reservoirs continue through each surplus stage, provided there is available storage capacity. Withdrawals from DVL for regulatory purposes or to meet seasonal demands may occur at any stage.

The WSDM Plan distinguishes between shortages, severe shortages, and extreme shortages. The differences between each term are listed below:

- **Shortage:** MET can meet full-service demands and partially meet or fully meet interruptible demands using stored water or water transfers as necessary (Stages 1-3).
- **Severe Shortage:** MET can meet full-service demands only by making withdrawals from storage, calling on its water transfers, and possibly calling for extraordinary conservation and reducing deliveries under the Interim Agricultural Water Program (IAWP) (Stages 4-5).
- **Extreme Shortage:** MET must allocate available imported supplies to full-service customers (Stage 6).

There are six shortage management stages to guide resource management activities. These stages are defined by shortfalls in imported supply and water balances in MET's storage programs. When MET must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Figure 3 gives a summary of actions under each surplus and shortage stage when an allocation plan is necessary to enforce mandatory cutbacks. The goal of the WSDM plan is to avoid Stage 6, an extreme shortage (MET, 2026b).



Source: MET, 2026.

Figure 3 Resource Stages, Anticipated Actions, and Supply Declarations

MET's Board of Directors adopted a Water Supply Condition Framework in June 2008 to communicate the urgency of the region's water supply situation and the need for further water conservation practices. The framework has four conditions, each calling for increasing levels of conservation. Descriptions for each of the four conditions are listed below:

- **Baseline Water Use Efficiency:** Ongoing conservation, outreach, and recycling programs to achieve permanent reductions in water use and build storage reserves.
- **Condition 1 Water Supply Watch:** Local agency voluntary dry-year conservation measures and use of regional storage reserves.
- **Condition 2 Water Supply Alert:** Regional call for cities, counties, member agencies, and retail water agencies to implement extraordinary conservation through drought ordinances and other measures to mitigate use of storage reserves.
- **Condition 3 Water Supply Allocation:** Implement MET's WSAP.

As noted in Condition 3, should supplies become limited to the point where imported water demands cannot be met, MET will allocate water through the WSAP (MET, 2026a).

2.3.2 MET Water Supply Allocation Plan

MET's imported supplies have been impacted by a number of water supply challenges as noted earlier. In case of extreme water shortage within the MET service area, the implementation of its WSAP is required.

MET's Board of Directors adopted the WSAP in February 2008 to fairly distribute a limited amount of water supply and apply it through a detailed methodology to reflect a range of local conditions and needs of the region's retail water consumers (MET, 2026a).

The WSAP includes the specific formula for calculating member agency supply allocations and the key implementation elements needed for administering an allocation. MET's WSAP is the foundation for the urban water shortage contingency analysis required under Water Code Section 10632 and is part of MET's 2025 UWMP.

MET's WSAP was developed in consideration of the principles and guidelines in MET's 1999 WSDM Plan with the core objective of creating an equitable "needs-based allocation." The WSAP's formula seeks to balance the impacts of a shortage at the retail level while maintaining equity on the wholesale level for shortages of MET supplies of greater than 50 percent cutbacks. The formula takes into account a number of factors, such as the impact on retail customers, growth in population, changes in supply conditions, investments in local resources, demand hardening aspects of water conservation savings, recycled water, extraordinary storage and transfer actions, and groundwater imported water needs.

The formula is calculated in three steps: (1) base period calculations; (2) allocation year calculations; and (3) supply allocation calculations. The first two steps involve standard computations, while the third step contains specific methodology developed for the WSAP.

Step 1: Base Period Calculations - The first step in calculating a member agency's water supply allocation is to estimate their water supply and demand using a historical-based period with established water supply and delivery data. The base period for each of the different categories of supply and demand is calculated using data from the two most recent non-shortage years.

Step 2: Allocation Year Calculations - The next step in calculating the member agency's water supply allocation is estimating water needs in the allocation year. This is done by adjusting the base period estimates of retail demand for population growth and changes in local supplies.

Step 3: Supply Allocation Calculations - The final step is calculating the water supply allocation for each member agency based on the allocation year water needs identified in Step 2.

To implement the WSAP, MET's Board of Directors decides on the level of the regional shortage, based on specific criteria, typically in April. The criteria used by MET include current levels of storage, estimated water supply conditions, and projected imported water demands. The allocations, if deemed necessary, go into effect in July of the same year and remain in effect for a 12-month period. The schedule is made at the discretion of the Board of Directors (MET, 2026b).

As demonstrated by the findings in MET's 2020 UWMP, both the Water Reliability Assessment and the Drought Risk Assessment (DRA) demonstrate that MET is projecting to be able to mitigate the challenges posed by hydrologic variability, potential climate change, and regulatory risk on its imported supply sources through the significant storage capabilities it has developed over the last two decades, both dry-year and emergency storage (MET, 2026b).

Although MET's 2025 UWMP forecasts that MET will be able to meet projected imported demands throughout the projected period from 2026 to 2050, uncertainty in supply conditions can result in MET needing to implement its WSAP to preserve dry-year storage and curtail demands (MET, 2026b).

2.3.3 MWDOC Water Supply Allocation Plan

To prepare for the potential allocation of imported water supplies from MET, MWDOC worked collaboratively with its 27 retail agencies to develop its own WSAP that was adopted in January 2009 and amended in 2016. The MWDOC WSAP outlines how MWDOC will determine and implement each of its retail agencies' allocation during a time of shortage.

The MWDOC WSAP uses a similar method and approach, when reasonable, as that of the MET's WSAP. However, MWDOC's plan remains flexible to use an alternative approach when MET's method produces a significant unintended result for the member agencies. The MWDOC WSAP model follows five basic steps to determine a retail agency's imported supply allocation.

Step 1: Determine Baseline Information - The first step in calculating a water supply allocation is to estimate water supply and demand using a historical base period with established water supply and delivery data. The base period for each of the different categories of demand and supply is calculated using data from the last two non-shortage years.

Step 2: Establish Allocation Year Information - In this step, the model adjusts for each retail agency's water need in the allocation year. This is done by adjusting the base period estimates for increased retail water demand based on population growth and changes in local supplies.

Step 3: Calculate Initial Minimum Allocation Based on MET's Declared Shortage Level - This step sets the initial water supply allocation for each retail agency. After a regional shortage level is established, MWDOC will calculate the initial allocation as a percentage of adjusted base period imported water needs within the model for each retail agency.

Step 4: Apply Allocation Adjustments and Credits in the Areas of Retail Impacts and Conservation - In this step, the model assigns additional water to address disparate impacts at the retail level caused by an across-the-board cut of imported supplies. It also applies a conservation credit given to those agencies that have achieved additional water savings at the retail level as a result of the successful implementation of water conservation devices, programs, and rate structures.

Step 5: Sum Total Allocations and Determine Retail Reliability - This is the final step in calculating a retail agency's total allocation for imported supplies. The model sums an agency's total imported allocation with all of the adjustments and credits and then calculates each agency's retail reliability compared to its Allocation Year Retail Demand.

The MWDOC WSAP includes additional measures for plan implementation, including the following (MWDOC, 2016):

- **Appeal Process** - An appeal process to provide retail agencies the opportunity to request a change to their allocation based on new or corrected information. MWDOC anticipates that under most circumstances, a retail agency's appeal will be the basis for an appeal to MET by MWDOC.
- **Melded Allocation Surcharge Structure** - At the end of the allocation year, MWDOC would only charge an allocation surcharge to each retail agency that exceeded their allocation if MWDOC exceeds its total allocation and is required to pay a surcharge to MET. MET enforces allocations to retail agencies through an allocation surcharge to a retail agency that exceeds its total annual allocation at the end of the 12-month allocation period. MWDOC's surcharge would be assessed according to the retail agency's prorated share (acre-feet [AF] over usage) of the MWDOC amount with MET. Surcharge funds collected by MET will be invested in its Water Management Fund, which is used in part to fund expenditures in dry-year conservation and local resource development.
- **Tracking and Reporting Water Usage** - MWDOC will provide each retail agency with water use monthly reports that will compare each retail agency's current cumulative retail usage to their allocation baseline. MWDOC will also provide quarterly reports on its cumulative retail usage versus its allocation baseline.
- **Timeline and Option to Revisit the Plan** - The allocation period will cover 12 consecutive months, and the Regional Shortage Level will be set for the entire allocation period. MWDOC only anticipates calling for allocation when MET declares a shortage, and no later than 30 days from MET's declaration, MWDOC will announce allocation to its retail agencies.

SECTION 3 WATER SHORTAGE CONTINGENCY PREPAREDNESS AND RESPONSE PLANNING

The City's WSCP is a detailed guide of how the City intends to act in the case of actual water shortage conditions. The WSCP anticipates a water supply shortage and provides pre-planned guidance for managing and mitigating a shortage. Regardless of the reason for the shortage, the WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage to ensure the relevant stakeholders understand what to expect during a water shortage situation.

3.1 Water Supply Reliability Analysis

Per Water Code Section 10632 (a)(1), the WSCP shall provide an analysis of water supply reliability conducted pursuant to Water Code Section 10635, and the key issues that may create a shortage condition when looking at the City's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides the City with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. For the 2025 UWMP, the City worked collaboratively with MWDOC, OCWD, and MWDOC's other retail water agencies to produce long-term projected water use over the next 25 years, in five-year increments, for each agency (MWDOC, 2025).

The City also conducted a DRA to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted (2026-2030). An analysis of both assessments determined that the City is capable of meeting all customers' demands from 2025 through 2050 for a normal year, a single dry year, and a drought lasting five consecutive years with significant imported water supplemental dedicated drought supplies from MWDOC/MET and ongoing conversation program efforts. The City has also added reliability through receiving the majority of its water supply from groundwater from the OC Basin and supplemental supplies from MWDOC/MET. As a result, there is no projected shortage condition due to drought that will trigger customer demand reduction actions until MWDOC notifies the City of insufficient imported supplies. More information is available in the City's 2025 UWMP Sections 6 and 7 (Orange, 2026).

3.2 Annual Water Supply and Demand Assessment Procedures

Per Water Code Section 10632.1, the City will conduct an AWSDA pursuant to subdivision (a) of Section 10632 and by July 1 of each year, beginning in 2022, submit an AWSDA with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the Supplier's WSCP.

The City must include in its WSCP the procedures used for conducting an AWSDA. The AWSDA is a determination of the near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage stage response actions in the current calendar year. This determination is based on information available to the City at the time of the analysis. Starting in 2022, the AWSDA is due July 1 of every year.

This section documents the decision-making process required for formal approval of the City's AWSDA determination of water supply reliability each year, and the key data inputs and the methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.1 Decision-Making Process

The following decision-making process describes the functional steps that the City will take to formally approve the AWSDA determination of water supply reliability each year.

3.2.1.1 City Steps to Approve the AWSDA Determination

The AWSDA will be predicated on the OCWD Basin Production Percentage (BPP) and on MWDOC's AWSDA outcomes. Figure 4 shows the AWSDA reporting timeline for the City of Orange.

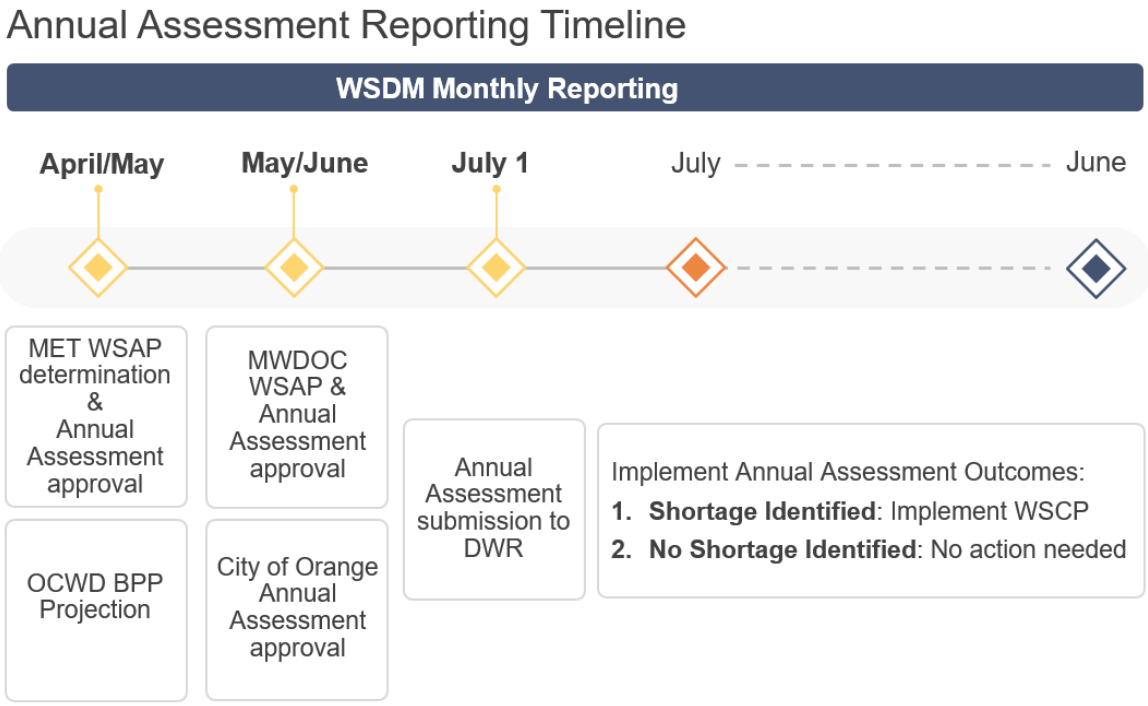


Figure 4 AWSDA Reporting Timeline

The City produces local groundwater from the OC Basin managed by OCWD. The OC Basin is not adjudicated, and as such, pumping from the OC Basin is managed through a process that uses financial incentives to encourage Groundwater Producers (Producers) to pump a sustainable amount of water. The framework for the financial incentives is based on establishing the BPP, the percentage of each Producer's total water supply that comes from groundwater pumped from the OC Basin. The BPP is set uniformly for all Producers by the OCWD Board of Directors on an annual basis. Based on the projected water demand and modeled water supply, over the long term, OCWD anticipates sustainably supporting a BPP of 85 percent. However, volumes of groundwater and imported water may vary depending on OCWD's actual BPP projections. A supply reduction that may result from the annual BPP projection will be included in the AWSDA.

While the City's primary source of water is OCWD groundwater, any remaining source to meet retail demands comes from the purchase of imported water from MWDOC. MWDOC surveys its member agencies annually for anticipated water demands and supplies for the upcoming year. MWDOC utilizes this information to plan for the anticipated imported water supplies for the MWDOC service area. This information is then shared and coordinated with MET and is incorporated into their analysis of their service area's annual imported water needs. Based on the year's supply conditions and WSDM actions, MET will present a completed AWSDA for its member agencies' review, from which they will then seek Board approval in April of each year. Additionally, MET expects that any triggers or specific shortage response actions that result from the AWSDA will be approved by their Board at that time. Based upon

MET's Assessment and taking into consideration information provided to MWDOC through the annual survey, MWDOC will provide an anticipated estimate of imported supplies for the City to incorporate into the AWSDA.

The City Water Division designee will be responsible for approving the AWSDA in years when no shortage is identified and submitting it to DWR by July 1. In years where a water shortage is identified, the AWSDA will be presented to the City Council and submitted to DWR prior to the July 1 deadline.

3.2.2 Data and Methodologies

The following paragraphs document the key data inputs and methodologies that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

3.2.2.1 Assessment Methodology

The City will evaluate water supply reliability for the current year and one dry year for the purpose of the AWSDA. The AWSDA determination will be based on considerations of unconstrained water demand, local water supplies, MWDOC imported water supplies, planned water use, and infrastructure considerations. The balance between projected in-service area supplies, coupled with MWDOC imported supplies, and anticipated unconstrained demand will be used to determine what, if any, shortage level is expected under the WSCP framework as presented in Figure 5. The WSCP's standard shortage levels are defined in terms of shortage percentages. Shortage percentages will be calculated by dividing the difference between water supplies and unconstrained demand by total unconstrained demand. This calculation will be performed separately for anticipated current year conditions and for assumed dry year conditions.

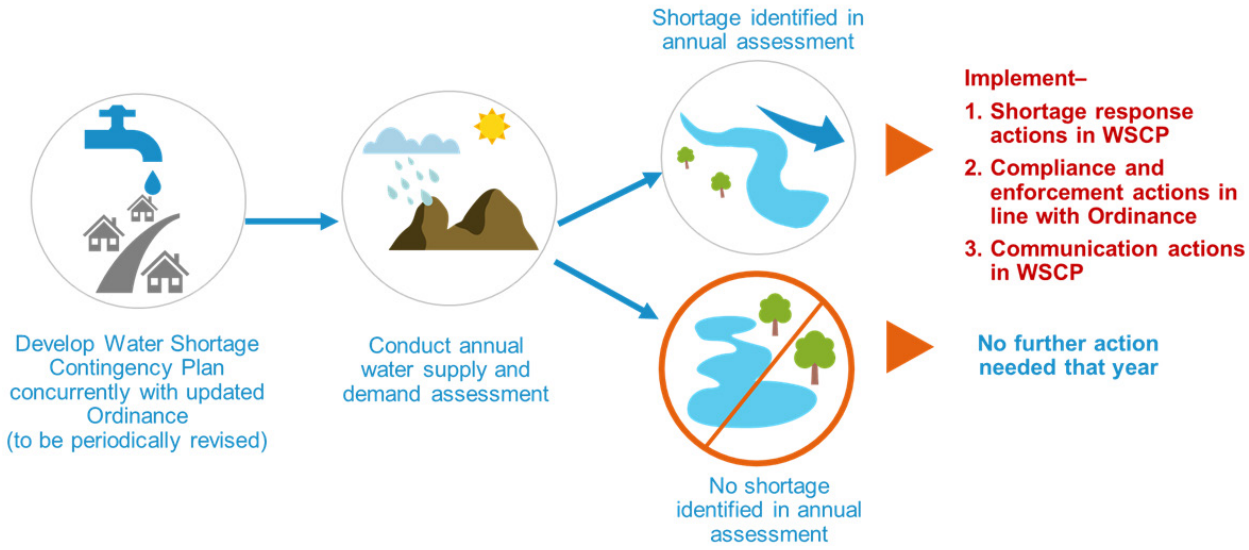


Figure 5 Water Shortage Contingency Plan AWSDA Framework

3.2.2.2 Locally Applicable Evaluation Criteria

Within Orange County, there are no significant local applicable criteria that directly affect reliability. Through the years, the water agencies in Orange County have made tremendous efforts to integrate their systems to provide flexibility to interchange with different sources of supplies. There are emergency agreements in place to ensure all parts of the County have an adequate supply of water. In the northern part of the County, agencies have the ability to meet a majority of their demands through groundwater with very little limitation, except for the OCWD BPP.

The City will also continue to monitor emerging supply and demand conditions related to supplemental imported water from MWDOC/MET and take appropriate actions consistent with the flexibility and adaptiveness inherent to the WSCP. The City's AWSDA was based on the City's service area, water sources, water supply reliability, and water use as described in Water Code Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area of the City. Some conditions that affect MWDOC's wholesale supply and demand, such as groundwater replenishment, surface water, and local supply production, can differ significantly from earlier projections throughout the year.

If a major earthquake on the San Andreas Fault occurs, it has the potential to damage all three key regional water aqueducts and disrupt imported supplies for up to six months. The region would likely impose a water use reduction ranging from 25 to 35 percent until the system is repaired. However, MET has taken proactive steps to handle such disruption, such as constructing DVL and prepositioning necessary reconstruction resources to quickly recover from such a seismic event, which mitigates potential impacts. DVL, along with other local reservoirs, can store a six to twelve-month supply of emergency water (MET, 2026a).

3.2.2.3 Water Supply

As detailed in the City's 2025 UWMP, the City meets its customers' demands with a combination of local groundwater from the OC Basin, imported water from MWDOC/MET, and local surface water. In Fiscal Year (FY) 2024-2025, the City relied on 78 percent groundwater, 18 percent imported water, and 4 percent surface water. It is projected that by 2050, the City's water supply mix will change to approximately 81 percent groundwater, 14 percent imported water, and 5 percent surface water, and the City can purchase more MET imported water through MWDOC should the need arise (Orange, 2026).

3.2.2.4 Unconstrained Customer Demand

The WSCP and AWSDA define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demand.

The City's DRA reveals that its supply capabilities are expected to balance anticipated total water use and supply, assuming a five-year consecutive drought from FY 2025-2026 through FY 2029-2030 (Orange, 2026). This is based on the water demand projection model; in a single dry year, demand is expected to increase by seven percent above a normal year (MWDOC, 2025).

For the City, the five consecutive dry year demand scenario is based on the demand model's multiple dry year methodology. In accordance with the econometric demand model approach used to develop UWMP demand projections, a single hot/dry year was first identified based on weather conditions that produced the greatest demand response. Consecutive dry years were then represented by applying incremental scaling factors to this single hot/dry year demand to account for the compounding effects of persistent warm and dry conditions over time. These scaling factors show long-term relationships between regional water use and multi-year temperature and precipitation deficits and are applied sequentially to simulate second through fifth consecutive dry years. This approach is consistent with the demand modeling framework summarized in Chapter 7 of the City's UWMP.

3.2.2.5 Planned Water Use for Current Year Considering Dry Subsequent Year

Water Code Section 10632(a)(2)(B)(ii) requires the AWSDA to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year."

The AWSDA will include two separate estimates of the City's annual water supply and unconstrained demand using: (1) current year conditions; and (2) assumed dry year conditions. Accordingly, the AWSDA's shortage analysis will present separate sets of findings for the current year and dry year scenarios. The Water Code does not specify the characteristics of a dry year, allowing discretion to the Supplier. The City will use its discretion to refine and update its assumptions for a dry year scenario in each AWSDA as information becomes available and in accordance with best management practices.

Supply and demand analyses for the single-dry year case were based on conditions affecting the SWP as this supply availability fluctuates the most among MET's, and therefore MWDOC and the City's sources of supply. Severe drought conditions in 2021-2022 affected must of the Western United States, including the Colorado River System, which caused its water supply to decrease. As conditions worsened, Lake Mead and Lake Powell (the largest storage units in the system) had a combined total storage capacity of 25 percent in 2022, a significant decrease from 39 percent in 2021 (MWDOC, 2025).

The Orange County Water Demand Projection Model isolated the impacts that weather and future climate can have on water demand through the use of a statistical model. The impacts of hot/dry weather conditions are reflected as a percentage increase in water demands from the normal year condition for a single dry year condition (FY 2013-2014). The model projects a seven percent increase in demand for the OC Basin area, where the City's service area is located (MWDOC, 2025). Detailed information about the model is included in the City's 2025 UWMP.

The City has documented that it is 100 percent reliable for single dry year demands from 2025 through 2050, with a demand increase of seven percent from normal demand, with significant reserves held by MET, local groundwater supplies, and conservation (Orange, 2026).

3.2.2.6 Infrastructure Considerations

The AWSDA will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity. MWDOC closely coordinates with MET and its member agencies, including the City, on any planned infrastructure work that may impact water supply availability. Throughout each year, MET regularly carries out preventive and corrective maintenance of its facilities within the MWDOC service area that may require

shutdowns to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination between MWDOC, MWDOC's member agencies, and MET to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within MET's system and the cooperation of member agencies allow shutdowns to be successfully completed while continuing to meet all system demands.

Specifically for the City, as of March 2026, there are no foreseen near-term infrastructure issues that would impact supply.

3.2.2.7 Other Factors

For the AWSDA, any known issues related to water quality would be considered for their potential effects on water supply reliability.

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of manmade chemicals that includes perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). PFAS compounds were once commonly used in many products, including, among many others, stain- and water-repellent fabrics, nonstick products (e.g., Teflon), polishes, waxes, paints, cleaning products, and fire-fighting foams. Beginning in the summer of 2019, the California State Division of Drinking Water (DDW) began requiring testing for PFAS compounds in some groundwater production wells in the OCWD area.

MET has voluntarily monitored PFAS in its source and treated waters since 2017. Most samples have shown non-detect for all tested PFAS, including PFOA and PFOS. A limited number of other PFAS—such as PFHxA, PFBA, PFPeA, PFDoA, PFTA, and PFBS- have been detected only at trace levels below their method detection limits. PFOA and PFOS have not been detected in MET's imported or treated water supplies. However, some member agencies have detected these compounds in local groundwater wells, which may require treatment or source management to comply with emerging DDW regulations. As DDW and the US Environmental Protection Agency (EPA) establish enforceable maximum contaminant levels (MCL) for PFOA and PFOS, some agencies may supplement their local supplies with increased purchases of MET water (MET, 2025).

The EPA finalized the first national drinking water standards for six PFAS compounds in April 2024. These standards include enforceable MCLs for PFOA and PFOS set at 4 parts per trillion (ppt). In May 2025, the EPA announced that it would extend the compliance deadline for PFOA and PFOS from 2029 to 2031 to provide additional time for testing, planning, and installation of treatment technologies. While MET and its member agencies continue to monitor and test PFAS in imported and local sources, the delay in the federal compliance date allows additional time to evaluate treatment options, coordinate funding, and plan system upgrades necessary to meet forthcoming federal PFAS standards.

PFAS have been detected in the OC Basin in very small amounts (parts per trillion), entering primarily via the Santa Ana River, whose flows infiltrate into the basin. Despite playing no role in releasing PFAS into the environment, OCWD is working with its cities and retail water districts to remove it from local water supplies in order to comply with new state and federal regulations. More than 100 wells have been impacted due to various state and federal regulations. Fifteen impacted agencies will have to temporarily purchase more costly imported water to replace PFAS contaminated supplies. As of 2025, 53 impacted wells are back online due to close to a billion dollars being spent on state-of-the-art testing, research and piloting of different treatment systems, and design and construction of treatment plants that are now operational.

The City has added PFAS treatment systems to all existing wells. New wells will be constructed with a PFAS treatment system in place.

3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), Suppliers must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the AWSDA or cross-reference their shortage levels to the standard levels. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10, 20, 30, 40, 50, and greater than 50 percent shortage compared to the normal reliability condition) and align with the response actions the Supplier would implement to meet the severity of the impending shortages (Table 1).

Table 1 Cross-Reference for Standard vs Supplier Shortage Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. The City has defined specific shortage response actions that align with the defined shortage levels in DWR Tables 8-2 and 8-3 (Appendix A). These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions.

3.4.1 Supply Augmentation

The supply augmentation actions are described in DWR Table 8-2 (Appendix A). These augmentations represent short-term management objectives triggered by the MET's WSDM Plan and do not overlap with

the long-term new water supply development or supply reliability enhancement projects. Supply Augmentation is made available to the City through MWDOC and MET. The City relies on MET's reliability portfolio of water supply programs including existing water transfers, storage, and exchange agreements to supplement gaps in the City's supply/demand balance. MET has developed significant storage capacity (over 5 million acre foot [AF]) in reservoirs and groundwater banking programs both within and outside of the Southern California region. Additionally, MET can pursue additional water transfer and exchange programs with other water agencies to help mitigate supply/demand imbalances and provide additional dry-year supply sources.

MWDOC, and in turn its retail agencies, including the City, have access to supply augmentation actions through MET. MET may exercise these actions based on regional need, and in accordance with their WSCP, and may include the use of supplies and storage programs within the Colorado River, SWP, and in-region storage. The City has the ability to augment its supply to reduce the shortage gap by up to 100 percent by purchasing additional imported water through MWDOC or pumping additional groundwater in the OC Basin; however, both are subject to rate penalties from MWDOC and OCWD, respectively.

3.4.2 Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in DWR Table 8-3 (Appendix A). This table indicates which actions align with specific defined shortage levels and estimates the extent to which the actions will reduce the gap between supplies and demands to deliver the outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure.

3.4.3 Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. The City will consider their operational procedures when it completes its AWSDA or as needed to identify changes that can be implemented to address water shortage on a short-term basis, such as temporarily altering maintenance cycles, deferring planned system outages, and adjusting the flow and routing of water through its system to more effectively distribute available supply across the service area.

3.4.4 Additional Mandatory Restrictions

California Water Code Section 10632(a)(4)(D) calls for "additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions" to be included among the WSCP's shortage response actions. The City will identify additional mandatory restrictions as needed based on the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.4.5 Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6, and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several Plans that address catastrophic failures and align with the WSCP, including MET's, WSDM, and WSAP, the

City's Local Hazard Mitigation Plan (LHMP), and the Water Emergency Response Organization of Orange County's (WEROC) Emergency Operations Plan (EOP).

3.4.5.1 MET's, WSDM, and WSAP

MET has comprehensive plans for stages of actions it would undertake to address a catastrophic interruption in water supplies through its WSDM and WSAP. MET also developed an Emergency Storage Requirement to mitigate against potential interruption in water supplies resulting from catastrophic occurrences within the Southern California region, including seismic events along the San Andreas Fault. In addition, MET is working with the state to implement a comprehensive improvement plan to address catastrophic occurrences outside of the Southern California region, such as a maximum probable seismic event in the Sacramento-San Joaquin River Delta that would cause levee failure and disruption of SWP deliveries.

3.4.5.2 Water Emergency Response Organization of Orange County Emergency Operations Plan

In 1983, the Orange County water community identified a need to develop a plan on how agencies would respond effectively to disasters impacting the regional water distribution system. The collective efforts of these agencies resulted in the formation of WEROC to coordinate emergency response on behalf of all Orange County water and wastewater agencies, develop an emergency plan to respond to disasters, and conduct disaster training exercises for the Orange County water community. WEROC, administered by MWDOC, was established through the creation of an indemnification agreement among its member agencies to protect each other against civil liabilities and to facilitate the exchange of resources. WEROC is unique in its ability to provide a single point of contact for the representation of all water and wastewater utilities in Orange County during a disaster. This representation is to the county, state, and federal disaster coordination agencies. Within the Orange County Operational Area, WEROC is the recognized contact for emergency response for the water community, including the City.

As a member of WEROC, the City will follow WEROC's EOP in the event of an emergency and coordinate with WEROC to assess damage, initiate repairs, and request and coordinate mutual aid resources in the event that the City is unable to provide the level of emergency response support required by the situation.

The EOP defines the actions to be taken by WEROC Emergency Operations Center (EOC) staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to Orange County water and wastewater utilities. The EOP includes an activation notification protocol that will be used to contact partner agencies to inform them of the situation, activation status of the EOC, known damage or impacts, or resource needs. The EOP is a standalone document that is reviewed annually and approved by the MWDOC Board every three years.

WEROC is organized on the basis that each member agency is responsible for developing its own EOP in accordance with the California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS), and Public Health Security and Bioterrorism Preparedness and Response Act of 2002 to meet specific emergency needs within its service area.

The WEROC EOC is responsible for assessing the overall condition and status of the Orange County regional water distribution and wastewater collection systems, including MET facilities that serve Orange

County. The EOC can be activated during an emergency situation resulting from both natural and man-made causes, and can be activated through automatic, manual, or standby for activation.

WEROC recognizes four primary phases of emergency management, which include:

- **Preparedness:** Planning, training, and exercises that are conducted prior to an emergency to support and enhance response to an emergency or disaster.
- **Response:** Activities and programs designed to address the immediate and short-term effects of the onset of an emergency or disaster that helps to reduce effects on water infrastructure and speed recovery. This includes alert and notification, EOC activation, direction and control, and mutual aid.
- **Recovery:** This phase involved restoring systems to normal, in which short-term recovery actions are taken to assess the damage and return vital life-support systems to minimum operating standards, while long-term recovery actions have the potential to continue for many years.
- **Mitigation/Prevention:** These actions prevent the occurrence of an emergency or reduce the area's vulnerability in ways that minimize the adverse impacts of a disaster or emergency.

The EOC Action Plans provide frameworks for EOC staff to respond to different situations with the objectives and steps required to complete them, which will in turn serve the WEROC member agencies. In the event of an emergency that results in a catastrophic water shortage, the City will declare a water shortage condition of up to Level 3 for the impacted area depending on the severity of the event, and coordination with WEROC is anticipated to begin at Level 4 or greater (WEROC, 2021).

3.4.5.3 City of Orange Emergency Response Plan

The City will also refer to its current American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan in the event of a catastrophic supply interruption.

3.4.6 Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s). Given the great distances that imported supplies travel to reach Orange County, the region is vulnerable to interruptions along hundreds of miles of aqueducts, pipelines and other facilities associated with delivering the supplies to the region. Additionally, the infrastructure in place to deliver supplies is susceptible to damage from earthquakes and other disasters.

In lieu of conducting a seismic risk assessment specific to the City's 2025 UWMP, the City has included their LHMP, as required under the federal Disaster Mitigation Act of 2000 (Public Law 106-390). The LHMP describes the City's approach to proactively decreasing threats before disaster occurs, including water supply specific mitigation actions such as improving security and alert systems, upgrading back-up power systems, and retrofitting existing flood control infrastructure. (Orange, 2025).

3.4.7 Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in DWR Tables 8-2 and 8-3 (Appendix A). To the extent feasible, the City has estimated percentage savings for the chosen suite of

shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

3.5 Communication Protocols

Timely and effective communication is a key element of the WSCP implementation. In the context of water shortage response, the purpose may be an emergency water shortage situation, such as may result from an earthquake, or a longer-term, non-emergency, shortage condition, such as may result from a drought. In an emergency, the City will activate the communication protocol detailed in the Emergency Response Plan. In a non-emergency water shortage situation, the City will follow the communication protocols described below.

Per the Water Code Section 10632 (a)(5), the City has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the AWSDA described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the AWSDA described pursuant to Section 10632.1; and any other relevant communications.

Non-emergency water shortage communication protocols are focused on communicating the water shortage contingency planning actions that can be derived from the results of the AWSDA, and it would likely trigger based upon the decision-making process in Section 3.2. Prior to water shortage level declaration, the City will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each drought stage, guidelines that customers are to follow during each stage, and sources of current information on the City's supply and demand response status.

The type and degree of communication varies with each shortage level; thus, predefined and actionable communication protocols improve the City's ability to message necessary events. These communication objectives and tools are summarized in Table 2.

The City's Public Relations department will lead public information and outreach efforts in close coordination with other MWDOC and MET. The City will share information and provide guidance to its customers, as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. The City's customer outreach is required to successfully achieve targeted water savings during each drought stage.

Table 2 Coordination Procedures

Shortage Level	Communication Objectives	Communication Tools
1	Compliance with response actions, 10% reduction in water use	▪ Website info. on City website. ▪ Social media outreach. ▪ Direct mailings to homes and businesses. ▪ School education programs (through MWDOC). ▪ City water efficiency programs (through MWDOC). ▪ Direct communication with high water users. ▪ Communication with commercial/industrial water users.
2	Compliance with response actions, 20% reduction in water use	▪ Include all Communication Tools listed under Shortage Level 1. ▪ Communication outreach. ▪ Educational outreach.
3	Compliance with response actions, 30% reduction in water use	Include all Communication Tools listed under Shortage Levels 1 and 2. ▪ Water bill communications.
4	Compliance with response actions, 40% reduction in water use	
5	Compliance with response actions, 50% reduction in water use	
6	Compliance with response actions, >50% reduction in water use	

3.6 Compliance and Enforcement

Per the Water Code Section 10632 (a)(6), the City has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions. Communication procedures to ensure customer compliance are described in Section 3.5. Communication Protocols and customer enforcement, appeal, and exemption procedures are defined in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.7 Legal Authorities

Per Water Code Section 10632 (a)(7)(A), the City has provided a description of the legal authorities that empower the City to implement and enforce its shortage response in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B). The City intends to update any legal authorities in a subsequently adopted ordinance which will supersede the existing ordinance.

Per Water Code Section 10632 (a)(7) (B), the City shall declare a water shortage emergency condition to prevail within the area served by such wholesaler whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Per Water Code Section 10632 (a)(7)(C), the City shall coordinate with any agency or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 2 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, which can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

Table 3 Agency Contacts and Coordination Protocols

Contact	Agency	Coordination Protocols
City Manager	City of Anaheim	Phone and email
City Manager	City of Santa Ana	Phone and email
City Manager	City of Garden Grove	Phone and email
City Manager	City of Tustin	Phone and email
General Manager	Irvine Ranch Water District	Phone and email
General Manager	Serrano Water District	Phone and email
City Manager	City of Villa Park	Phone and email
Director of Public Works	Orange County Public Works Department	Phone and email
General Manager	East Orange County Water District	Phone and email

3.8 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

During a catastrophic interruption of water supplies, prolonged drought, or water shortage of any kind, the City will experience a reduction in revenue due to reduced water sales. Throughout this period of time, expenditures may increase or decrease with varying circumstances. Expenditures may increase in the event of significant damage to the water system, resulting in emergency repairs. Expenditures may also decrease as less water is pumped through the system, resulting in lower power costs. Water shortage mitigation actions will also impact revenues and require additional costs for drought response activities, such as increased staff costs for tracking, reporting, and communications.

The City receives water revenue from a service charge and a commodity charge based on consumption. The service charge recovers costs associated with providing water to the serviced property. The service charge does not vary with consumption, and the commodity charge is based on water usage. Rates have been designed to recover the full cost of water service in the charges. Therefore, the total cost of purchasing water would decrease as the usage or sale of water decreases. In the event of a drought emergency, the City will impose excessive water use penalties on its customers, which may include additional costs associated with reduced water revenue, staff time taken for penalty enforcement, and advertising the excessive use penalties. The excessive water use penalties are further described in the Orange Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

However, there are significant fixed costs associated with maintaining a minimal level of service. The City will monitor projected revenues and expenditures should an extreme shortage and a large reduction in water sales occur for an extended period of time. To overcome these potential revenue losses and/or expenditure impacts, the City may use reserves. If necessary, the City may reduce expenditures by delaying implementation of its Capital Improvement Program and equipment purchases to reallocate funds to cover the cost of operations and critical maintenance, adjust the workforce, implement a drought surcharge, and/or make adjustments to its water rate structure.

Based on current water rates, a volumetric cutback of 50 percent or more of water sales may lead to a range of reductions in revenues. The impacts to revenues will depend on a proportionate reduction in variable costs related to supply, pumping, and treatment for the specific shortage event. The City has set aside reserve funding to mitigate a short-term water shortage situation.

3.9 Monitoring and Reporting

Per Water Code Section 10632(a)(9), the City is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.10). Monitoring for customer compliance tracking is also useful in enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will be used to measure the effectiveness of any water shortage contingency level that may be implemented. As levels of water shortage are declared by MET and MWDOC, the City will follow implementation of those levels as appropriate based on the City's risk profile provided in UWMP Chapter 6 and continue to monitor water demand levels. When MET calls for extraordinary conservation, MET's Drought Program Officer will coordinate public information activities with MWDOC and monitor the effectiveness of ongoing conservation programs.

The City will participate in monthly member agency manager meetings with both MWDOC and OCWD to monitor and discuss monthly water allocation charts. This will enable the City to be aware of imported water and groundwater use on a timely basis as a result of specific actions taken in response to the City's WSCP.

3.10 WSCP Refinement Procedures

Per Water Code Section 10632 (a)(10), the City must provide reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure that shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The City's WSCP is prepared and implemented as an adaptive management plan. The City will use the monitoring and reporting process defined in Section 3.9 to refine the WSCP. In addition, if certain procedural refinements or new actions are identified by City staff or suggested by customers or other interested parties, the City will evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information. For example, new supply augmentation actions will be added, and actions that are no longer applicable for reasons such as program expiration will be removed. However, if revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle. In the course of preparing the AWSDA each year, City staff will routinely consider the functionality of the overall WSCP and will prepare recommendations for City Council if changes are found to be needed.

3.11 Special Water Feature Distinction

Per Water Code Section 10632 (b), the City has defined water features in that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code, in the City's Municipal Code Chapter 7.02 Water Conservation and Water Supply Shortage (Appendix B).

3.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), the City provided notice of the availability of the Public Review Draft 2025 UWMP and Draft 2025 WSCP and notice of the public hearing to consider adoption of the WSCP. The Public Review Drafts of the 2025 UWMP and the 2025 WSCP were posted prominently on the City's website in advance of the public hearing on June 9, 2026. Copies of the draft WSCP were also made available for public inspection at the City Clerk's and Utilities Department offices, and public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C.

The City held the public hearing for the Draft 2025 UWMP and Draft WSCP on June 9, 2026, at the City Council meeting. The City Council reviewed and approved the 2025 UWMP and the WSCP at its June 9, 2026 meeting after the public hearing. See Appendix D for the resolution approving the WSCP.

By July 1, 2026, the City's adopted 2025 UWMP and WSCP was filed with DWR, California State Library, and the County of Orange. The City will make the WSCP available for public review on its website no later than 30 days after filing with DWR.

Based on DWR's review of the WSCP, the City will make any amendments to its adopted WSCP, as required and directed by DWR.

If the City revises its WSCP after the UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

SECTION 4 REFERENCES

City of Orange. (2026). *2025 Urban Water Management Plan*.

City of Orange. (2025). *Local Hazard Mitigation Plan.*

Metropolitan Water District of Southern California (MET). (2026a). 2025 *Water Shortage Contingency Plan*.

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Municipal Water District of Orange County. (2023, July). *2023 Orange County Water Reliability Study.*

Municipal Water District of Orange County. (2025, December 30). *Orange County Water Demand Projection Model Technical Memorandum.*

Water Emergency Response Organization of Orange County (WEROC). (2025). *WEROC 2025 Annual Report.*

APPENDIX A

DWR SUBMITTAL TABLES

Submittal Table 8-1: Water Shortage Contingency Plan Levels

Submittal Table 8-1: Cross-reference for Standard vs Supplier Shortage Levels Water Code Section 10632(a)(3)(B)			
☑	Check the box if the Supplier uses the Standard six levels of water shortage. Proceed to the next table.		
Standard Shortage Levels	**Percent Shortage Range**	**Suppliers Shortage Levels**	**Percent Shortage Range**
1	Up to 10%		
2	Up to 20%		
3	Up to 30%		
4	Up to 40%		
5	Up to 50%		
6	>50%		
NOTES:			

Submittal Table 8-2: Supply Augmentation and Other Actions

Submittal Table 8-2 Retail: Supply Augmentation and Other Actions Water Code Section 10632(a)(4)(A),(C) and (E)				
	Is the Supplier completing this table using the standard six levels? (yes/no)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range)	
			(AF)	
Add additional rows as needed				
1 through 6	Other Purchases	Percentage	0 - 100%	Additional imported water purchases through MWDOC
1 through 6	Other Purchases	Percentage	0 - 100%	Additional groundwater pumping in the Orange County Groundwater Basin
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.				
NOTES: Additional imported water purchases and groundwater pumping may be subject to rate penalties from MWDOC and OCWD, respectively.				

Submittal Table 8-3: Demand Reduction Actions

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
Add additional rows as needed					
0	Landscape - Limit landscape irrigation to specific times		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits of watering hours: Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. Pacific Standard Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
0	Landscape - Prohibit all landscape irrigation		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limit on watering duration: Watering or irrigating of lawn, landscape, or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes of watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour, and weather-based controllers or stream rotor sprinklers that meet a 70 percent efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation		Statewide Prohibition is Required	No excessive water flow or runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter, or ditch is prohibited	
0	Other - Prohibit use of potable water for washing hard surfaces		Statewide Prohibition is Required	No washing down hard or paved surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device or a low-volume, high-pressure cleaning machine equipped to recycle any water used.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Obligation to fix leaks, breaks, or malfunctions: Excessive use, loss or escape of water through breaks, leaks, or other malfunctions, in the water user's plumbing or distribution system for any period of time after such escape of water should have been discovered and corrected and in no event more than 7 days of receiving a notice from the City is prohibited.	Yes
0	Water Features - Restrict water use for decorative water features, such as fountains		Statewide Prohibition is Required	Re-circulating water is required for water fountains and decorative water features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of single pass cooling systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.	No
0	CII - Other CII restriction or prohibition		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No installation of non-re-circulating commercial car wash and laundry systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.	No
0	Other - Require automatic shut- off hoses		On-going Long-Term Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Limits on washing vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat, or trailer, whether motorized or not, is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.	Yes
1	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 1 Protocols)	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 72 hours of notification by the City unless other arrangements are made with the City.	Yes

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
1	CII - Lodging establishment must offer opt out of linen service	Percentage	1%	Commercial lodging establishments must provide option to not launder linen daily: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	No
1	CII - Commercial kitchens required to use pre-rinse spray valves	Percentage	1%	Restaurants are required to use water-conserving dish wash spray valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water-conserving dish wash spray valves.	No
1	CII - Restaurants may only serve water upon request	Percentage	1%	Drinking water served upon request only: Eating or drinking establishments, including, but not limited to, a restaurant, hotel, café, cafeteria, bar, club, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.	Yes
1	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the Director of Public Works, or his designee, after notice to customers.	Yes
2	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 2 Protocols)	No
2	Water Features - Restrict water use for decorative water features, such as fountains	Percentage	1%	Limits on filling ornamental lakes or ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this chapter.	No
2	Other water feature or swimming pool restriction	Percentage	2%	Limits on filling residential swimming pools and spas: Re-filling of more than 1 foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.	Yes
2	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 3 days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 2 days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within 48 hours of notification by the City unless other arrangements are made with the City.	Yes
2	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
3	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 3 Protocols)	No
3	Other	Percentage	5%	Reporting mechanism—hotline: The City may establish a water waste hotline for residents to report violations of this chapter.	Yes
3	Landscape - Other landscape restriction or prohibition	Percentage	3%	Large landscape areas—rain sensors: Large landscape areas, such as parks, cemeteries, golf courses, school grounds, and playing fields, that use landscape irrigation systems to water or irrigate, must use landscape irrigation systems with rain sensors that automatically shut off such systems during periods of rain or irrigation timers which automatically use information such as evapotranspiration sensors to set an efficient water use schedule.	No

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
3	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Limits on watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 2 days per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 1 day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Percentage	2%	Obligation to fix leaks, breaks or malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired immediately upon notification by the City unless other arrangements are made with the City.	Yes
3	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
4	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 4 Protocols)	No
4	Other	Percentage	1%	Retrofits upon sale or transfer: No structure shall be sold or transferred unless all existing plumbing fixtures in the structure are retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	3%	Water recycling required if alternative available: The use of potable water, other than recycled water, is prohibited for specified uses after the City has provided to the customer an analysis showing that recycled water is a cost-effective alternative to potable water for such uses and the customer has had a reasonable time, as determined by the City Manager, to make the conversion to recycled water.	No
4	Other	Percentage	1%	Change in service: Upon the establishment of new water service or a change in water service from 1 person to another non-family member, all existing plumbing fixtures are required to be retrofitted exclusively with water-conserving plumbing fixtures.	No
4	Other	Percentage	1%	Limits of building permits: The City may limit or withhold the issuance of building permits that require new or expanded water service, except to protect the public health, safety, and welfare.	No
4	Landscape - Limit landscape irrigation to specific days	Percentage	10%	Watering days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to 1 day per week during the months of April through October. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than 1 day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than 2 gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
5	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 5 Protocols)	No
5	Other	Percentage	2%	City conservation reports: Upon request of the City Manager, City Departments must prepare and submit quarterly reports on their water conservation efforts. The reports will be consolidated by the City Manager and reported to the City Council at a minimum of once a year.	Yes
5	Landscape - Prohibit all landscape irrigation	Percentage	10%	No watering or irrigating: Watering or irrigating of lawn, landscape, or other vegetated area with potable water is prohibited.	Yes

Submittal Table 8-3 Retail: Demand Reduction Actions Water Code Section 10632(a)(4)(B) and (E)					
No	Is the Supplier completing this table using the standard six levels? (yes/no)				
Shortage Level	Demand Reduction Actions **Drop down list** These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.	How much is this going to reduce the shortage gap?		Additional Explanation or Reference (OPTIONAL)	Penalty, Charge, or Other Enforcement? **For Retail Suppliers Only** Drop Down List
		Volume or Percentage Drop down	Shortage Gap Reduction Value (May be a range) (AF)		
5	Moratorium or Net Zero Demand Increase on New Connections	Percentage	5%	No new potable water service: No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statement of immediate ability to serve or provide potable water service (such as will serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:	No
5	Other	Percentage	5%	Customer water conservation reports: The City may, by written request, require all commercial, residential, and industrial customers using 25,000 or more billing units per year to submit a water conservation plan and to submit quarterly progress reports on such plan. The conservation plan must include recommendations for increased water savings, including increased water recycling based on feasibility, and the reports must include progress to date on implementation of such recommendations.	No
5	Other	Percentage	1%	Discontinue service: The City, in its sole discretion, may discontinue service to customers who willfully violate provisions of this section.	No
6	Expand Public Information Campaign	Percentage	5%	Community Outreach and Messaging (Expand Public Information Campaign to Shortage Level 6 Protocols)	Yes
6	Other	Percentage	20%	Water use for public health and safety purposes only.	Yes
6	Other	Percentage		Other prohibited uses: The City may implement other prohibited water uses as determined by the City, after notice to customers.	Yes
DWR NOTES: Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Submittal Table 2-3.					
NOTES:					

APPENDIX B

ORANGE MUNICIPAL CODE CHAPTER 7.02 WATER CONSERVATION AND WATER SUPPLY SHORTAGE

Below is the weblink to the current ordinance (last accessed on May 11, 2026):

https://ecode360.com/43561783

APPENDIX C

NOTICE OF PUBLIC HEARING (PENDING)

APPENDIX D

ADOPTED WSCP RESOLUTION (PENDING)

Agenda Item

Orange City Council

Item #: 8.3. 6/9/2026 **File #:** 26-0250

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Public Hearing to consider approval of the Landscape Maintenance Assessment Districts 86-2 (Santiago Hills), and 15-1 (Santiago Hills Overlay) Final Engineer's Report for Fiscal Year 2026-2027

2. SUMMARY

Resolution 11695 is the second step and will complete the process of the annual assessment for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay). The total assessments to be levied from 86-2 and 15-1 for Fiscal Year 2026-2027 are $533,651 and $401,663, respectively. The annual assessment per unit for 86-2 will remain at $369.44 for a single family detached unit and $221.66 for a condominium. For 15-1, staff recommend a 3.0% Consumer Price Index adjustment, the maximum allowed, which increases per unit assessment from $279.30 to $287.68 for a single family detached unit and from $198.31 to $204.25 for condominiums.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.
2. Adopt Resolution No. 11695. A Resolution of the City Council of the City of Orange approving the Engineer's Report and providing for the annual assessment for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay).
3. Establish the assessment per single family detached unit per year for Fiscal Year 2026-2027 for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay) at $369.44 and $287.68 respectively for single family detached, and $221.66 and $204.25 respectively for condominiums.

4. FISCAL IMPACT

There is no direct fiscal impact to the City. The approval of the annual assessment for Fiscal Year 2026-2027 will generate $958,221 with a proposed expenditure of $1,080,468 in the Santiago Hills Landscape Maintenance Assessment District (291) Fund.

291-0000-40330-	Landscape Assessment	$935,314
291-5902-48001-	Reimbursable Expense	$ 22,907
	Total	$958,221

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology.

6. DISCUSSION AND BACKGROUND

In 1987, Landscape Maintenance Assessment District 86-2 (LMD 86-2) was established to maintain the landscape improvements constructed by Assessment District 86-1 in Santiago Hills. Annually, a detailed accounting of expenses is compiled, and a new assessment is calculated for the benefiting property owners.

This year's assessment for a single family detached unit is $369.44. The assessment for a condominium is $221.66. This is the same as last year and the largest assessment currently allowed. Revenue in the District is derived from assessments paid by property owners, both residential and commercial, as well as the Rancho Santiago Community College District who reimburses the District for the cost to maintain the parkways adjacent to the school.

On April 14, 2015, the City Council approved the formation of a new district (LMD 15-1) to overlay the existing LMD 86-2 and to provide additional funding necessary to serve the District. The annual assessment for LMD 15-1 was approved by the property owners on June 9, 2015.

The proposed Fiscal Year 2026-2027 (FY27) budget for the combined LMD 86-2 and LMD 15-1 indicates the amount of funding required to maintain the Districts' landscape and provides a capital budget to replace aging landscaping and infrastructure over time. Additional revenues to fully fund the Districts would be obtained through the overlay district, LMD 15-1, and a separate agreement with the Rancho Santiago Community College District. The existing LMD 86-2 will stay at the maximum assessment; however, the assessment for LMD 15-1 will include a 3.0% Consumer Price Index (CPI) increase. The Assessment for LMD 15-1 is permitted to increase annually consistent with CPI increases for the Los Angeles-Long Beach- Anaheim area that is 3.0% as of December 2025. The Public Works Department recommends assessing the CPI adjustment for FY27 the maximum 3.0% allowed to continue capital renovations of the aging landscape. The annual assessment for 15-1 for a single family detached unit will increase by $8.38 from $279.30 to $287.68. The assessment for 15-1 condominiums will increase by $5.94 from $198.31 to $204.25.

The maximum assessment total for LMD 86-2 for FY27 is $533,651. The assessment total for LMD 15-1 for FY27 is $401,663 including the 3.0% CPI adjustment. Revenues of $22,907 from Rancho Santiago Community College District are included as a reimbursement for landscape maintenance costs paid by LMD 86-2 and LMD 15-1. This totals $958,221 in revenue. Expenditures in FY27 are anticipated to be approximately $1,080,468. The projected FY27 combined year-end reserve fund balance is $1,412,130. Reserve funds will be used to supplement any deficiency in FY27 expenditures.

The attached Final Engineer's Report contains detailed information about the assessment.

Each year, the process for setting the assessment of the Landscape Maintenance Districts is initiated. The process began on May 12, 2026, with the City Council's Approval of Resolution No. 11677 which approved the Preliminary Engineer's Reports for LMD 86-2 and 15-1, and set June 9, 2026, as the date for the public hearing. This public hearing is the second step in the process and is held in accordance with the Lighting and Landscape Maintenance Act of 1972 as outlined in the "Order of Procedure". At this time, property owners will have an opportunity to be heard on this issue.

7. ATTACHMENTS

- Resolution No. 11695
- Final Engineer’s Report - Landscape Maintenance District No. 86-2
- Final Engineer’s Report - Landscape Maintenance District No. 15-1

Agenda Item

Orange City Council

Item #: 8.3. 6/9/2026 **File #:** 26-0250

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Public Hearing to consider approval of the Landscape Maintenance Assessment Districts 86-2 (Santiago Hills), and 15-1 (Santiago Hills Overlay) Final Engineer's Report for Fiscal Year 2026-2027

2. SUMMARY

Resolution 11695 is the second step and will complete the process of the annual assessment for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay). The total assessments to be levied from 86-2 and 15-1 for Fiscal Year 2026-2027 are $533,651 and $401,663, respectively. The annual assessment per unit for 86-2 will remain at $369.44 for a single family detached unit and $221.66 for a condominium. For 15-1, staff recommend a 3.0% Consumer Price Index adjustment, the maximum allowed, which increases per unit assessment from $279.30 to $287.68 for a single family detached unit and from $198.31 to $204.25 for condominiums.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.
2. Adopt Resolution No. 11695. A Resolution of the City Council of the City of Orange approving the Engineer's Report and providing for the annual assessment for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay).
3. Establish the assessment per single family detached unit per year for Fiscal Year 2026-2027 for Landscape Maintenance Assessment Districts 86-2 (Santiago Hills) and 15-1 (Santiago Hills Overlay) at $369.44 and $287.68 respectively for single family detached, and $221.66 and $204.25 respectively for condominiums.

4. FISCAL IMPACT

There is no direct fiscal impact to the City. The approval of the annual assessment for Fiscal Year 2026-2027 will generate $958,221 with a proposed expenditure of $1,080,468 in the Santiago Hills Landscape Maintenance Assessment District (291) Fund.

291-0000-40330-	Landscape Assessment	$935,314
291-5902-48001-	Reimbursable Expense	$ 22,907
	Total	$958,221

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology.

6. DISCUSSION AND BACKGROUND

In 1987, Landscape Maintenance Assessment District 86-2 (LMD 86-2) was established to maintain the landscape improvements constructed by Assessment District 86-1 in Santiago Hills. Annually, a detailed accounting of expenses is compiled, and a new assessment is calculated for the benefiting property owners.

This year's assessment for a single family detached unit is $369.44. The assessment for a condominium is $221.66. This is the same as last year and the largest assessment currently allowed. Revenue in the District is derived from assessments paid by property owners, both residential and commercial, as well as the Rancho Santiago Community College District who reimburses the District for the cost to maintain the parkways adjacent to the school.

On April 14, 2015, the City Council approved the formation of a new district (LMD 15-1) to overlay the existing LMD 86-2 and to provide additional funding necessary to serve the District. The annual assessment for LMD 15-1 was approved by the property owners on June 9, 2015.

The proposed Fiscal Year 2026-2027 (FY27) budget for the combined LMD 86-2 and LMD 15-1 indicates the amount of funding required to maintain the Districts' landscape and provides a capital budget to replace aging landscaping and infrastructure over time. Additional revenues to fully fund the Districts would be obtained through the overlay district, LMD 15-1, and a separate agreement with the Rancho Santiago Community College District. The existing LMD 86-2 will stay at the maximum assessment; however, the assessment for LMD 15-1 will include a 3.0% Consumer Price Index (CPI) increase. The Assessment for LMD 15-1 is permitted to increase annually consistent with CPI increases for the Los Angeles-Long Beach- Anaheim area that is 3.0% as of December 2025. The Public Works Department recommends assessing the CPI adjustment for FY27 the maximum 3.0% allowed to continue capital renovations of the aging landscape. The annual assessment for 15-1 for a single family detached unit will increase by $8.38 from $279.30 to $287.68. The assessment for 15-1 condominiums will increase by $5.94 from $198.31 to $204.25.

The maximum assessment total for LMD 86-2 for FY27 is $533,651. The assessment total for LMD 15-1 for FY27 is $401,663 including the 3.0% CPI adjustment. Revenues of $22,907 from Rancho Santiago Community College District are included as a reimbursement for landscape maintenance costs paid by LMD 86-2 and LMD 15-1. This totals $958,221 in revenue. Expenditures in FY27 are anticipated to be approximately $1,080,468. The projected FY27 combined year-end reserve fund balance is $1,412,130. Reserve funds will be used to supplement any deficiency in FY27 expenditures.

The attached Final Engineer's Report contains detailed information about the assessment.

Each year, the process for setting the assessment of the Landscape Maintenance Districts is initiated. The process began on May 12, 2026, with the City Council's Approval of Resolution No. 11677 which approved the Preliminary Engineer's Reports for LMD 86-2 and 15-1, and set June 9, 2026, as the date for the public hearing. This public hearing is the second step in the process and is held in accordance with the Lighting and Landscape Maintenance Act of 1972 as outlined in the "Order of Procedure". At this time, property owners will have an opportunity to be heard on this issue.

7. ATTACHMENTS

- Resolution No. 11695
- Final Engineer’s Report - Landscape Maintenance District No. 86-2
- Final Engineer’s Report - Landscape Maintenance District No. 15-1

RESOLUTION NO. 11695

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE APPROVING THE ENGINEER'S REPORT AND PROVIDING FOR THE ANNUAL ASSESSMENT FOR LANDSCAPE MAINTENANCE DISTRICTS 86-2 (SANTIAGO HILLS), AND 15-1 (SANTIAGO HILLS OVERLAY)

WHEREAS, the City Council of the City of Orange has previously formed a special maintenance district pursuant to the terms of the "Landscaping and Lighting Act of 1972" being part 2 of Division 15 of the California Streets and Highways Code, in what is known and designated as Landscape Maintenance District Nos. 86-2 and 15-1 ("Assessment Districts"); and

WHEREAS, the City Council has initiated proceedings for the levy of the annual assessment for the Assessment District; and

WHEREAS, at this time a public hearing has been held in the manner and form as required by law, and the City Council has considered all oral statements and written protests made or filed by all interested persons; and

WHEREAS, this City Council is now satisfied with the assessment and diagram and all other matters as contained in the Engineer's Report as now submitted for final consideration and approval, and is now desirous of proceeding with the levy of the annual assessment.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange as follows:

SECTION I:

That the above recitals are all true and correct.

SECTION II:

That all protests and objections of every kind and nature by, and the same hereby are, overruled and denied.

SECTION III:

That the Final Engineer's Report consisting of the final submitted assessment and diagram for the proceedings, is hereby approved and confirmed and a copy of said Report is hereby filed with the City Clerk.

SECTION IV:

That the assessments for fiscal year 2026-2027 be established as approved by the City Council, and are hereby confirmed and levied upon the respective subdivisions of land in the Assessment District in the amounts as set forth in said final approved Engineer's Report.

SECTION V:

The City Clerk shall immediately accomplish the following:

A. Deliver to the City Engineer the assessment, together with the diagram attached thereto and made a part thereof, as confirmed, with a Certificate of Confirmation attached and the date thereof. Said City Engineer shall then immediately place for a record said diagram and assessment in his office in a suitable book as a permanent record and attach a Certificate of Recordation.

B. Cause to be filed certified copy of a diagram and assessment with the County Auditor, said filing to be completed no later than the 3rd Monday in August.

SECTION VI:

That the above confirmed assessment shall be collected at the same time and in the same manner as County property taxes are collected, and all laws providing for the collection and enforcement of these assessments.

ADOPTED this 9th day of June 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney,
City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the 9th day of June 2026, by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

CITY OF ORANGE
FINAL ENGINEER'S REPORT

FOR THE ANNUAL LEVY ASSESSMENT

LANDSCAPE MAINTENANCE
DISTRICT NO. 86-2

FISCAL YEAR 2026-2027

LANDSCAPE MAINTENANCE DISTRICT NO. 86-2
SANTIAGO HILLS

Intent Meeting: **May 12, 2026**
Public Hearing: **June 9, 2026**

AFFIDAVIT FOR THE ENGINEER'S REPORT

This Report describes the City of Orange Landscape Maintenance District No. 86-2 and proposed changes or modifications related thereto including the improvements, budgets, parcels and assessments to be levied for Fiscal Year 2026-2027, pursuant to the City's Resolution of Intention. Reference is hereby made to the Orange County Assessor's maps for a detailed description of the lines and dimensions of parcels within the District. The undersigned respectfully submits the enclosed Report as directed by the City Council.

Dated this 15th day of May, 2026.

By: _____

Alan Truong
Deputy Public Works Director / City Engineer



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INTRODUCTION

Pursuant to the provisions of the *Landscaping and Lighting Act of 1972, being Part 2 of Division 15 of the California Streets and Highways Code, commencing with Section 22500* (hereafter referred to as the "1972 Act"), and in compliance with the substantive and procedural requirements of the *California State Constitution Articles XIIIC and XIIID* (hereafter referred to as the "California Constitution"), the City Council of the City of Orange, County of Orange, State of California (hereafter referred to as "City"), in connection with the annual levy and collection of assessments of the special benefit assessment district designated as:

Landscape Maintenance District No. 86-2

(hereafter referred to as the "District"), which includes all lots and parcels of land that specially benefit from the improvements within the District. This Engineer's Report (hereafter referred to as "Report") has been prepared in connection with the annual levy and collections of assessments for said District pursuant to Chapter 1, Article 4 of the 1972 Act.

The City Council proposes to levy and collect annual assessments on the County tax rolls to provide ongoing funding for the costs and expenses required to service and maintain the landscaping improvements originally installed in connection with the development of properties within the District. The improvements to be provided by the District and the assessments described herein are made pursuant to the 1972 Act.

This Report describes the District, the improvements, and the proposed assessments to be levied in Fiscal Year 2026-2027 against properties in connection with the special benefits the properties will receive from the maintenance and servicing of the District improvements. The annual assessments to be levied on properties within the District will provide a funding source for the continued operation and maintenance of local landscaping improvements installed in connection with the development of properties within the District. The assessments described in this Report are based on an estimate of the direct expenditures, incidental expenses, and fund balances that will be necessary to maintain and service the improvements.

The word "parcel," for the purposes of this Report, refers to an individual property assigned its own Assessor's Parcel Number (APN) by the Orange County Assessor's Office. The Orange County Auditor/Controller uses Assessor's Parcel Numbers and specific Fund Numbers to identify properties to be assessed on the tax roll for the special benefit assessments.

This Report has been prepared and presented to the City Council to address any proposed changes to the District or improvements, if any, and the proposed budget and assessments for Fiscal Year 2026-2027. The City Council will conduct a noticed public hearing to consider public testimonies, comments and written protests regarding the levy and collection of assessments for Fiscal Year 2026-2027. Upon conclusion of the public hearing, if majority protest does not exist the City Council may approve this Report (as submitted or amended) and levy the assessments for Fiscal Year 2026-2027. In such case, the assessments for fiscal year 2026-2027 shall be submitted to the Orange County Auditor/Controller for inclusion on the property tax roll for each parcel. If the proposed annual assessments for this District exceed the maximum assessment described herein (as approved by the property owners), the new or increased assessment must be confirmed through another property owner protest ballot proceeding before such an assessment may be imposed.

This Report consists of five (5) parts:

Part I

Plans and Specifications: A description of the District boundaries and the improvements associated with the District. The District is being formed as a single benefit zone encompassing all properties within the territory identified as Landscape and Maintenance District No 86-2.

Part II

The Method of Apportionment: A discussion of benefits the improvements and services provide to properties within the District and the method of calculating each property's proportional special benefit and annual assessment.

Part III

The District Budget: An estimate of the annual costs to operate, maintain and service the landscaping and appurtenant facilities installed and constructed as part of the development of properties within the District. This budget includes an estimate of anticipated direct maintenance costs and incidental expenses. The special benefit assessments are based on the overall operation costs minus any costs that are considered general benefit. The proposed assessments for Fiscal Year 2026-2027, and each subsequent year shall be based on the estimated net annual cost of operating, maintaining and servicing the improvements for that fiscal year as well as funds to be collected in installments to perform maintenance activities that cannot be reasonably collected in a single fiscal year's assessments.

Part IV

District Diagram: A Diagram showing the exterior boundaries of the District is provided in this Report and includes all parcels that will receive special benefits from the improvements. Reference is hereby made to the Orange County Assessor's Parcel Maps for a detailed description of the lines and dimensions of each lot and parcel of land within the District.

Part V

Assessment Roll: A listing of the proposed assessment amounts to be levied on Assessor's Parcel within the District for Fiscal Year 2026-2027. The proposed assessment amount for each parcel is based on the parcel's proportional special benefit as outlined in the method of apportionment.

PART I — PLANS AND SPECIFICATIONS

A. Description of the District

The assessment district boundary is shown on a map entitled Assessment Diagram, Landscape Maintenance District No. 86-2, City of Orange, which is on file with the City Clerk of the City of Orange. A reduced scale copy of the Diagram can be found in Part IV of this document.

B. Improvements and Services

Improvements and Services Permitted Pursuant to the 1972 Act

As generally defined by the Landscaping and Lighting Act of 1972 and applicable to this District, the improvements and associated assessments may include one or more of the following:

1) The installation or planting of landscaping;
2) The installation or construction of statuary, fountains, and other ornamental structures and facilities;
3) The installation or construction of any facilities which are appurtenant to any of the foregoing or which are necessary or convenient for the maintenance or servicing thereof;
4) The installation of park or recreational improvements, including, but not limited to, all of the following:
    a) Land preparation, such as grading, leveling, cutting and filling, sod, landscaping, irrigation systems, sidewalks, and drainage.
    b) Lights, playground equipment, play courts, and public restrooms.
5) The maintenance or servicing, of any of the foregoing including the furnishing of services and materials for the ordinary and usual maintenance, operation, and servicing of any improvement including but not limited to:
    a) Repair, removal, or replacement of all or any part of any improvements;
    b) Grading, clearing, removal of debris, the installation or construction of curbs, gutters, walls, sidewalks, or paving, or water, irrigation, drainage, or electrical facilities;
    c) Providing for the life, growth, health, and beauty of landscaping, including cultivation, irrigation, trimming, spraying, fertilizing, or treating for disease or injury;
    d) The removal of trimmings, rubbish, debris, and other solid waste;
    e) The cleaning, sandblasting, and painting of walls and other improvements to remove or cover graffiti;
    f) Electric current or energy, gas, or other illuminating agent for any public lighting facilities or for the lighting or operation of any other improvements;
    g) Water for the irrigation of any landscaping, the operation of any fountains, or the maintenance of any other improvements.
6) Incidental expenses associated with the improvements including, but not limited to:

a) The cost of preparation of the report, including plans, specifications, estimates, diagram, and assessment;

b) Compensation payable to the County for collection of assessments;

c) Compensation of any engineer or attorney employed to render services;

d) Any other expenses incidental to the construction, installation, or maintenance and servicing of the improvements;

Description of Planned Improvements

The landscape improvements are generally described as follows:

a) Parkway and Recreation Areas:

- Newport Boulevard - approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on the east side from Chapman Avenue to 312 feet south of the centerline of Skylark Place.
- Chapman Avenue - approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on south side from Newport Boulevard to Jamboree Road.
- Canyon View Avenue - approximately 30-foot wide zones (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on both sides from Newport Boulevard to Jamboree Road.
- White Oak Ridge – approximately 17-foot wide zones (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on both sides from Newport Boulevard to Canyon View Avenue.
- Trails End Lane - approximately 17-foot wide zone on the west side and approximately 28- to 32-foot wide zone on the east side (including the width of the sidewalks), both zones from the back of the curb to the property line, and corner cutoffs at intersections, from White Oak Ridge to Chapman Avenue.
- Handy Creek Corridor - from the intersection of Chapman Avenue and Newport Boulevard to White Oak Ridge and from White Oak Ridge to the intersection of Canyon View Avenue and Handy Creek Road (Lot 20, a portion of Lot 11, and Lot D of Tract No. 12417) including concrete walkways which also serve as emergency access ways.
- Paseo - approximately 50-foot wide zone from the Park to White Oak Ridge and from White Oak Ridge to Old Camp Road (Lots A and B of Tract No. 12417) and approximately 35-foot wide zone from the Paseo to White Oak Ridge (Lot C of Tract No. 12417) including surface and subsurface drainage facilities and concrete walkways which also serve as emergency access ways.
- Handy Creek Road - approximately 10-foot wide zone (including the width of the sidewalks) on south side from the back of the curb to the property line form the end of Handy Creek Corridor (Lot D, Tract No. 12417) near Canyon View Avenue to the northerly terminus of the street.

- Fort Road - approximately 17-foot wide zones (including the width of the sidewalks) from the back of the curb to the property line on south side from White Oak Ridge to Jamboree Road.
- Santiago Canyon Road - approximately 18-foot wide zone (including the width of the sidewalk) from back of curb to back of sidewalk on north and south sides from Newport Boulevard to Jamboree Road.
- Old Camp Road - approximately 4-foot wide zones from back of curb to property line on both sides from Canyon View Avenue to the northerly terminus of the street.
- Skylark Place - approximately 18-foot wide zones (including the width of the sidewalk) from back of the curb to the property line on both sides from White Oak Ridge to Newport Boulevard.
- Jamboree Road - variable width zone (including the width of the bike trail-sidewalk) from the back of the curb to the property line on the west side from Canyon View Avenue to Chapman Avenue.
- Additional Areas - areas adjacent to the 18-foot wide zones along Skylark Place, Chapman Avenue, and Jamboree Road have been dedicated to the City with tracts 12672,12741,12711,15398 and PM 92-195. Such areas have been landscaped by the developers and the sprinkler systems tied into the District's.

b) Medians

- Chapman Avenue - 14-foot wide median from Newport Boulevard to Jamboree Road.
- White Oak Ridge - 14-foot wide medians at Newport Boulevard and Canyon View Avenue.
- Trails End Lane - 14-foot wide median from White Oak Ridge to Chapman Avenue.
- Jamboree Road - 24-foot wide median from southerly City limits to Santiago Canyon Road.
- Santiago Canyon Road - Variable width from Newport Boulevard to Jamboree Road.
- Newport Boulevard - 22-foot wide median from Chapman Avenue to Santiago Canyon Road.

c) The following items are excluded from the Maintenance District:

- The 8 +/- acre Santiago Hills Park is excluded from this Landscape Maintenance District.
- Sidewalks along all Maintenance District streets are excluded from this Landscape Maintenance District.
- The equestrian trail along Canyon View Avenue is excluded from this Landscape Maintenance District.

d) Maintenance shall include, but not be limited to:

- repair, removal, replacement or installation of all or any part of any included improvement such as storm drains and pedestrian walkways in the paseos;
- providing for the life, growth, health, and beauty of landscaping, including cultivation, irrigation, trimming, spraying, fertilizing, and treating for disease or injury; and
- the removal of trimmings, rubbish, debris, and other solid waste.

The maintenance of the District improvements generally include, but are not limited to all materials, equipment, utilities, labor and incidental expenses including administrative expenses for annual operation of the District as well as the performance of occasional repairs, replacement and expanded maintenance activities associated with those improvements. Detailed maps and descriptions of the location and extent of the improvements to be maintained by the District are on file at the City and by reference are made part of this Report.

The estimated annual cost to provide and maintain the improvements within the District shall be allocated to each property in proportion to the special benefits received. The Method of Apportionment described in this Report utilizes commonly accepted assessment engineering practices and has been established pursuant to the 1972 Act and the provisions of the California Constitution.

PART II — METHOD OF APPORTIONMENT

A. General

The 1972 Act permits the establishment of assessment districts by agencies for the purpose of providing certain public improvements, which include the construction, maintenance, and servicing of public landscaping and appurtenant facilities. The 1972 Act further requires that the cost of these improvements be levied according to benefit rather than assessed value:

"The net amount to be assessed upon lands within an assessment district may be apportioned by any formula or method which fairly distributes the net amount among all assessable lots or parcels in proportion to the estimated benefits to be received by each such lot or parcel from the improvements."

The method of apportionment described in this Report for allocation of special benefit assessments utilizes commonly accepted engineering practices and have been established pursuant to the 1972 Act and the provisions of the California Constitution. The formula used for calculating assessments in this District reflect the composition of the parcels, and the improvements and services provided, to fairly apportion the costs based on benefit to each parcel.

B. Benefit Analysis

Each of the proposed improvements, the associated costs and assessments have been carefully reviewed, identified and allocated based on special benefit pursuant to the provisions of the California Constitution and 1972 Act. The improvements provided by this District and for which properties will be assessed have been identified as necessary, required and/or desired for the orderly development of the residential properties within the District to their full potential. As such, the ongoing operation, servicing and maintenance of these improvements would be the financial obligation of those properties. Therefore, the improvements and the annual costs of ensuring the maintenance and operation of the improvements are a distinct and special benefit to the residential properties within the District.

Special Benefit

The method of apportionment (method of assessment) established herein is based on the premise that each assessed parcel within the District receives special benefits from the improvements and the desirability and security of those properties is enhanced by the presence of well-maintained landscaping in close proximity to those properties.

The special benefits associated with the landscaping and open space improvements are specifically:

- Enhanced desirability of properties through association with the improvements.
- Improved aesthetic appeal of properties providing a positive representation of the area and properties.
- Enhanced adaptation of the urban environment within the natural environment from adequate green space and landscaping.
- Environmental enhancement through improved erosion resistance, dust and debris control, and fire prevention.
- Increased sense of pride in ownership of property within the District resulting from well-maintained improvements associated with the properties.

- Enhanced quality of life through well-maintained green space and landscaped areas.
- Reduced criminal activity and property-related crimes (especially vandalism) against properties in the District through well-maintained surroundings and amenities including abatement of graffiti.
- Enhanced environmental quality of the parcels by moderating temperatures, providing oxygenation and attenuating noise.

The parkways and medians consist of landscaped areas along the edge of or within the middle of streets and highways in the District. The District also has landscaped corridors extending through the developed area, which provide access to Santiago Hills Park. The improvements in these areas consist of trees, shrubs, ornamental vegetation, and appurtenant improvements.

The improvements extend throughout the development area and serve several purposes. The landscaped parkways along the streets and highways enhance the public walkways throughout the District and allow pedestrian access to the residents in the area. These parkways also provide passive and active recreational uses as well as the aesthetic enhancement for the total development area. Landscaped median islands also provide similar enhancements for the residents in the area.

The landscaped recreation/pedestrian corridors throughout the District provide for open space and recreational uses, which connect to the park site throughout the development area. Besides contributing to the active and passive recreation use in the area, the corridors aesthetically enhance the area within the District.

Maintenance of these public improvements primarily renders a people oriented benefit to the properties within the boundaries of the District and, as such, relates to the number of persons in each dwelling unit on each property. These benefits are direct and special to the properties within the District.

The preceding special benefits all contribute to the overall esthetic value and desirability of each of the assessed parcels within the District and thereby provide a special enhancement to these properties. Furthermore, it has been determined that the lack of funding to properly service and maintain the improvements would likely have a direct negative impact on the properties within the District.

General Benefit

In reviewing the District improvements, the proximity of those improvements to both properties within the District and those outside the District as well as the reasons for installing and constructing such improvements, it is evident that the improvements are solely the result of developing properties within the District and the ongoing maintenance and operation of these improvements will directly affect the properties within the District. Although the improvements are visible to the public at large, the construction and installation of these improvements were necessary for the development of properties within the District and are not required nor necessarily desired by any properties or developments outside the District boundary and any public access or use of the improvements by others is incidental. Therefore, it has been determined that the improvements and the ongoing maintenance, servicing and operation of those improvements provide no measurable general benefit to properties outside the District or to the public at large, but clearly provide distinct and special benefits to properties within the District.

C. Assessment Methodology

The benefit formula used to determine the assessment obligation for each parcel should be based upon both the improvements that benefit the parcels as well as the use of each property as compared to other parcels that benefit from those specific improvements. The method of apportionment established for most benefit assessment districts utilizes a weighted method of apportionment known as an Equivalent Benefit Unit (EBU) methodology The Equivalent Benefit Unit method of apportionment uses the single-family home site as the basic unit of assessment. A single-family residential property equals one Equivalent Benefit Unit ("EBU"). Every other land use is converted to EBUs based on an assessment formula that equates the property's specific development status, type of development (land use), and size of the property, as compared to a single-family home site.

The EBU method of apportioning benefit is typically seen as the most appropriate and equitable assessment methodology for districts formed under the 1972 Act, as the benefit to each parcel from the improvements are apportioned as a function of land use type, size and development.

EBU Application by Land Use:

Single-Family Residential — This land use is defined as a fully subdivided residential home site with or without a structure. This land use is assessed 1.0 EBU per lot or parcel. This is the base value that the other land use types are compared and weighted against (i.e. Equivalent Benefit Unit or EBU).

Multi-Family Residential — This land use is defined as a fully subdivided residential parcel that has more than one residential unit developed on the property. This land use is assessed 0.6 EBU per dwelling unit.

Mixed Use Property — This land use is defined as property developed for either commercial or industrial use. This land use type is assessed at 11.0 EBUs per gross acre.

Exempt Parcels — This land use identifies properties that are not assessed and are assigned 0.0 EBU. This land use classification may include, but is not limited, to lots or parcels identified as public streets and other roadways (typically not assigned an APN by the County); dedicated public easements, open space areas and right-of-ways including greenbelts and parkways; utility right-of-ways; common areas, sliver parcels and bifurcated lots or any other property that cannot be developed; park properties and other publicly owned properties that are part of the District improvements or that have little or no improvement value. These types of parcels are considered to receive little or no benefit from the improvements and are therefore exempted from assessment.

Lots 9, 10, 11, 15, and 19 of Tract No. 12417 have been assigned 0.0 EBU because they have been excluded from the District. The cost of maintaining the landscape improvements on these publicly owned parcels is not paid by the District but rather from the general fund of the public agency owning the parcel. Therefore, these publicly owned parcels do not receive any special benefit from the District.

The following table provides a listing of land use types, land use code designations, the Equivalent Benefit Unit factor applied to that land use type, and the multiplying factor used to calculate each parcel's individual EBU.

Land Use Codes and Equivalent Benefit Units

Property Type	Equivalent Benefit Unit	Multiplier
Single-family Residential	1.000	Unit/Lot/Parcel
Multi-family Residential	0.600	Units/Dwelling Units
Mixed Use	11.000	Acreage
Exempt	0.000	Parcel

The benefit formula applied to parcels within the District is based on the preceding Equivalent Benefit Unit (EBU) table. Each parcel's EBU correlates the parcel's special benefit received as compared to the other parcels benefiting from the improvements.

The following formula is used to calculate each parcel's EBU (proportional benefit).

Parcel Type EBU x Multiplier (Acres or Unit) = Parcel's EBU

The total number of Equivalent Benefit Units (EBUs) is the sum of all individual EBUs applied to parcels that receive a special benefit from the improvement. An assessment amount per EBU (Rate) for each improvement is established by taking the total cost of the improvement and dividing that amount by the total number of EBUs of parcels benefiting from the improvement. This Rate is then applied back to each parcel's individual EBU to determine the parcel's proportionate benefit and assessment obligation for that improvement.

The Maximum allowable assessment rate of $369.44 EBU (single family) generates an assessment total of $533,650.77.

Total Balance to Levy / Total EBU = Assessment Rate per EBU
Assessment Rate per EBU x Parcel's EBU = Parcel's Assessment

PART III — DISTRICT BUDGET

The following budget outlines the estimated costs to maintain the improvements for 2026-2027.

ANNUAL LEVY OF ASSESSMENT
LANDSCAPE MAINTENANCE DISTRICT NO. 86-2
City of Orange
ESTIMATED COSTS

OPERATION & MAINTENANCE FUND BALANCE FROM PRIOR YEARS

Estimated Fund Balance (Includes 15-1 & 86-2) as of April 2026 $1,412,130

The estimated budget necessary for the 2026-2027 Fiscal Year for the District is as follows:

BUDGET ITEM	COST
ANNUAL MAINTENANCE	
Landscaping	$376,744
Tree Trimming	$121,064
Electrical Maintenance	$9,500
Misc. Contract Services	$0
Repair/ Maintenance Services	$187,037
Supplies	$7,417
Other Professional Services	$1,100
Telephone	$1,000
Electricity	$20,000
Water	$221,950
Salaries & Benefits	$59,348
City Administrative Services	$75,308
Capital Replacement/ Dedicated Reserves	$0
TOTAL EST. LANDSCAPE MAINTENANCE EXPENDITURES	**$1,080,468**
ESTIMATED REVENUE	
Landscape Maintenance District No. 86-2	$533,651
Rancho Santiago Community College District	$22,907
Proposed Benefit Assessment FY 2026/27 (LMD 15-1)	
(See LMD 15-1 Engineer's Report for specifics)	$389,964
• CPI Adjustment (Current Year 3.0%)	$11,699
• Unused CPI Adjustment (Carry over from prior years)	$0
TOTAL ESTIMATED REVENUE	**$958,221**

FUNDS TO BE TAKEN FROM RESERVES	$(122,247)

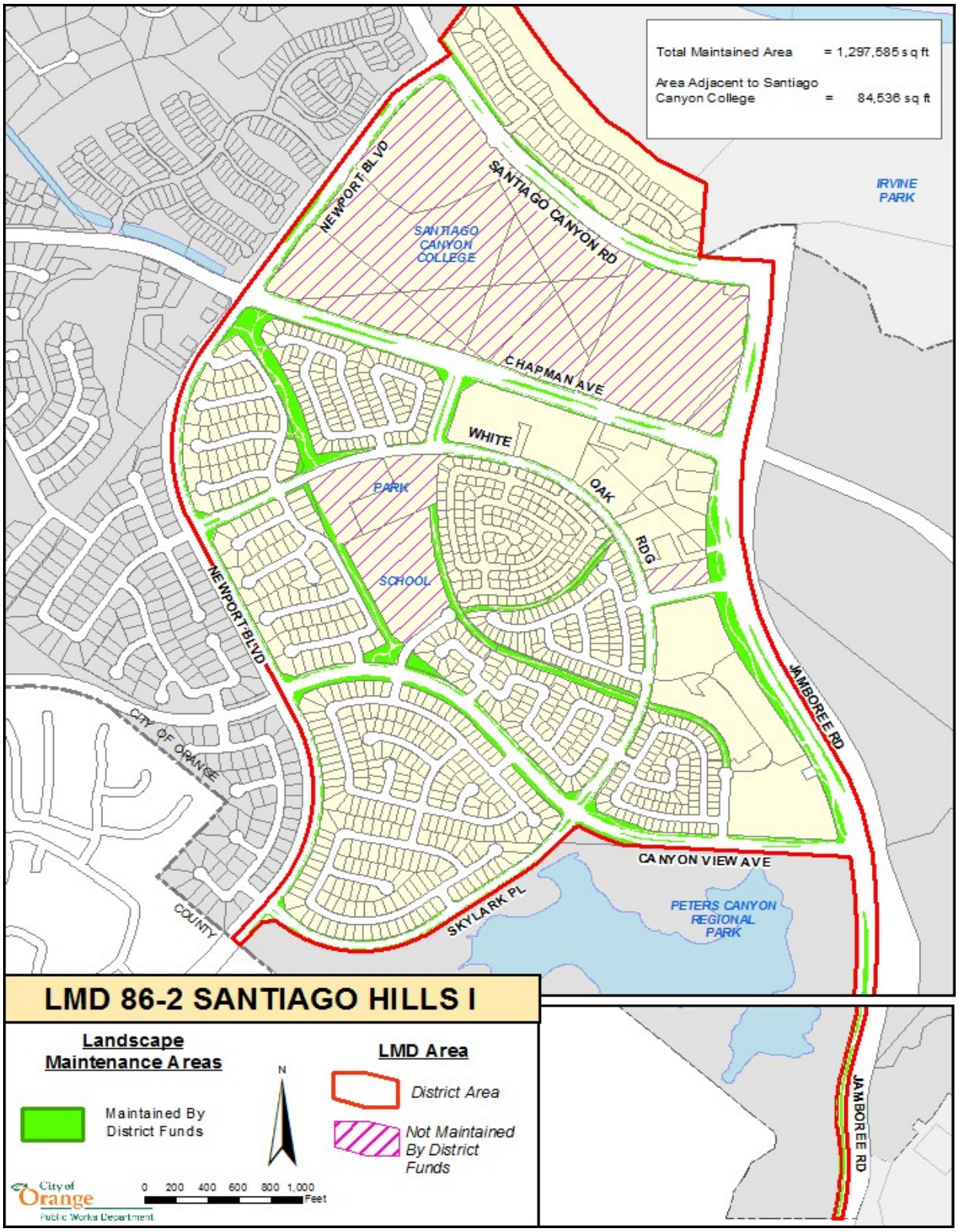
●This Budget Estimate is for the purpose of establishing an Annual Assessment. It may vary from the adopted City Budget. All assessments collected by the District may only be used for District expenditures regardless of the Budget Estimate.

BALANCE TO LEVY FOR 86-2	**$533,651**

PART IV — DISTRICT DIAGRAMS

The parcels within the Landscape Maintenance District No 86-2 consist of all lots, parcels and subdivisions of land located in the planned residential development known as Santiago Hills.

The following diagram incorporates all parcels within the District, as the same existed at the time this Report was prepared. The combination of this map and the Assessment Roll contained in this Report constitute the Assessment Diagram for the Landscape and Maintenance District No. 86-2.


Total Maintained Area = 1,297,585 sq ft
Area Adjacent to Santiago Canyon College = 84,536 sq ft
NEWPORT BLVD
SANTIAGO CANYON RD
IRVINE PARK
SANTIAGO CANYON COLLEGE
CHAPMAN AVE
WHITE
OAK
RDG
PARK
SCHOOL
NEWPORT BLVD
JAMBOREE RD
CITY OF ORANGE
COUNTY
CANYON VIEW AVE
SKYLARK PL
PETERS CANYON REGIONAL PARK
LMD 86-2 SANTIAGO HILLS I
Landscape Maintenance Areas
Maintained By District Funds
N
LMD Area
District Area
Not Maintained By District Funds
City of Orange
Public Works Department
0 200 400 600 800 1,000 Feet
JAMBOREE RD

PART V — ASSESSMENT ROLL

Parcel identification for each lot or parcel within the District is based on available parcel maps and property data from the Orange County Assessor's Office, as they existed at the time this Engineer's Report was prepared and the City Council adopted the Resolution of Intention. A listing of the lots and parcels to be assessed within this District along with the assessment amounts is provided herein.

If any parcel submitted for collection is identified by the County Auditor/Controller to be an invalid parcel number for the fiscal year, a corrected parcel number and/or new parcel numbers will be identified and resubmitted to the County Auditor/Controller. The assessment amount to be levied and collected for the resubmitted parcel or parcels shall be based on the method of apportionment and assessment rate described in this Report as approved by the City Council. Therefore, if a single parcel is subdivided to multiple parcels, the assessment amount applied to each of the new parcels shall be recalculated and applied according to the approved method of apportionment and assessment rate rather than a proportionate share of the original assessment.

The following is a list of the parcels and proposed assessment amounts for Fiscal Year 2026-2027 for each of the parcels within the District as determined by the assessment rates and method of apportionment described herein:

CITY OF ORANGE
FINAL ENGINEER'S REPORT

FOR THE ANNUAL LEVY

ASSESSMENT LANDSCAPE MAINTENANCE
DISTRICT NO. 15-1

FISCAL YEAR 2026-2027

LANDSCAPE MAINTENANCE DISTRICT NO. 15-1
SANTIAGO HILLS

Intent Meeting: **May 12, 2026**
Public Hearing: **June 9, 2026**

AFFIDAVIT FOR THE ENGINEER'S REPORT

This Report describes the City of Orange Landscape Maintenance District No. 15-1 and proposed changes or modifications related thereto including the improvements, budgets, parcels and assessments to be levied for Fiscal Year 2026-2027, pursuant to the City's Resolution of Intention. Reference is hereby made to the Orange County Assessor's maps for a detailed description of the lines and dimensions of parcels within the District. The undersigned respectfully submits the enclosed Report as directed by the City Council.

Dated this 15th day of May, 2026.

By: _____
Alan Truong
Deputy Public Works Director / City Engineer



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INTRODUCTION

Overview

The City of Orange (the "City") services and maintains perimeter and median landscaping, interior walkways and paseos, and other improvements ("Improvements") in the Santiago Hills neighborhoods in the eastern part of the City. This Engineer's Report ("Report") was prepared to establish the budget for the Improvements (as described below) that will be funded by the new 2026-2027 assessments, if approved, and other revenue, to determine the general and special benefits received from the Improvements by property within the Improvement District ("District"), and to determine the method of assessment apportionment to lots and parcels. This Report and the assessments have been made pursuant to the Landscaping and Lighting Act of 1972, Part 2 of Division 15 of the California Streets and Highways Code (the "Act") and Article XIIID of the California Constitution (the "Article").

Landscape Maintenance District (LMD) No. 15-1 was formed in 2015. This assessment district is identical to the existing Landscape Maintenance District No. 86-2 in its geographic boundaries, parcels to be assessed, Improvements to be serviced, maintained, or repaired and budgeted cost centers. The assessments collected, if approved, will be in addition to those collected for Landscape Maintenance District 86-2.

District's Facilities

The City's landscape facilities to be funded by assessments within this District are located in the Santiago Hills neighborhoods of the City. The Improvements generally include entrance signs, traffic islands and medians, parkways, recreation areas, paseos, lighting, and the infrastructure required to support these Improvements.

Assessment Background

The City formed Landscape Maintenance District No. 86-2 in 1987 to service and maintain the specific landscape facilities and improvements relevant to this report. Revenues from that district remain relatively flat, there is not an inflation adjustment provision, while the costs to maintain and service these facilities and improvements have risen steadily. In 2007 the City began to decrease service levels in an effort to contain costs within available revenues. The service levels continued to decrease to offset the effects of rising utilities, labor and materials costs until the creation of LMD No. 15-1.

In order to restore service levels and make needed repairs and improvements to the District's facilities, the LMD No. 15-1 that exactly overlaid the existing assessment district, was formed.

PLANS & SPECIFICATIONS

The City maintains landscaping and other improvements in locations within the proposed Assessment District's boundaries. The work and improvements proposed to be undertaken by the Landscape Maintenance District No. 15-1 and the cost thereof paid from the levy of the annual Assessment provide special benefit to Assessor Parcels within the District as defined in the Method of Assessment herein. In addition to the definitions provided by the Landscaping and Lighting Act of 1972, (the "Act") the work and improvements are generally described as follows:

Entrance Sign

The entrance signs with landscape improvements to be maintained are to be located at the following locations within the District:

- Chapman Avenue at Newport Boulevard (southeast corner)
- Newport Boulevard at Canyon View Avenue (northeast corner)

Parkways and Recreation Areas

The landscaped parkways and recreation areas to be maintained by the District are located as follows:

- Newport Boulevard – approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on the east side from Santiago Canyon Road to 312 feet south of the centerline of Skylark Place.
- Chapman Avenue – approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on both sides from Newport Boulevard to Jamboree Road.
- Canyon View Avenue – approximately 30-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on both sides from Newport Boulevard to Jamboree Road.
- White Oak Ridge – approximately 17-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line, and corner cutoffs at intersections, on both sides from Newport Boulevard to Canyon View Avenue.
- Trails End Lane – approximately 17-foot wide zone on the west side and approximately 28- to 32-foot wide zone on the east side (including the width of the sidewalk), both zones from the back of the curb to the property line, and corner cutoffs at intersections, from White Oak Ridge to Chapman Avenue.
- Handy Creek Corridor – from the intersection of Chapman Avenue and Newport Boulevard to White Oak Ridge, and from White Oak Ridge to the intersection of Canyon View Avenue and Aspen Street (Lot 20, a portion of Lot 11, and Lot D of Tract 12417) including concrete walkways which also serve as emergency access ways.
- Paseo – approximately 50-foot wide zone from Santiago Hills Park to White Oak Ridge and from White Oak Ridge to Old Camp Road (Lots A and B of tract No. 12417) and approximately 35-foot wide zone from the Paseo to White Oak Ridge (Lot C of Tract No. 12417) including surface and subsurface drainage facilities and concrete walkways which also serve as emergency access ways.
- Aspen Street – approximately 10-foot wide zone (including the width of the sidewalk) on south side from the back of the curb to the property line from the end of Handy Creek

Corridor (Lot D, Tract No. 12417) near Canyon View Avenue to the northerly terminus of the street.

- Fort Road – approximately 17-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line on south side from White Oak Ridge to Jamboree Road.
- Santiago Canyon Road – approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line on north and south sides from Newport Boulevard to Jamboree Road.
- Old Camp Road – approximately 4-foot wide zone from the back of the curb to the property line on both sides from Canyon View Avenue to northerly terminus of the street.
- Skylark Place – approximately 18-foot wide zone (including the width of the sidewalk) from the back of the curb to the property line on both sides from White Oak Ridge to Newport Boulevard.
- Jamboree Road – variable width zone (including width of the bike trail-sidewalk) from back of the curb to the property line on the west side from Canyon View Avenue to Santiago Canyon Road.
- Additional Areas – areas adjacent to the 18-foot wide zones along Skylark Place, Chapman Avenue, and Jamboree Road have been dedicated to the City with tracts 12672, 12741, 12711, 15398 and PM 92-195. Such areas have been landscaped by the developers and the sprinkler systems tied to the District's.

Traffic Islands and Medians

- The landscaped islands and medians to be maintained by the District are located as follows:
- Chapman Avenue – 14-foot wide median from Newport Boulevard to Jamboree Road.
- White Oak Ridge – 14-foot wide medians at Newport Boulevard and Canyon View Avenue.
- Trails End Lane – 14-foot wide median from White Oak Ridge to Chapman Avenue.
- Jamboree Road – 24-foot wide median from southerly City limits to Santiago Canyon road.
- Santiago Canyon Road – Variable width from Newport Boulevard to Jamboree Road.
- Newport Boulevard – 22-foot wide median from Chapman Avenue to Santiago Canyon Road.

Excluded Improvements

The following items are excluded from the District:

- The 8+/- acre Santiago Hills Park is excluded from this District
- The City's public safety facility on East Fort Road is excluded from this District
- Chapman Hills Elementary School is excluded from this District
- Santiago Canyon College is excluded from this District (Note that while some public improvements along the College frontage are maintained along with District Improvements, the College pays directly into the District's fund to compensate for that work)
- Sidewalks along all streets within the District are excluded
- The Equestrian trail along Canyon View Avenue is excluded from this District

Definitions

Installation, maintenance and servicing of Improvements, may include, but are not limited to, turf and play areas, landscaping, ground cover, shrubs and trees, irrigation systems, sidewalks, parking

lots, drainage systems, lighting, fencing, entry monuments, recreational facilities, security patrols to protect the Improvements, graffiti removal and repainting, and labor, materials, supplies, utilities and equipment, as applicable, at each of the locations owned, operated or maintained by the District.

As applied herein, "Installation" means the construction of Improvements, including, but not limited to, land preparation (such as grading, leveling, cutting and filling), sod, landscaping, irrigation systems, walkways and drainage, lights, and recreational facilities.

"Maintenance" means the furnishing of services and materials for the ordinary and usual maintenance, operation and servicing of any Improvement, including repair, removal or replacement of all or any part of any Improvement; providing for the life, growth, health, and beauty of landscaping, including cultivation, irrigation, trimming, spraying, fertilizing, or treating for disease or injury; the removal of trimmings, rubbish, debris, and other solid waste, and the cleaning, sandblasting, and painting of walls and other Improvements to remove or cover graffiti.

"Servicing" means the furnishing of electric current, or energy, gas or other illuminating agent for any public lighting facilities or for the lighting or operation of any other Improvements; or water for the irrigation of any landscaping, the operation of any fountains, or the maintenance of any other Improvements.

Incidental expenses include all of the following: (a) The costs of preparation of the report, including plans, specifications, estimates, diagram, and Assessment; (b) the costs of printing, advertising, and the giving of published, posted, and mailed notices; (c) compensation payable to the County for collection of Assessments; (d) compensation of any engineer or attorney employed to render services in proceedings pursuant to this part; (e) any other expenses incidental to the construction, installation, or maintenance and servicing of the Improvements; (f) any expenses incidental to the issuance of bonds or notes pursuant to Streets & Highways Code Section 22662.5; and (g) costs associated with any elections held for the approval of a new or increased assessment (Streets & Highways Code §22526).

Modifications to the District structure could include, but are not limited to, substantial changes or expansion of the Improvements provided, substantial changes in the service provided, modifications or restructuring of the District including annexation or detachment of specific parcels, revisions in the method of apportionment, or proposed new or increased assessments.

The Assessment proceeds will be exclusively used for Improvements within the District plus incidental expenses.

FISCAL YEAR 2026-27 ESTIMATE OF COST AND BUDGET

Budget for Fiscal Year 2026-27

The following budget shows the cost of the Improvements that would be funded by the District in Fiscal Year 2026-27. This table shows the total combined expenditures associated with the Improvements for both Landscape Maintenance Districts (No. 15-1 and No. 86-2). Accordingly, revenues from both Districts are also shown.

OPERATION & MAINTENANCE FUND BALANCE FROM PRIOR YEARS

Estimated Fund Balance (Includes 15-1 & 86-2) as of April 2026	$1, 412,130

The estimated budget necessary for the 2026-2027 Fiscal Year for the District is as follows:

BUDGET ITEM	COST
ANNUAL MAINTENANCE	
Landscaping	$376,744
Tree Trimming	$121,064
Electrical Maintenance	$9,500
Misc. Contract Services	$0
Repair/ Maintenance Services	$187,037
Supplies	$7,417
Other Professional Services	$1,100
Telephone	$1,000
Electricity	$20,000
Water	$221,950
Salaries & Benefits	$59,348
City Administrative Services	$75,308
Capital Replacement/ Dedicated Reserves	$0
TOTAL EST. LANDSCAPE MAINTENANCE EXPENDITURES	**$1,080,468**
ESTIMATED REVENUE	
Landscape Maintenance District No. 86-2	$533,651
Rancho Santiago Community College District	$22,907
Proposed Benefit Assessment FY 2026/27 (LMD 15-1)	
(See LMD 15-1 Engineer's Report for specifics)	$389,964
• CPI Adjustment (Current Year 3.0%)	$11,699
• Unused CPI Adjustment (Carry over from prior years)	$0
TOTAL ESTIMATED REVENUE	**$958,221**

FUNDS TO BE TAKEN FROM RESERVES	$(122,247)
District Expenditures will be adjusted to match the maximum allowable assessment.	
•This Budget Estimate is for the purpose of establishing an Annual Assessment. It may vary from the adopted City Budget. All assessments collected by the District may only be used for District expenditures regardless of the Budget Estimate.	
BALANCE TO LEVY FOR 15-1	**$401,663**

Notes to Estimate of Costs:

1. The Act requires that proceeds from the Assessments must be deposited into a special fund that has been set up for the revenues and expenditures of the District. Moreover, funds raised by the Assessment shall be used only for the purposes stated within this Report. Any balance remaining at the end of the Fiscal Year, June 30, must be carried over to the next Fiscal Year. The District may also establish a dedicated reserve fund for contingencies and special projects as well as a dedicated capital improvement fund for accumulating funds for larger capital improvement projects or capital renovation needs. Any remaining balance would either be placed in the dedicated reserve fund, the capital improvement fund, or would be used to reduce future years' Assessments.

2. The rate shown here is for a single-family home or its equivalent. For the definition of the term SFE and rates for other types of property, see the section titled, "Method of Assessment Apportionment" and the sections following it in this report.

3. The total cost of the services and Improvements is the total assessment amount of $356,873 plus the value of the general benefit contributions from the City described in the section titled, "Method of Assessment Apportionment."

4. The Assessment allows for an annual adjustment tied to the Consumer Price Index (the "CPI"), as detailed in the section titled "Method of Apportionment – Annual Cost Indexing." For Fiscal Year 2026-2027, the CPI is 3.0% for the Los Angeles-Long Beach-Anaheim area as of December 2024. Due to the remaining fund balance from Fiscal Year 2025-26, the Public Works staff recommends setting the CPI adjustment at 3.0% (maximum allowed) for Fiscal Year 2026-2027.

METHOD OF APPORTIONMENT

Method of Apportionment

This section of the Engineer's Report explains the benefits to be derived from the Improvements and the methodology used to apportion the total assessment to properties within the District.

The method used for apportioning the Assessment is based upon the relative special benefits to be derived by the properties in the District over and above general benefits conferred on real property or to the public at large. The Assessment is apportioned to lots and parcels in proportion to the relative special benefit from the Improvements. The apportionment of special benefit is a two-step process: the first step is to identify the types of special benefit arising from the Improvements and the second step is to allocate the Assessments to property based on the estimated relative special benefit for each type of property.

This section of the Engineer's report includes a discussion of the benefits to be provided by the proposed Improvements and the method of apportionment of assessments within the District. The formula below identifies the final level of service as the sum of the baseline level of service (without this proposed Assessment) and the enhanced level of service to be funded by the proposed Assessment.

Final Level of Service	=	**Baseline Level of Service**	+	**Enhanced Level of Service**

Discussion of Benefit

In summary, the Assessments can only be levied based on the special benefit to property. This benefit is received by property over and above any general benefits. With reference to the requirements for assessments, Section 22573 of the Landscaping and Lighting Act of 1972 states:

> *"The net amount to be assessed upon lands within an assessment district may be apportioned by any formula or method which fairly distributes the net amount among all assessable lots or parcels in proportion to the estimated benefits to be received by each such lot or parcel from the improvements."*

Proposition 218, as codified in Article XIIID of the California Constitution, has confirmed that assessments must be based on the special benefit to property and that the value of the special benefits must be equal to or exceed the cost of the assessment:

> *"No assessment shall be imposed on any parcel which exceeds the reasonable cost of the proportional special benefit conferred on that parcel."*

The following benefit categories summarize the types of special benefit to residential, commercial, industrial and other lots and parcels resulting from the Improvements to be provided with the assessment proceeds. These types of special benefits are summarized as follows:

A. Proximity to Improved Landscaped Areas and Other Public Improvements within the District.

B. Access to Improved landscaped areas and Other Public Improvements within the District.

C. Improved Views within the District.

D. Extension of a property's outdoor areas and green spaces for properties within close proximity to the Improvements.

E. Creation of individual lots for residential and commercial use that, in absence of the Assessments, would not have been created.

In this case, the recent *Silicon Valley Taxpayers Association, Inc. v. Santa Clara County Open Space Authority (SVTA)* decision in 2008 provides enhanced clarity to the definitions of special benefits to properties from similar improvements in three distinct areas:

- Proximity
- Expanded or improved access
- Views

The *SVTA* decision also clarifies that a special benefit is a service or improvement that provides a direct advantage to a parcel and that indirect or derivative advantages resulting from the overall public benefits from a service or improvement are general benefits. The *SVTA* decision also provides specific guidance that Improvements are a direct advantage and special benefit to property that is proximate to a facility that is improved by an assessment:

> *The characterization of a benefit may depend on whether the parcel receives a direct advantage from the improvement (e.g. proximity to a park) or receives an indirect, derivative advantage resulting from the overall public benefits of the improvement (e.g. general enhancement of the district's property values).*

Proximity, improved access and views, in addition to the other special benefits listed herein further strengthen the basis of these Assessments.

Moreover, the *Dahms v. Downtown Pomona Prop. & Bus. Improvement Dist.* (*Dahms)* decision in 2009 further clarified that certain services and Improvements funded by assessments, that are over and above what otherwise would be provided and that other property in general and the public do not share or receive are 100% special benefit. The assessment-funded services upheld by *Dahms* included streetscape maintenance and security services.

Benefit Factors

The special benefits from the Improvements are further detailed below:

Proximity to Improved Landscaped Areas within the District

The boundaries of the District were developed in conjunction and concurrent with the planning and design of the subdivisions and Improvements, and thus have been carefully drawn to only include the properties in the City of Orange that are proximate to the Improvements and that would materially benefit from the Improvements. In other words, the District has been narrowly drawn to include the properties that receive special benefits from the Improvements. Therefore, property in the District enjoys unique and valuable proximity to the Improvements that the public at large and property outside the District do not share.

In the absence of the Assessments, the Improvements would not be provided and the public improvements funded in the District would be degraded due to insufficient funding for maintenance, upkeep and repair. Therefore, the Assessments provide Improvements that are over and above what otherwise would be provided. Improvements that are over and above what otherwise would be provided do not by themselves translate into special benefits but when

combined with the unique proximity and access enjoyed by parcels in the District, they provide a direct advantage and special benefit to property in the District.

Access to Improved Landscaped Areas within the District

Since the parcels in the District are nearly the only parcels that enjoy close access to the Improvements, they directly benefit from the unique close access to improved landscaping areas and other public improvements that are provided by the Assessments. This is a direct advantage and special benefit to property in the District.

Improved Views within the Assessment Districts

The City, by maintaining permanent public improvements funded by the Assessments in the District, provides improved views to properties in the District. The properties in the District enjoy close and unique proximity, access and views of the specific Improvements funded in the District; therefore, the improved and protected views provided by the Assessments are another direct and tangible advantage that is uniquely conferred upon property in the District.

Extension of a Property's Outdoor Areas and Green Spaces for Properties within Close Proximity to the Improvements

In large part because it is cost prohibitive to provide large open land areas on property in the District, the residential, commercial and other benefiting properties in the District do not have large outdoor areas and green spaces. The Improvements within the District provide additional outdoor areas that serve as an effective extension of the land area for proximate properties because the Improvements are uniquely proximate and accessible to property in close proximity to the Improvements. The Improvements, therefore, provide an important, valuable and desirable extension of usable land area for the direct advantage and special benefit of properties in the District because such properties have uniquely good and close proximity to the Improvements.

Creation of Individual Lots for Residential and Commercial Use that, in Absence of the Assessments, Would Not Have Been Created

In most of the District, the original owner/developer(s) of the property within the District agreed unanimously to the Assessments. The Assessments provide the necessary funding for public improvements that were approved as a condition of development and subdivision approval. Therefore, such Assessments allowed the original property to be subdivided and for development of the parcels to occur. As parcels were sold, new owners were informed of the Assessments through the title reports, and in some cases, through Department of Real Estate "White Paper" reports that the parcels were subject to assessment. Purchase of property was also an "agreement" to pay the Assessment. Therefore, in the absence of the Assessments, the lots within most of the District would not have been created. These parcels, and the Improvements that were constructed on the parcels, receive direct advantage and special benefit from the Assessments.

Summary of Relative Weight of Benefit Factors

A solid argument could be made that the Creation of Individual Lots benefit comprises 100% of the benefit because the Improvements were incorporated into the original planning and design of the subdivision, and thus were deemed to be necessary and required for the development of the lot. Without those Improvements and associated benefit, the lots would not have been created in the first place. Nevertheless, four other definitive benefits accruing to the parcels within the District are identified, and an allowance should be made within the overall relative importance of benefits. The table below illustrates the relative benefit level of the five identified benefits used in this Report.

Benefit Factor	Relative Weight
Proximity	10%
Access	10%
Views	10%
Outdoor Area or Green Space Extension	10%
Creation of Individual Lots for Development	60%
Total Benefit	100%

General Versus Special Benefit

Article XIIIC of the California Constitution requires any local agency proposing to increase or impose a benefit assessment to "separate the general benefits from the special benefits conferred on a parcel." The rationale for separating special and general benefits is to ensure that property owners subject to the benefit assessment are not paying for general benefits. An assessment can fund special benefits but cannot fund general benefits. Accordingly, a separate estimate of the special and general benefit is given in this section.

In other words:

Total Benefit = General Benefit + Special Benefit

There is no widely-accepted or statutory formula for general benefit. General benefits are benefits from improvements or services that are not special in nature, are not "particular and distinct" and are not "over and above" benefits received by other properties. *SVTA* provides some clarification by indicating that general benefits provide "an indirect, derivative advantage" and are not necessarily proximate to the improvements.

In this Report, the general benefit is liberally estimated and described, and then budgeted so that it is funded by sources other than the Assessment.

The starting point for evaluating general and special benefits is the current, baseline level of service. The Assessment will fund Improvements "over and above" this general, baseline level and the general benefits estimated in this section are over and above the baseline.

A formula to estimate the general benefit is listed below:

General Benefit	**=**	**Benefit to Real Property Outside the Assessment District**	**+**	**Benefit to Real Property Inside the Assessment District that is Indirect and Derivative**	**+**	**Benefit to the Public at Large**

Special benefit, on the other hand, is defined in the state constitution as "a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large." The *SVTA* decision indicates that a special benefit is conferred to a property if it "receives a direct advantage from the improvement (e.g., proximity to a park)." In these Assessments, as noted, properties in the District have close and unique proximity, views and access to the Improvements and uniquely improved desirability from the Improvements and other properties and the public at large do not receive significant benefits because they do not have proximity, access or views of the Improvements. Therefore, the overwhelming proportion of the benefits conferred to property is special, and is only minimally received by property outside the Assessment Districts or the public at large.

Benefit Finding

Quantification of General Benefit

In this section, the general benefit from landscaping and other types of Improvements is liberally estimated and described, and then budgeted so that it is funded by sources other than the Assessment.

Benefit to Property Outside the Assessment Districts

Properties within the District receive almost all of the special benefits from the Improvements because properties in the District enjoy unique close proximity and access to the Improvements that are not enjoyed by other properties or the public at large. However, certain properties within the proximity/access radius of the Improvements, but outside of the boundaries of the District, may receive some benefit from the Improvements. Since this benefit is conferred to properties outside the District boundaries, it contributes to the overall general benefit calculation and will not be funded by the Assessments. The general benefit to property outside of the District is calculated with the parcel and data analysis performed by SCI Consulting Group.

Since the properties outside the District but with frontage abutting the Improvements receive benefit but cannot be assessed by the District, this is a form of general benefit to other property. The primary ways that parcels outside the district benefit by the Improvements is from proximity,

access, views and extension of outdoor space, which account for 40% of the available benefit. Therefore, parcels that abut the landscape areas and are not separated from the Improvements by a privacy fence are counted for this general benefit. The general benefit to property outside of the District is calculated as follows.

Assumptions:

47 parcel outside the District

1517 parcels in the District

Calculation:

General Benefit to property outside the District =

47/(47+1517) * 40% = 1.20%

Benefit to Property Inside the Assessment Districts that is Indirect and Derivative

The "indirect and derivative" benefit to property within the District is particularly difficult to calculate. A solid argument can be presented that all benefit within the District is special, because the Improvements are clearly "over and above" and "particular and distinct" when compared with the baseline level of service and the unique proximity, access and views of the Improvements enjoyed by benefiting properties in the District.

Nevertheless, the *SVTA* decision indicates there may be general benefit "conferred on real property located in the district." A measure of the general benefits to property within the Assessment area is the percentage of land area within the District that is publicly owned and used for regional purposes such as major roads, rail lines and other regional facilities because such properties used for regional purposes could provide indirect benefits to the public at large. Approximately 7.15% of the land area in the District is used for such regional purposes, so this is a measure of the general benefits to property within the District.

Benefit To The Public At Large

The general benefit to the public at large can be estimated by the proportionate amount of time that the District's Improvements including landscaping are used and enjoyed by individuals who are not residents, employees, customers or property owners in the District. It should be noted that these Improvements do not attract the public at large in the same way as park improvements – and they confer far less benefit to the public at large than do similar park improvements.

One way to measure the special benefit to the general public is by the car trips through an area with Improvements. Of the five ways benefits are conferred (proximity, access, views, extension of a property's green space, and creation of lots), the only benefit that is conferred by way of pass-by car trips is views, which accounts for 10% of the total benefits. For pass-by car trips, the benefit of views is found to be approximately half that of residents, employees, customers or property owners in the District due to the brevity of the views. Therefore the relative benefit factor is reduced to 5%.

Next, the views factors are weighted by the relevant number of car trips. Using the lane miles as representative of pass-by traffic, an analysis shows that 60% of the lane miles are on arterial or collector streets where the general public has views of the landscaping. Therefore (60% of 5% =) 3.0% of the benefits from the Improvements are general benefits to the public at large.

Special Considerations of Improvements Outside of District

The benefits are categorized into to two geographic groupings of Improvements: In-District Improvements that include parkways, medians and paseos that are either inside the district boundaries, or are traffic medians that directly abut or front the district; and Out-of-District Improvements that are parkways or medians that are both outside the District boundaries and are not abutting, fronting or lying adjacent to the District. Based on weighted square footage of the various types of Improvements, Out-of-District Improvements count for approximately 11.6% of the total benefits. These Out-of-District benefits are found to be entirely General Benefit. For example some Improvements at Santiago Canyon College are maintained, but the funding for this work comes entirely from the College as general benefit funds.

The In-District Improvements, conversely, provide approximately 88.4% of the total benefits. The general benefits provided by these Improvements are discussed above.

Total General Benefits

Using a sum of these three measures of general benefit plus the special considerations of general benefit from Out-of-District benefits (both weighted accordingly), we find that approximately 21.6% of the benefits conferred by the Improvements may be general in nature and should be funded by sources other than the Assessment. This calculation is shown below.

		Relative General Benefit		Percent of Overall Benefit		General Benefit
In-District General Benefits						
Outside the District	1.20%					
Property within the District	7.15%					
Public at Large	3.00%					
Total In-District	11.35%	11.4%	x	88.4%	=	10.0%
Out-of-District General Benefits		100.0%	x	11.6%	=	11.6%
		TOTAL GENERAL BENEFIT				**21.6%**

Although this analysis finds that 21.6% of the Assessment may provide general benefits from the Improvements, the Assessment Engineer establishes a requirement for a minimum contribution from sources other than the Assessments of 22%. This minimum contribution above the measure of general benefits will serve to provide additional coverage for any other general benefits.

Final Step – Calculate the Current General Benefit Contribution from the City

This general benefit cannot be funded from the Assessments; it must be funded from other sources such as the City's General Fund or other non-District funds. These contributions can also be in the form of in-lieu contributions to the installation and maintenance of the Improvements such as other City assets that support and protect the Improvements. The City of Orange will contribute both monetary and in-lieu resources to ensure that the general benefits conferred by the proposed Improvements are not funded by the District's property owners.

A summary and quantification of these other contributions from the City is discussed below:

The City of Orange owns, maintains, rehabilitates and replaces curb and gutter along the border of the District Improvements. This curb and gutter serves to support, contain, retain, manage irrigation flow and growth, and provide a boundary for the Improvements. The contribution from the City towards general benefit from the maintenance, rehabilitation, and replacement of the curb and gutter is conservatively estimated to be 5%.

The City owns and maintains a storm drainage system along the border of the District Improvements. This system serves to prevent flooding and associated damage to the Improvements, and manage urban runoff including local pollutants loading from the Improvements. The contribution from the City towards general benefit from the maintenance, and operation of the local storm drainage system is conservatively estimated to be 5%.

The City owns and maintains local public streets along the border of the District Improvements. These public streets provide access to the Improvements for residents' enjoyment as well as efficient maintenance. The contribution from the City towards general benefit from the maintenance of local public streets is conservatively estimated to be 5%.

The value of the construction of the Improvements can be quantified and monetized as an annuity. Since this construction was performed and paid for by non-assessment funds, this "annuity" can be used to offset general benefit costs, and is conservatively estimated to contribute 10%.

The total General Benefit is liberally quantified at 22% which is entirely offset by the conservatively quantified total non-Assessment contribution towards general benefit described above of 25%. Therefore, no additional General Benefit must be funded by the City.

Zones of Benefit

The boundaries of the District were developed in conjunction and concurrent with the planning and design of the subdivisions and Improvements, and thus include only the properties in the City of Orange that are proximate to the Improvements and that would materially benefit from the Improvements. Certain other properties surrounding the District were not part of the designed association between the Improvements and the assessed areas, and are generally less proximate to the Improvements. In other words, the boundaries of the District have been narrowly drawn to include only properties that will specially benefit from the Improvements, and would receive a declining level of service if the Assessments were not approved.

The *SVTA* decision indicates:

> *In a well-drawn district — limited to only parcels receiving special benefits from the improvement — every parcel within that district receives a shared special benefit. Under section 2, subdivision (i), these benefits can be construed as being general benefits since they are not "particular and distinct" and are not "over and above" the benefits received by other properties "located in the district."*

> *We do not believe that the voters intended to invalidate an assessment district that is narrowly drawn to include only properties directly benefiting from an improvement. Indeed, the ballot materials reflect otherwise. Thus, if an assessment district is narrowly drawn, the fact that a benefit is conferred throughout the district does not make it general rather than special. In that circumstance, the characterization of a benefit may depend on whether the parcel receives a direct advantage from the improvement (e.g., proximity to park) or receives an indirect, derivative advantage resulting from the overall public benefits of the improvement (e.g., general enhancement of the district's property values).*

In the District, the advantage that each parcel receives from the Improvements is direct, and the boundaries are narrowly drawn to include only parcels that benefit from the Assessment. Therefore, the even spread of Assessment throughout the narrowly drawn district is indeed consistent with the *SVTA* decision. For the most part, the benefits from the Improvements within the District do not vary further based on proximity of the parcels to the Improvements because the increased benefits of greater proximity to the Improvements are generally offset by a parallel increase in negative factors such as higher levels of traffic, noise, etc. that comes with increased proximity.

There are two distinct neighborhoods within the District: Santiago Hills and Hillsdale. Santiago Hills is a complex neighborhood with arterial and collector streets traversing the residential areas and a commercial area on the northeast portion. In addition, Santiago Hills has a system of walking paths, or paseos, that provide additional benefits not found in the Hillsdale neighborhood. Hillsdale is a relatively small neighborhood, linear in shape centered on one residential street (Hillsdale Drive) with Improvements along only one exterior frontage (Santiago Canyon Road).

In order to most conservatively assure that Assessments are proportional to the relative level of special benefits in the District, two zones have been created. Zone of Benefit A (or "Zone A") consists of all of the parcels that lie within the Santiago Hills neighborhood bounded generally by Chapman Avenue, Jamboree Road, Canyon View Avenue, Skylark Lane and Newport Boulevard. Zone A receives the full complement of special benefits.

Zone of Benefit B ("Zone B") consists of all the parcels that lie within the Hillsdale neighborhood lying generally north of Santiago Canyon Road. A detailed analysis of the proportionate benefits received by the Hillsdale neighborhood as compared to the Santiago Hills neighborhood based on the weighted areas of parkways, paseos, and traffic medians within or proximate to the two zones shows that the Hillsdale neighborhood (Zone B) receives approximately 75% as much special benefit as the Santiago neighborhood (Zone A). Therefore Assessments for parcels in Zone B are reduced approximately 20% from the rates for Zone A (see Assessment Diagram).

Method of Assessment

As previously discussed, the proposed Assessments will provide comprehensive Improvements that will clearly confer special benefits to properties in the District. The allocation of special benefits to property is partially based on the type of property and the size of property. These benefits can also partially be measured by the occupants on property in the District because such parcel population density is a measure of the relative benefit a parcel receives from the Improvements. It should be noted that many other types of "traditional" assessments also use parcel population densities to apportion the Assessments. For example, the assessments for sewer systems, roads and water systems are typically allocated based on the population density of the parcels assessed. Therefore, the apportionment of benefit is reasonably based on the type of parcel, the size of parcels and the population density of parcels.

The next step in apportioning Assessments is to determine the relative special benefit for each property. This process involves determining the relative benefit received by each property in relation to a single family home, or, in other words, on the basis of Single Family Equivalents (SFE). This SFE methodology is commonly used to distribute Assessments in proportion to estimated special benefit and is generally recognized as providing the basis for a fair and appropriate distribution of Assessments. For the purposes of this Engineer's Report, all properties are designated a SFE value, which is each property's relative benefit in relation to a single family home on one parcel. In this case, the "benchmark" property is the single family detached dwelling which is one Single Family Equivalent or one SFE.

Not only residential improved property will be assessed, because commercial and other properties may also receive direct benefits from the Improvements, and will be assessed.

A fixed or flat Assessment is proposed for all single family residential properties regardless of occupancy or parcel size. Assessments on multi-family residential parcels vary based on the number of dwelling units. Assessments on commercial property are levied on an acreage basis because larger properties generally support larger buildings and have higher numbers of employees, customers and guests who would benefit from proximity and improved access to well-maintained and improved landscaping.

Finally, the special benefits to be derived from the proposed Assessments will be conferred on property and are not based on a specific property owner's use of the improvements, a specific property owner's occupancy of property, or the property owner's demographic status such as age or number of dependents. The benefits conferred to property are related to the average number of people who could potentially live on, work at, or otherwise could occupy a property, not how the property is currently used by the present owner. Therefore, the number of people who could or potentially live on, work at or otherwise occupy a property is one indicator of the relative level of benefit received by a property.

In conclusion, the Assessment Engineer determined that the appropriate method of assessment apportionment should be based on the type of property, the relative size of the property, property location, its relative population and its proximity to Improvements. This method is further described below.

Residential Properties

Certain residential properties in the District that contain a single residential dwelling unit are assigned one Single Family Equivalent or 1.0 SFE. Detached or attached houses and zero-lot line houses are included in this category of single family residential property. If there is more than one single family detached dwelling on a parcel, it will be charged one SFE per single family detached dwelling.

Properties with more than one residential unit (other than parcels with more than one detached single family dwelling as described above) are designated as multi-family residential properties. These properties benefit from the Improvements in proportion to the number of dwelling units that occupy each property, the average number of people who reside in multi-family residential units versus the average number of people who reside in a single family home (Population Density Factor) and the relative size of each type of residential dwelling unit (Square Foot Factor). The population density factors for the area in Orange County encompassing the District, as depicted in the following table, provide the basis for determining the SFE factors for residential properties. Using the total population in a certain property type in the area of the District from the 2010 Census and

dividing it by the total number of such households, finds that approximately 3.21 persons occupy each single family residence, whereas an average of 2.93 persons occupy each condominium. The ratio of 3.21 people on average for a single family residence and 2.93 people per dwelling unit in a condominium unit results in a population density equivalent of 0.91 for condominiums. Next, the relative building areas are factored into the analysis because special benefits are related to the average size of a property, in addition to average population densities. For a condominium, this calculation results in an SFE factor of 0.71 per dwelling unit.

Table 1 – Residential Density and Assessment Factors

Type of Residential Property	Pop. Density Equivalent	SqFt Factor	SFE Factor
Single Family Residential	1.00	1.00	1.00
Condominium	0.91	0.78	0.71

There are no other multi-family property types (e.g., duplex, triplex, fourplex, apartments) in the District, and none are foreseen in the future. Therefore no SFE-based assessment rate is calculated.

Commercial Properties

SFE values for commercial land uses are based on the equivalence of special benefit on a land area basis between single family residential property and the average commercial property. The SFE values for various commercial land uses are further defined by using average employee densities because the special benefit factors described previously can be measured by the average number of people who work at commercial properties.

In order to determine employee density factors, the findings from the San Diego Association of Governments Traffic Generators Study (the "SANDAG Study") are used because these findings were approved by the State Legislature as being a good representation of the average number of employees per acre of land area for commercial properties. As determined by the SANDAG Study, the average number of employees per acre for general commercial property is 24.

In comparison, the average number of people residing in a single family home in the area is 3.21. Since the average lot size for a single family home in the District is approximately 0.12 acres, the average number of residents per acre of residential property is 26.8.

The employee density per acre is roughly equal to (or 0.9 times) the population density of single family residential property per acre (24 employees per acre / 26.8 residents per acre). However, the benefit derived by employees on commercial properties is less than that derived by a resident on residential property, generally due to less time of use of services and Improvements. The Assessment Engineer determines that this factor is 0.5 for commercial to 1 for residential. Table 2 below shows the average employees per acre of land area or portion thereof for various types of commercial properties and lists the relative SFE factors per 0.12 acre for properties in each land use category.

Commercial properties in excess of 5 acres generally involve uses that are more land intensive relative to building areas and number of employees (lower coverage ratios). As a result, the benefit factors for commercial property land area in excess of 5 acres is determined to be the SFE rate per 0.12 acre for the first 5 acres and the relevant SFE rate per each additional acre over 5 acres.

Table 2 – Commercial Density and Assessment Factors

Type of Commercial Land Use	*Average Employees per Acre* [1]	*SFE Units per 0.12 Acre* [2]
General Commercial	24	0.500
Office[3]	68	1.420
Shopping Center	24	0.500

1. Source: San Diego Association of Governments Traffic Generators Study.

2. The SFE factors for commercial and industrial parcels are applied by the 0.12 acre of land area or portion thereof. (Therefore, the minimum assessment for any assessable parcel in these categories is the SFE Units listed herein.) The rates apply up to first 5 acres of parcel size. Additional acreage is benefited at the rate shown above per acre or portion thereof.

3. Currently there are no parcels in the District in the Office category. This rate is included in the event General Commercial space is converted to Office space.

Vacant/Undeveloped Properties

The benefit to undeveloped properties is determined to be proportional to the corresponding benefits for similar type developed properties, but at a lower rate due to the lack of improvements on the property. A measure of the benefits accruing to the underlying land is the average value of land in relation to Improvements for developed property. An analysis of the assessed valuation data from the County of Orange found that approximately 55% of the assessed value of improved properties is classified as the land value. It is reasonable to assume, therefore, that approximately 55% of the benefits are related to the underlying land and 45% are related to the improvements and the day-to-day use of the property. Using this ratio, the SFE factor for vacant/undeveloped parcels is 0.55 per parcel.

Other Properties

Article XIIID stipulates that publicly owned properties must be assessed unless there is clear and convincing evidence that those properties receive no special benefit from the Assessment.

All properties that are specially benefited are assessed. Certain other publicly owned property that lie within the District boundaries, including Santiago Canyon College, Chapman Hills Elementary School, Santiago Hills Park, and City of Orange public safety facility on East Fort Road, are not assessed. These are discussed below.

Santiago Canyon College: The College lies within the District and certain Improvements lie on their property. Although the College is not assessed in this District, the College pays for any special

benefit through a separate agreement with the City, and that monetary contribution is shown in Table 1. In addition, all benefit attributable for the College property is included in the General Benefit calculation shown above.

Chapman Hills Elementary School: Any special benefit attributable to the School buildings and parking lots are entirely offset by the benefit provided to the neighborhood by the outdoor fields. This facility was also included in the list of regional facilities in the calculation of general benefit to properties inside the district that is indirect and derivative above.

Santiago Hills Park: Any special benefit attributable to the Park is entirely offset by the benefit provided to the neighborhoods by park facilities. This facility was also included in the list of regional facilities in the calculation of general benefit to properties inside the district that is indirect and derivative above.

City of Orange Public Safety Facility on East Fort Road: Any special benefit received by this facility is entirely offset by the benefit provided back to the neighborhood similar to other in-lieu contributions to the General Benefit contributions that are funded by the City's General Fund or other non-District funds.

Miscellaneous, small and other parcels such as roads, right-of-way parcels, and common areas typically do not generate significant numbers of employees, residents, customers or guests, and have limited economic value. These miscellaneous parcels receive minimal, if any, benefit from the Improvements and are assessed an SFE benefit factor of zero SFEs.

Annual Cost Indexing

The Assessment is subject to an annual adjustment tied to the Consumer Price Index-U for the Los Angeles-Long Beach-Anaheim area as of December of each succeeding year (the "CPI"), with a maximum annual adjustment not to exceed 3%. Any change in the CPI in excess of 3% shall be cumulatively reserved as the "Unused CPI" and shall be used to increase the maximum authorized assessment rate in years in which the CPI is less than 3%. The maximum authorized assessment rate is equal to the maximum assessment rate in the first fiscal year the Assessment was levied adjusted annually by the minimum of either 3% or the change in the CPI plus any Unused CPI as described above.

Appeals of Assessments Levied to Property

Any property owner who feels that the Assessment levied on the subject property is in error as a result of incorrect information being used to apply the foregoing method of assessment may file a written appeal with the City of Orange City Manager or his or her designee. Any such appeal is limited to correction of an Assessment during the then-current Fiscal Year and applicable law. Upon the filing of any such appeal, the City Manager or his or her designee will promptly review the appeal and any information provided by the property owner. If the City Manager or his or her designee finds that the Assessment should be modified, the appropriate changes shall be made to the Assessment Roll. If any such changes are approved after the Assessment Roll has been filed with the County for collection, the City Manager or his or her designee is authorized to refund to the property owner the amount of any approved reduction. Any dispute over the decision of the City Manager or his or her designee shall be referred to the Orange City Council, and the decision of the City Council shall be final.

Assessment Funds Must Be Expended Within the District Area

The net available Assessment funds, after incidental, administrative, financing and other costs shall be expended exclusively for Improvements within the boundaries of the District or as described herein, and appropriate incidental and administrative costs as defined in the Plans and Specifications section.

ASSESSMENT

The amount to be paid for said Improvements and the expense incidental thereto, to be paid by the District for the Fiscal Year 2026-27 is generally as follows:

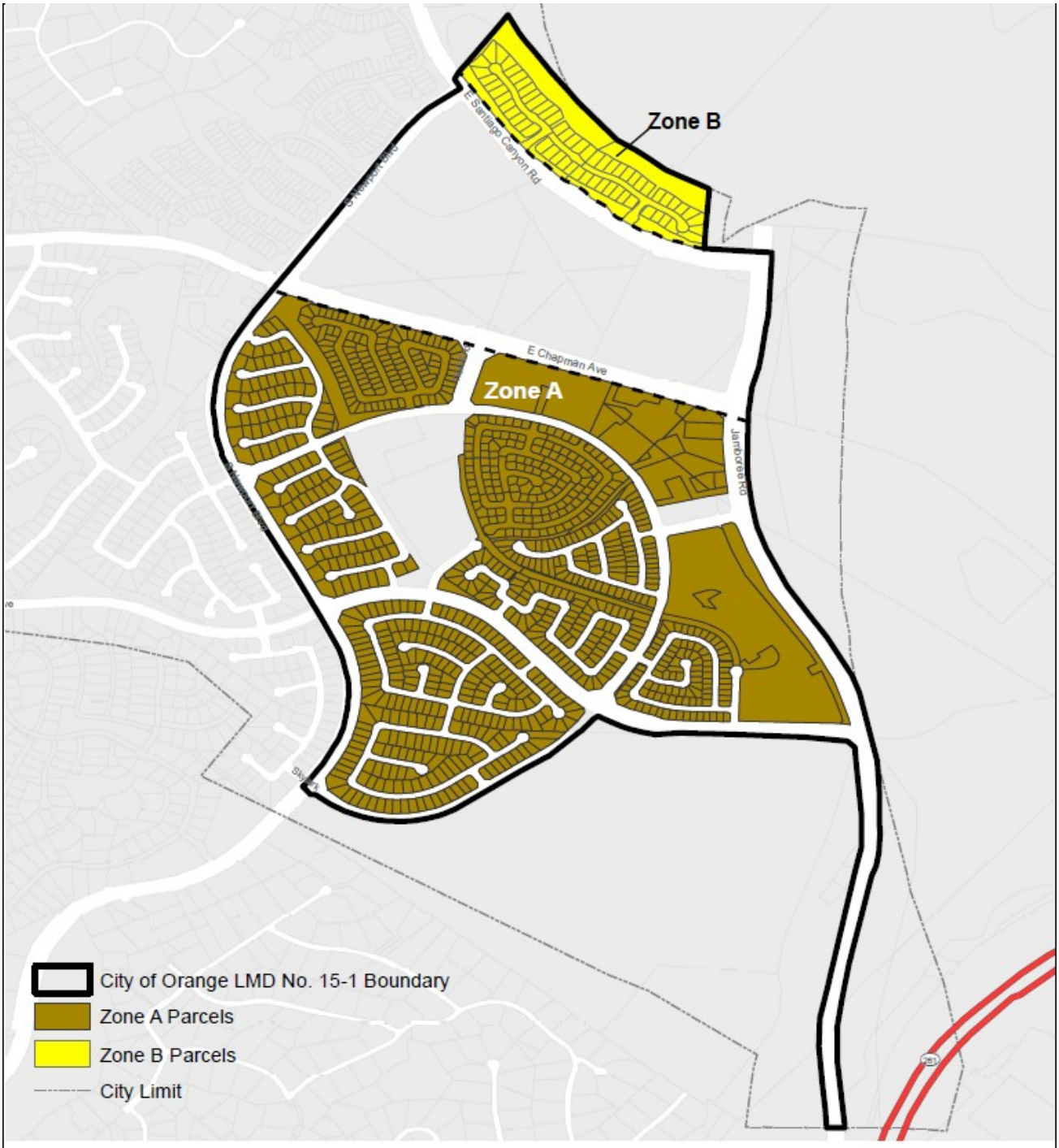
Table 3 – Summary Cost Estimate
For Landscape Maintenance District No. 15 -1
For Fiscal Year 2026-27

BUDGET ITEM	COST
ANNUAL MAINTENANCE	
Operating Expenses	$945,812
Salaries & Benefits	$59,348
Administration and Project Management	$75,308
Capital Expenses/ Revenues	$0
Total for Services	$1,080,468
Less Other Revenue	($556,558)
Reserve Funds	$122,247
Net Amount of Assessment	$401,663

As required by the Act, an Assessment Diagram showing the exterior boundaries of the Improvement District is hereto attached and incorporated herein by reference. The distinctive number of each parcel or lot of land in the District is its Assessor Parcel Number appearing on the Assessment Roll.

ASSESSMENT DIAGRAM

The parcels proposed to be assessed in Landscape Maintenance District No. 15-1 are shown on the Assessment Diagram, which is on file with the City Clerk of the City of Orange, and includes all those properties included in the original formation of LMD No. 86-2. The following Assessment Diagram is for general location only and is not to be considered the official boundary map. The lines and dimensions of each lot or parcel within the District are those lines and dimensions as shown on the maps of the Assessor of the County of Orange, for Fiscal Year 2026-27, and are incorporated herein by reference, and made a part of this Diagram and this Report.



CITY OF ORANGE LANDSCAPING MAINTENANCE DISTRICT No. 15-1
ASSESSMENT DIAGRAM

PREPARED BY SCI CONSULTING GROUP
4745 MANGELS BLVD
FAIRFIELD CA 94534
(707)430-4300

ASSESSMENT ROLL

An Assessment Roll (a listing of all parcels assessed within the Assessment District and the amount of the Assessment) will be filed with the City Clerk and is, by reference, made part of this Report and is available for public inspection during normal office hours at the City Hall at 300 East Chapman Avenue, Orange, California 92866.

Each lot or parcel listed on the Assessment Roll is shown and illustrated on the latest County Assessor records and these records are, by reference made part of this Report. These records shall govern for all details concerning the description of the lots or parcels.

Agenda Item

Orange City Council

Item #: 8.4. 6/9/2026 **File #:** 26-0251

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Christopher Cash, Public Works Director**

1. SUBJECT

Public Hearing to consider approval of the Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) Final Engineer's Report for Fiscal Year 2026-2027

2. SUMMARY

Resolution 11696 is the second step and will complete the process of the annual assessment for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing). Staff recommends no increase in the assessments for Fiscal Year 2026-2027 and that they remain $293.08 per unit. The total assessment to be levied in Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) will be $47,877.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.

2. Adopt Resolution No. 11696. A Resolution of the City Council of the City of Orange approving the Engineer's Report and providing for the annual assessment for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing).

3. Establish the assessment for Fiscal Year 2026-2027 for Landscape Maintenance Assessment District 94-1 (Sycamore Crossing) at $293.08 per single family unit per year.

4. FISCAL IMPACT

There is no direct fiscal impact to the City. The approval of the annual assessment will generate $47,877 in revenue with a proposed expenditure of $54,725 in the Sycamore Crossing Landscape Maintenance Assessment District Fund (293):

293-0000-40330-	Landscape Assessment	$47,877

5. STRATEGIC PLAN GOALS

Goal 5: Improve Infrastructure, Mobility, and Technology.

6. DISCUSSION AND BACKGROUND

In 1995, Landscape Maintenance District No. 94-1 (LMD 94-1) was established to maintain the landscape and flood control improvements along Santiago Creek that were constructed by Tract No. 14752 (Sycamore Crossing). Resolution No. 8462 approved Conditional Use Permit 2088-94 for Tentative Tract 15053 (Sycamore Crossing) and Resolution No. 8463 approved Tentative Tract Map

15053, which is part of Tract 14751.

Annually, staff performs a detailed accounting of expenses and calculates a new assessment for the benefiting property owners. All assessments are recommended to remain the same for Fiscal Year 2026-2027 (FY27) as they are for the current fiscal year. The 124 units in the interior of the Tract are currently assessed annually at $293.08. The 36 units adjacent to the landscape improvement have a 2% premium and are currently assessed at $298.94 per unit, per year. The senior housing site (Harmony Creek) is currently assessed at $597.88 per year. In addition, the City owns two lots within the district that also pay into the District. The larger lot which remains as open space is assessed at $117.23 per year and the smaller lot for a future water well is $58.62 per year.

The total expenditure for FY27 is estimated to be $54,725. The proposed assessment will generate $47,877 in revenue. The projected year-end reserve fund balance is $141,505 and the District is funded entirely by annual assessment revenue. The deficit revenue between the annual assessment and the expenditure is $6,848. Reserve funds will be used to supplement any potential deficit in FY27 expenditures.

The attached Final Engineer's Report contains detailed information about the assessment.

Each year, the process for setting the assessment of the Landscape Maintenance Districts is initiated. The process began on May 12, 2026, with the City Council's Approval of Resolution No. 11678 which approved the Preliminary Engineer's Report for LMD 94-1 and set June 9, 2026, as the date for the public hearing. This public hearing is the second step in the process and is held in accordance with the Lighting and Landscape Maintenance Act of 1972 as outlined in the "Order of Procedure". At this time, property owners will have an opportunity to be heard on this issue.

7. ATTACHMENTS

- Resolution No. 11696
- Final Engineer's Report for the Annual Levy Assessment Landscape Maintenance District No. 94-1 Fiscal Year 2026-2027

Agenda Item

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7. ATTACHMENTS

- Resolution No. 11696
- Final Engineer's Report for the Annual Levy Assessment Landscape Maintenance District No. 94-1 Fiscal Year 2026-2027

RESOLUTION NO. 11696

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE APPROVING THE ENGINEER'S REPORT AND PROVIDING FOR THE ANNUAL ASSESSMENT FOR LANDSCAPE MAINTENANCE DISTRICT 94-1 (SYCAMORE CROSSING)

WHEREAS, the City Council of the City of Orange has previously formed a special maintenance district pursuant to the terms of the "Landscaping and Lighting Act of 1972" being part 2 of Division 15 of the California Streets and Highways Code, in what is known and designated as Landscape Maintenance District No. 94-1 ("Assessment District"); and

WHEREAS, the City Council has initiated proceedings for the levy of the annual assessment for the Assessment District; and

WHEREAS, at this time a public hearing has been held in the manner and form as required by law, and the City Council has considered all oral statements and written protests made or filed by all interested persons; and

WHEREAS, this City Council is now satisfied with the assessment and diagram and all other matters as contained in the Engineer's Report as now submitted for final consideration and approval, and is now desirous of proceeding with the levy of the annual assessment.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange as follows:

SECTION I:

That the above recitals are all true and correct.

SECTION II:

That all protests and objections of every kind and nature by, and the same hereby are, overruled and denied.

SECTION III:

That the Final Engineer's Report consisting of the final submitted assessment and diagram for the proceedings, is hereby approved and confirmed and a copy of said Report is hereby filed with the City Clerk.

SECTION IV:

That the assessments for fiscal year 2026-2027 be established as approved by the City Council, and are hereby confirmed and levied upon the respective subdivisions of land in the Assessment District in the amounts as set forth in said final approved Engineer's Report.

SECTION V:

The City Clerk shall immediately accomplish the following:

A. Deliver to the City Engineer the assessment, together with the diagram attached thereto and made a part thereof, as confirmed, with a Certificate of Confirmation attached and the date thereof. Said City Engineer shall then immediately place for a record said diagram and assessment in his office in a suitable book as a permanent record and attach a Certificate of Recordation.

B. Cause to be filed a certified copy of a diagram and assessment with the County Auditor, said filing to be completed no later than the 3rd Monday in August.

SECTION VI:

That the above confirmed assessment shall be collected at the same time and in the same manner as County property taxes are collected, and all laws providing for the collection and enforcement of these assessments.

ADOPTED this 9th day of June 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney,
City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the9th day of June 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

CITY OF ORANGE
FINAL ENGINEER'S REPORT

FOR THE ANNUAL LEVY ASSESSMENT

LANDSCAPE MAINTENANCE
DISTRICT NO. 94-1

FISCAL YEAR 2026-2027

LANDSCAPE MAINTENANCE DISTRICT NO. 94-1
SYCAMORE CROSSING

Intent Meeting: **May 12, 2026**
Public Hearing: **June 9, 2026**

AFFIDAVIT FOR THE ENGINEER'S REPORT

This Report describes the City of Orange Landscape Maintenance District No. 94-1 and proposed changes or modifications related thereto including the improvements, budgets, parcels and assessments to be levied for Fiscal Year 2026-2027, pursuant to the City's Resolution of Intention. Reference is hereby made to the Orange County Assessor's maps for a detailed description of the lines and dimensions of parcels within the District. The undersigned respectfully submits the enclosed Report as directed by the City Council.

Dated this 15th day of May, 2026.

By: _____
Alan Truong
Deputy Public Works Director / City Engineer



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INTRODUCTION

Pursuant to the provisions of the *Landscaping and Lighting Act of 1972, being Part 2 of Division 15 of the California Streets and Highways Code, commencing with Section 22500* (hereafter referred to as the "1972 Act"), and in compliance with the substantive and procedural requirements of the *California State Constitution Articles XIIIC and XIIID* (hereafter referred to as the "California Constitution"), the City Council of the City of Orange, County of Orange, State of California (hereafter referred to as "City"), in connection with the annual levy and collection of assessments of the special benefit assessment district designated as:

Landscape Maintenance District No. 94-1

(hereafter referred to as the "District"), which includes all lots and parcels of land that specially benefit from the improvements within the District. This Engineer's Report (hereafter referred to as "Report") has been prepared in connection with the annual levy and collections of assessments for said District pursuant to Chapter 1, Article 4 of the 1972 Act.

The City Council proposes to levy and collect annual assessments on the County tax rolls to provide ongoing funding for the costs and expenses required to service and maintain the landscaping improvements originally installed in connection with the development of properties within the District. The improvements to be provided by the District and the assessments described herein are made pursuant to the 1972 Act.

This Report describes the District, the improvements, and the proposed assessments to be levied in Fiscal Year 2026-2027 against properties in connection with the special benefits the properties will receive from the maintenance and servicing of the District improvements. The annual assessments to be levied on properties within the District will provide a funding source for the continued operation and maintenance of local landscaping improvements installed in connection with the development of properties within the District. The assessments described in this Report are based on an estimate of the direct expenditures, incidental expenses, and fund balances that will be necessary to maintain and service the improvements.

The word "parcel," for the purposes of this Report, refers to an individual property assigned its own Assessor's Parcel Number (APN) by the Orange County Assessor's Office. The Orange County Auditor/Controller uses Assessor's Parcel Numbers and specific Fund Numbers to identify properties to be assessed on the tax roll for the special benefit assessments.

This Report has been prepared and presented to the City Council to address any proposed changes to the District or improvements, if any, and the proposed budget and assessments for Fiscal Year 2026-2027. The City Council will conduct a noticed public hearing to consider public testimonies, comments and written protests regarding the levy and collection of assessments for Fiscal Year 2026-2027. Upon conclusion of the public hearing, if majority protest does not exist the City Council may approve this Report (as submitted or amended) and levy the assessments for Fiscal Year 2026-2027. In such case, the assessments for fiscal year 2026-2027 shall be submitted to the Orange County Auditor/Controller for inclusion on the property tax roll for each parcel. If the proposed annual assessments for this District exceed the maximum assessment described herein (as approved by the property owners), the new or increased assessment must be confirmed through another property owner protest ballot proceeding before such an assessment may be imposed.

This Report consists of five (5) parts:

Part I

Plans and Specifications: A description of the District boundaries and the improvements associated with the District. The District has been formed as a single benefit zone encompassing all properties within the territory identified as Landscape and Maintenance District No 94-1.

Part II

The Method of Apportionment: A discussion of benefits the improvements and services provide to properties within the District and the method of calculating each property's proportional special benefit and annual assessment.

Part III

The District Budget: An estimate of the annual costs to operate, maintain and service the landscaping and appurtenant facilities installed and constructed as part of the development of properties within the District. This budget includes an estimate of anticipated direct maintenance costs and incidental expenses. The special benefit assessments are based on the overall operation costs minus any costs that are considered general benefit. The proposed assessments for Fiscal Year 2026-2027, and each subsequent year shall be based on the estimated net annual cost of operating, maintaining and servicing the improvements for that fiscal year as well as funds to be collected in installments to perform maintenance activities that cannot be reasonably collected in a single fiscal year's assessments.

Part IV

District Diagram: A Diagram showing the exterior boundaries of the District is provided in this Report and includes all parcels that will receive special benefits from the improvements. Reference is hereby made to the Orange County Assessor's Parcel Maps for a detailed description of the lines and dimensions of each lot and parcel of land within the District.

Part V

Assessment Roll: A listing of the proposed assessment amounts to be levied on Assessor's Parcel within the District for Fiscal Year 2026-2027. The proposed assessment amount for each parcel is based on the parcel's proportional special benefit as outlined in the method of apportionment.

PART I — PLANS AND SPECIFICATIONS

A. Description of the District

The assessment district boundary is shown on a map entitled Assessment Diagram, Landscape Maintenance District No. 94-1, City of Orange, which is on file with the City Clerk of the City of Orange. A reduced scale copy of the Diagram can be found in Part IV of this document.

All parcels of real property affected are more particularly described in maps prepared in accordance with Section 327 of the Revenue and Taxation Code, which are on file in the Office of the Orange County Assessor, and which are made a part of this report by reference.

B. Improvements and Services

Improvements and Services Permitted Pursuant to the 1972 Act

The location of the works of improvement to be maintained under these proceedings is described as follows:

A. Lot E Tract 14752 - Generally a 23-foot wide strip of land along the northerly upper banks of Santiago Creek within Tract 14752;
B. Lot F Tract 14752 - Generally a 55-foot wide strip of land along the southerly upper banks of Santiago Creek with Tract 14752;
C. Lot C Tract 14752 - Generally an irregular shaped parcel adjacent to Lot F Tract 14752.

A general description of the works of improvement to be maintained under these proceedings are those generally described as follows:

A. Ornamental shrubs, trees, and ground cover
B. Habitat area including natural shrubs, trees, and ground cover
C. Complete irrigation system including pipes, valves, sprinkler heads, and controller
D. Soil cement erosion protection

The following items are excluded from the Maintenance District:

A. The center low flow channel of Santiago Creek.
B. Complete recreation trail/maintenance road including asphalt, signing, striping, and lighting.

Maintenance shall include, but not be limited to:

A. Repair, removal, or replacement of all or any part of any included improvement;
B. Providing for the life, growth, health, and beauty of landscaping, including cultivation, irrigation, trimming, spraying, fertilizing, and treating for disease or injury; and
C. The removal of trimmings, rubbish, debris, and other solid waste.

PART II — METHOD OF APPORTIONMENT

A. Background

The Landscaping and Lighting Act of 1972 provides that assessments may be apportioned by any formula or method, which fairly distributes costs among all lots or parcels within the district in proportion to the estimated benefits received. It is necessary to identify the special benefit that the Works of Improvement will render to the properties within the Assessment District. It is also necessary that the properties receive a special and direct benefit as distinguished from benefit to the general public.

B. Method of Assessment

Identify the Special Benefit

First of all, it is necessary to identify the special benefit that the public improvement will render to the properties within the boundaries of Landscape Maintenance District No. 94-1. The improvements consist of landscaping and a recreation trail/maintenance road along the upper banks of Santiago Creek. The creek was a natural flood control channel running through Tentative Tract 14752. As a condition for developing the tract, it was necessary to improve the creek to provide 100-year flood protection consistent with the National Flood Insurance Program. Alternative designs were looked at ranging from a concrete lined channel to a multi-use natural looking channel. The later was chosen to provide a visually pleasing channel with landscaping along both banks, erosion control bank protection, a useful recreation trail and a maintenance road. An interesting biotic habitat was added to fulfill 404 & 401 permit requirements.

The Orange County Flood Control District owns and maintains the center 96-foot wide low flow channel. The City of Orange owns and LMD 94-1 maintains 23 feet on the north side and 55 feet on the south side of the channel.

The special and direct benefits that each property owner will receive are:

- The Landscape Maintenance District fulfills the financial obligation of the property owners to maintain the improvements in Santiago Creek installed by the Tract development and as required by Conditional Use Permit 2088-94, condition of approval of Tract 15053 and the Development Agreement for Sycamore Crossing.
- A pleasing landscape visible at the entrance to the tract.
- Enhanced desirability of district properties through association with the improvements.
- Enhancement of the urban environment by providing open space and landscaping.
- Necessary flood protection provided by the improvements.
- Improved erosion resistance, dust control and fire prevention.
- There are many homes in the District that back up to Santiago Creek and the landscape improvement. Their back fences are made of wrought iron so they can enjoy the beauty and spaciousness of the landscape improvement.

Prior to 2011, the recreation trail, which begins within the Tract boundary and provides direct access to Hart Park, a City park with numerous recreation facilities, was considered as a special benefit. The recreation trail has been extended through the District and is now incorporated into the City regional trail system. This altered the special benefit of the recreation trail within the District. District funds are no longer used for the maintenance of the trail pavement, stripping and rail safety fence.

Apportionment of Cost

In further making the analysis, it is necessary that the property owners receive a special and direct benefit distinguished from that of the general public. In this case, an in-depth analysis was made, and several factors are being used in the final method and spread of assessments. In analyzing the overall district, it is noted that there are two types of development. There are 160 single family detached residential units on the north side of Santiago Creek and a 1.385 acre commercial site on the south side recently developed with senior housing.

All 160 residential units are relatively the same except for the fact that 36 units back up to the landscape improvement. The developer has placed an approximate 2% lot premium on these lots. This same differential was used in determining the assessment. A unit cost factor of 1.02 is assigned to these 36 units and the remaining 124 units have a cost factor of 1.0. The commercial site has been developed as low income housing for senior citizens.

The unit cost for the current FY 2026-2026 is $293.08 per unit for a total levy of $47,877.49. No increase is recommended for fiscal year 2026-2027. The levy will remain at $293.08. Therefore, the assessment levied on the 124 interior residential units will be $293.08, and for the 36 residential units along the channel it will be $298.94. In analyzing the special benefit to the senior citizen housing site we recognize the fact that seniors are generally not mobile enough to use the bike and pedestrian trail and therefore have limited access to the landscape improvement. The special benefit is limited to the visibility of the landscaping from the north facing units. With this in mind, a unit cost factor of 2.04 was assigned to the seniors housing site and the assessment levied will be $597.88. Since the enactment of Prop 218, publicly owned property within the District is no longer exempt from assessment. There are two lots within the boundaries of the District that are owned by the City of Orange. One is a small lot to be used in the future for a domestic water well. The other is a larger lot that will someday be used for recreation purposes. The special benefit to these lots is minimal at this time. A unit cost factor of 0.20 is assigned to the well site and a unit cost factor of 0.40 to the recreation site. The City will be levied $58.62 and $117.23 respectively. The total of the assessments levied on all the parcels will be $47,877.49.

C. Financial Analysis

The facilities, which are to be maintained by this landscape maintenance district, were installed by the developer of Tract No. 14752. The estimated costs of maintenance, operation, and administration of the facilities are shown in Part III.

Resolution 8462 approved Condition Use permit 2088-94 for Tentative Tract 15053 and Resolution 8463 approved Tentative Tract Map 15053, which is a part of Tract 14751. Both resolutions contain the following condition:

> "To the satisfaction of the City of Orange's Public Works Department and City Engineer, prior to the recordation of Final Tract Map 15053, the City shall form a landscape maintenance district which shall include the project for the purpose of levying and collecting an assessment to maintain the open space dedicated to the City by Tentative Tract 14752 and defining in Exhibit E-1 of the development agreement for this project. Said assessment shall not exceed the sum of $28.00 per month per residential unit in the project but may increase annually in accordance with the applicable increase maintenance cost index as provided in the Engineering News Record or such other comparable index as the parties shall agree. The future homeowner's contributions (financial payments) towards the maintenance of Santiago Creek open space shall be included in the disclosure requirement to future buyers."

The individual 2026-2027 assessments, tabulated by Assessor's Parcel Number, are on file with the City Clerk of the City of Orange, and can be found in Part V, Assessment Roll.

The 1972 Act permits carrying forward surpluses or recovering deficits in subsequent fiscal years. Costs for the District are reviewed annually and subsequent year's assessments will be credited or debited, as necessary.

The total assessment to be levied for fiscal year 2026-2027 by the district is recommended to be $47,877.49. This assessment is the same as fiscal year 2025-2026.

The assessments for Landscape Maintenance District No. 94-1, City of Orange, have been apportioned in direct accordance with the special and direct benefits that each parcel receives from the maintenance, operation, and administration of the Works of Improvement.

PART III — DISTRICT BUDGET

The following budget outlines the estimated costs to maintain the improvements for 2026-2027.

ANNUAL LEVY OF ASSESSMENT
LANDSCAPE MAINTENANCE DISTRICT NO. 94-1
City of Orange
ESTIMATED COSTS

OPERATION & MAINTENANCE FUND BALANCE FROM PRIOR YEARS

Estimated Fund Balance as of April 2026	$141,505

The estimated budget necessary for the 2026-2027 Fiscal Year for the District is as follows:

BUDGET ITEM	COST
ANNUAL MAINTENANCE	
Salaries & Benefits	$8,478
Telephone	$125
Water	$8,050
Electricity	$400
Landscape Maintenance	$19,332
Landscape Repairs	$7,347
Other Professional & Consulting	$800
Contractual Services, Tree Trimming Contract	$6,516
Contractual Services, Electrical Maintenance	$0
Contractual Services, Misc. Contract Services	$0
Office Supplies & Operating Expenses	$150
City Administrative Services	$3,527
TOTAL LANDSCAPE MAINTENANCE EXPENSES	**$54,725**

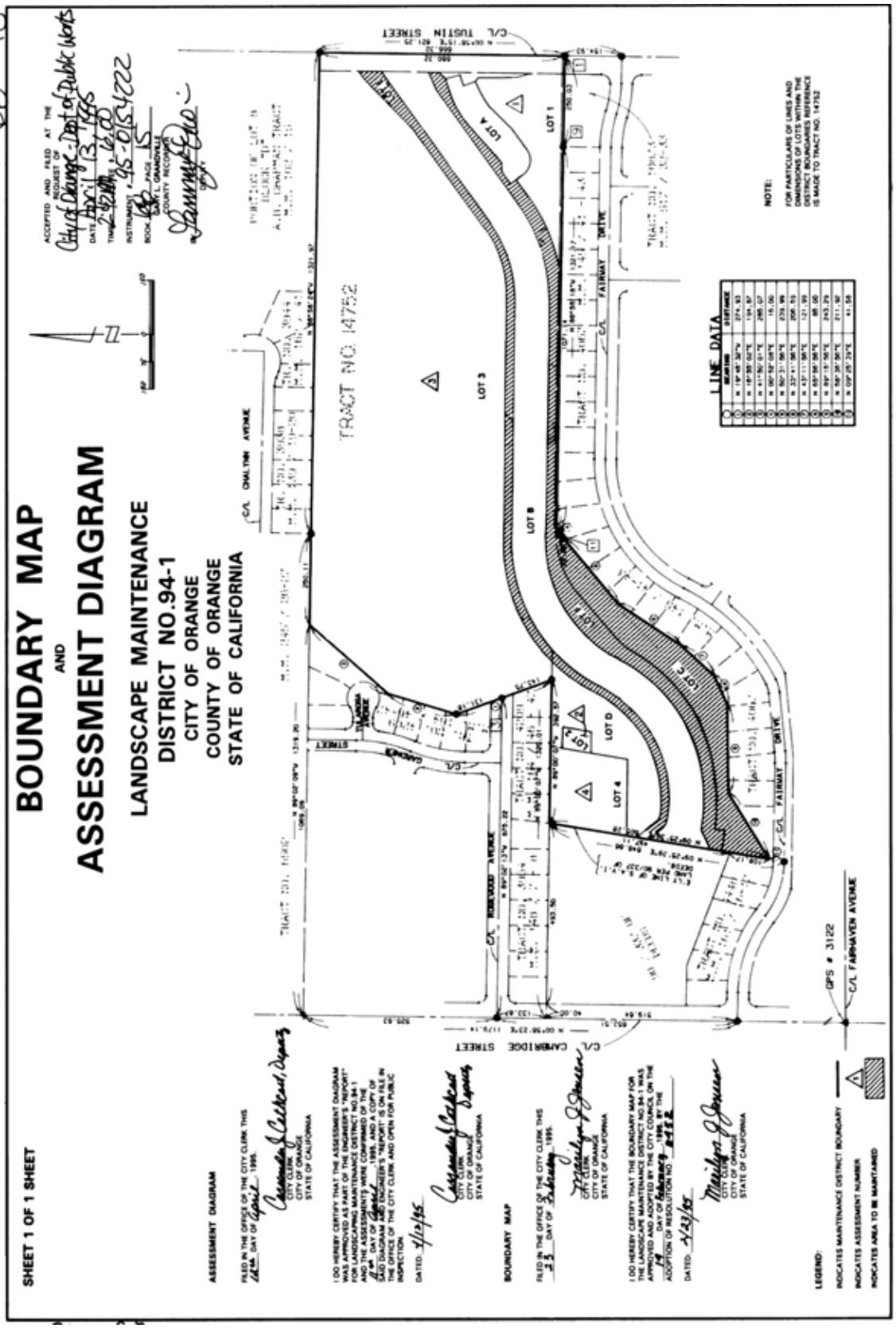
FUNDS TO BE TAKEN FROM RESERVE	$(6,848)

- This Budget Estimate is for the purpose of establishing an Annual Assessment. It may vary from the adopted City Budget. All assessments collected by the District may only be used for District expenditures regardless of the Budget Estimate.

BALANCE TO LEVY (maximum assessment)	**$47,877**

PART IV — DISTRICT DIAGRAMS

The following diagram incorporates all parcels within the District, as the same existed at the time this Report was prepared. The combination of this map and the Assessment Roll contained in this Report constitute the Assessment Diagram for the Landscape and Maintenance District No. 94-1, also known as Sycamore Crossing.


BOUNDARY MAP
AND
ASSESSMENT DIAGRAM
LANDSCAPE MAINTENANCE
DISTRICT NO.94-1
CITY OF ORANGE
COUNTY OF ORANGE
STATE OF CALIFORNIA
SHEET 1 OF 1 SHEET
TRACT NO. 14752
LOT A
LOT 1
LOT 2
LOT 3
LOT 4
LOT B
LOT D
C/L TUSTIN STREET
C/L CHAPMAN AVENUE
C/L CAMBRIDGE STREET
C/L FAIRHAVEN AVENUE
FAIRWAY DRIVE
GPS # 3122
LINE DATA
NOTE:
FOR PARTICULARS OF LINES AND DIMENSIONS OF LOTS WITHIN THE DISTRICT BOUNDARIES REFERENCE IS MADE TO TRACT NO. 14752
ASSESSMENT DIAGRAM
BOUNDARY MAP
LEGEND:
INDICATES MAINTENANCE DISTRICT BOUNDARY
INDICATES ASSESSMENT NUMBER
INDICATES AREA TO BE MAINTAINED

PART V — ASSESSMENT ROLL

Parcel identification for each lot or parcel within the District is based on available parcel maps and property data from the Orange County Assessor's Office, as they existed at the time this Engineer's Report was prepared and the City Council adopted the Resolution of Intention. A listing of the lots and parcels to be assessed within this District along with the assessment amounts is provided herein.

If any parcel submitted for collection is identified by the County Auditor/Controller to be an invalid parcel number for the fiscal year, a corrected parcel number and/or new parcel numbers will be identified and resubmitted to the County Auditor/Controller. The assessment amount to be levied and collected for the resubmitted parcel or parcels shall be based on the method of apportionment and assessment rate described in this Report as approved by the City Council. Therefore, if a single parcel is subdivided to multiple parcels, the assessment amount applied to each of the new parcels shall be recalculated and applied according to the approved method of apportionment and assessment rate rather than a proportionate share of the original assessment for the parcel.

The following is a list of the parcels and proposed assessment amounts for Fiscal Year 2026-2027 for each of the parcels within the District as determined by the assessment rates and method of apportionment described herein:

Agenda Item

Orange City Council

Item #: 8.5. 6/9/2026 **File #:** 26-0255

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Russell Bunim, Community Development Director**

1. SUBJECT

Continued Public Hearing to consider Introduction and First Reading of Ordinance No. 04-26 adding Chapter 8.38 of Title 8 (“Health and Safety”) to the Orange Municipal Code relating to maintenance and security standards for unoccupied or abandoned properties and adoption of fees and fines for regulations, monitoring and progressive administrative citations (Continued from May 26, 2026)

2. SUMMARY

The proposed ordinance will help the City reduce the negative secondary impacts associated with unoccupied and abandoned properties, including community blight, nuisance conditions, criminal activity, health, safety, and welfare hazards. The ordinance establishes maintenance and security standards for unoccupied and abandoned properties, creates a monitoring program to ensure compliance, and provides enforcement mechanisms to address neglected and unmaintained sites. It authorizes the imposition of monitoring and response fees to recover City staff time spent investigating violations, and it provides for civil penalties and summary abatement procedures when necessary. The companion Resolution will set the amount of fees and fines for regulations, monitoring and progressive administrative citations relating to unoccupied or abandoned properties.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.
2. Introduce and conduct First Reading of Ordinance No. 04-26. An Ordinance of the City Council of the City of Orange adding Chapter 8.38 to the Orange Municipal Code relating to the maintenance and security standards for unoccupied or abandoned properties.
3. Adopt Resolution No. 11687. A Resolution of the City Council of the City of Orange amending the City’s Master Fee Schedule setting the amount of fees and fines for regulations, monitoring and progressive administrative citations relating to unoccupied or abandoned properties as contained in newly added Chapter 8.38 of the Orange Municipal Code.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 1: Maintain Strong Emergency and Safety Services

6. DISCUSSION AND BACKGROUND

Unoccupied or abandoned properties, both commercial and residential, have been a persistent issue throughout the City of Orange. Unoccupied or abandoned properties are a significant source of blight in residential neighborhoods and commercial corridors, particularly when not properly maintained or secured by property owners. These properties often attract illegal activities such as trespassing, vandalism, criminal and drug activity, fire hazards, and other public safety concerns. They also create nuisance conditions including overgrown vegetation, illegal dumping, litter, graffiti, structural deterioration, and unsecured buildings. Over time, these conditions diminish property values, limit housing and commercial opportunities, deter investment, and adversely impact the City's economic development and tax revenue. Prolonged vacancy poses clear risks to the health, safety, and welfare of the community.

The City of Orange currently expends considerable resources responding to complaints and enforcing violations at unoccupied or abandoned properties. Addressing these properties requires coordination among multiple departments and divisions, including Code Enforcement, Police, Fire, Building and Safety, and the City Attorney's Office. While Code Enforcement's primary role is to issue notices of violation with reasonable compliance timelines, some property owners delay or refuse to comply, resulting in prolonged blight. In such cases, the City must pursue additional enforcement actions, including administrative citations, criminal prosecution, or civil remedies such as receivership or injunctions. These processes are resource-intensive and can take several months to over a year to resolve. In some instances, administrative fines alone are insufficient, as certain property owners treat them as a cost of doing business rather than taking corrective action.

The proposed ordinance places direct responsibility on property owners to proactively maintain and secure unoccupied or abandoned properties. It imposes strict liability on owners and their property managers, reducing reliance on City enforcement and minimizing demands on public resources. By establishing clear standards, accountability measures, and cost recovery mechanisms, the ordinance promotes timely compliance and protects the community from the adverse impacts of vacancy.

The applicability of this proposed ordinance would not apply to certain Unoccupied or Abandoned Properties under the following circumstances:

- **Active Construction:** Properties with a valid building permit, ongoing construction, inspections at least every three months, and diligent progress toward completion.
- **Pending Permits, Licenses, or Approvals:** Properties where the owner or leaseholder has applied for and is actively pursuing the permits, licenses, or approvals required for lawful occupancy or use.
- **Actively Marketed Residential Properties:** Vacant residential properties that are continuously listed for sale, lease, or rent and comply with all applicable Federal, State, and local laws.

In all cases, properties must remain properly maintained and secured to prevent nuisance conditions.

Similar Ordinances Adopted by Orange County Cities:

Staff reviewed unoccupied and abandoned property policies and programs to identify potential strategies for addressing these issues. This research identified several effective regulatory models currently implemented by cities throughout California. Several Orange County cities, including Garden Grove, Santa Ana, Stanton, Placentia, Huntington Beach, and Fountain Valley, have adopted ordinances regulating unoccupied, abandoned, distressed, or vacant properties to address property maintenance, security, and blight-related conditions. In May 2026, the City of Westminster adopted a vacant commercial and storefront registration program in response to 17 vacant non-residential properties and 109 vacant commercial storefronts citywide.

Data on Unoccupied or Abandoned Properties in the City:

Code Enforcement has identified approximately over 230 known unoccupied or abandoned properties in the City.

Commercial properties with buildings	36
Commercial lots	8
Commercial storefronts	165
Residential properties with buildings	13
Residential lots	8
Total:	**230**

Overview of the proposed Maintenance and Security Standards for Unoccupied or Abandoned Properties

- Imposes a clear duty and strict liability on property owners to maintain and secure their properties.
- Defines a vacant property as one that is unoccupied, distressed, abandoned, or otherwise exhibits evidence of vacancy for more than 30 consecutive days.
- Establishes minimum maintenance and security standards, including landscape maintenance, graffiti and debris removal, securing structures, repairing or boarding openings, and fencing vacant lots.
- Requires window screening for unoccupied or abandoned commercial storefronts to reduce visual blight.
- Establishes monitoring and response fees to recover the City’s administrative and enforcement costs, including inspections, staff time, equipment, supplies, and printing.
- Applies monitoring and response fees to Level 2 (At-Risk) and Level 3 (Problematic) properties with ongoing code violations.
- Provides property owners with due process through an appeal to an independent hearing officer.
- Authorizes the hearing officer to conduct hearings, evaluate evidence, and issue written decisions.
- Grants Code Enforcement authority to secure and abate properties that fail to comply with the ordinance.
- Establishes procedures to bill and recover unpaid fees, abatement costs, and related

expenses as a debt owed to the City.

Monitoring and Response Fees

Monitoring and Response Fees shall be imposed when an Unoccupied or Abandoned Property is found to be in violation of one or more provisions of the City Code. Following an inspection, the property owner shall be provided with written notice of the violations and a reasonable period to correct them. If the violations remain uncorrected after the compliance period, the property shall be classified into one of the following categories:

1. **Level 1 - Stable Property:**

   An unoccupied or abandoned property maintained in full compliance with the Orange Municipal Code (OMC) and this chapter. No additional monitoring or response fees apply.

2. **Level 2 - At-Risk Property:**

   An unoccupied or abandoned property with violations of the OMC or this chapter. In addition to any citations, notices, or abatement costs, the property shall be subject to biweekly monitoring by Code Enforcement and a corresponding Monitoring and Response Fee.

3. **Level 3 - Problematic Property:**

   An unoccupied or abandoned property with violations that render it dangerous, unsafe, or an immediate threat to public health, safety, or welfare. In addition to any citations, notices, or abatement costs, the property shall be subject to weekly monitoring by Code Enforcement and a corresponding Monitoring and Response Fee.

If a property's condition changes, its classification and applicable fees shall be adjusted accordingly. Property owners may request a reassessment by the Code Enforcement Division.

Appeals

The proposed Ordinance provides that any owner of an Unoccupied or Abandoned Property may appeal the following determinations to a City hearing officer:

- Compliance with maintenance and security standards;
- Imposition of monitoring and response fees;
- Assessment of abatement costs; and
- The Director's decision to deny or modify a request for waiver or modification of unoccupied or abandoned property requirements.

Property Rights Retained

Property owners retain the right to keep their properties unoccupied. The proposed ordinance does not require owners to occupy, sell, lease, or develop their properties. Instead, it simply requires that unoccupied or abandoned properties be maintained and secured in accordance with minimum maintenance and security standards for the duration of ownership. The ordinance is intended to protect public health, safety, and neighborhood quality while fully preserving private property rights.

Economic Development Opportunities

Implementation of the Maintenance and Security Standards for Unoccupied or Abandoned Properties Program can support economic development by encouraging property owners to maintain, secure, and improve vacant properties. While these properties may comprise a relatively small portion of the City's land area, they can depress nearby property values, deter private investment, and constrain housing and commercial opportunities.

By returning unoccupied and abandoned properties to productive use or occupancy, the City can stimulate reinvestment, enhance neighborhood vitality, and increase property and sales tax revenues. City Planning, Building, and Economic Development staff will be available to assist property owners with permitting, redevelopment, and marketing efforts when they are ready to rehabilitate, reuse, or sell their properties.

Staff recommends the City Council adopt the proposed ordinance to further the City's long-term economic development objectives and Code Enforcement's property maintenance objectives.

7. ATTACHMENTS

- Ordinance No. 04-26
- Resolution No. 11687

Agenda Item

Orange City Council

Item #: 8.5. 6/9/2026 **File #:** 26-0255

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Russell Bunim, Community Development Director**

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The proposed ordinance will help the City reduce the negative secondary impacts associated with unoccupied and abandoned properties, including community blight, nuisance conditions, criminal activity, health, safety, and welfare hazards. The ordinance establishes maintenance and security standards for unoccupied and abandoned properties, creates a monitoring program to ensure compliance, and provides enforcement mechanisms to address neglected and unmaintained sites. It authorizes the imposition of monitoring and response fees to recover City staff time spent investigating violations, and it provides for civil penalties and summary abatement procedures when necessary. The companion Resolution will set the amount of fees and fines for regulations, monitoring and progressive administrative citations relating to unoccupied or abandoned properties.

3. RECOMMENDED ACTION

1. Conduct and close the Public Hearing.
2. Introduce and conduct First Reading of Ordinance No. 04-26. An Ordinance of the City Council of the City of Orange adding Chapter 8.38 to the Orange Municipal Code relating to the maintenance and security standards for unoccupied or abandoned properties.
3. Adopt Resolution No. 11687. A Resolution of the City Council of the City of Orange amending the City’s Master Fee Schedule setting the amount of fees and fines for regulations, monitoring and progressive administrative citations relating to unoccupied or abandoned properties as contained in newly added Chapter 8.38 of the Orange Municipal Code.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 1: Maintain Strong Emergency and Safety Services

6. DISCUSSION AND BACKGROUND

Unoccupied or abandoned properties, both commercial and residential, have been a persistent issue throughout the City of Orange. Unoccupied or abandoned properties are a significant source of blight in residential neighborhoods and commercial corridors, particularly when not properly maintained or secured by property owners. These properties often attract illegal activities such as trespassing, vandalism, criminal and drug activity, fire hazards, and other public safety concerns. They also create nuisance conditions including overgrown vegetation, illegal dumping, litter, graffiti, structural deterioration, and unsecured buildings. Over time, these conditions diminish property values, limit housing and commercial opportunities, deter investment, and adversely impact the City's economic development and tax revenue. Prolonged vacancy poses clear risks to the health, safety, and welfare of the community.

The City of Orange currently expends considerable resources responding to complaints and enforcing violations at unoccupied or abandoned properties. Addressing these properties requires coordination among multiple departments and divisions, including Code Enforcement, Police, Fire, Building and Safety, and the City Attorney's Office. While Code Enforcement's primary role is to issue notices of violation with reasonable compliance timelines, some property owners delay or refuse to comply, resulting in prolonged blight. In such cases, the City must pursue additional enforcement actions, including administrative citations, criminal prosecution, or civil remedies such as receivership or injunctions. These processes are resource-intensive and can take several months to over a year to resolve. In some instances, administrative fines alone are insufficient, as certain property owners treat them as a cost of doing business rather than taking corrective action.

The proposed ordinance places direct responsibility on property owners to proactively maintain and secure unoccupied or abandoned properties. It imposes strict liability on owners and their property managers, reducing reliance on City enforcement and minimizing demands on public resources. By establishing clear standards, accountability measures, and cost recovery mechanisms, the ordinance promotes timely compliance and protects the community from the adverse impacts of vacancy.

The applicability of this proposed ordinance would not apply to certain Unoccupied or Abandoned Properties under the following circumstances:

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Appeals

The proposed Ordinance provides that any owner of an Unoccupied or Abandoned Property may appeal the following determinations to a City hearing officer:

- Compliance with maintenance and security standards;
- Imposition of monitoring and response fees;
- Assessment of abatement costs; and
- The Director's decision to deny or modify a request for waiver or modification of unoccupied or abandoned property requirements.

Property Rights Retained

Property owners retain the right to keep their properties unoccupied. The proposed ordinance does not require owners to occupy, sell, lease, or develop their properties. Instead, it simply requires that unoccupied or abandoned properties be maintained and secured in accordance with minimum maintenance and security standards for the duration of ownership. The ordinance is intended to protect public health, safety, and neighborhood quality while fully preserving private property rights.

Economic Development Opportunities

Implementation of the Maintenance and Security Standards for Unoccupied or Abandoned Properties Program can support economic development by encouraging property owners to maintain, secure, and improve vacant properties. While these properties may comprise a relatively small portion of the City's land area, they can depress nearby property values, deter private investment, and constrain housing and commercial opportunities.

By returning unoccupied and abandoned properties to productive use or occupancy, the City can stimulate reinvestment, enhance neighborhood vitality, and increase property and sales tax revenues. City Planning, Building, and Economic Development staff will be available to assist property owners with permitting, redevelopment, and marketing efforts when they are ready to rehabilitate, reuse, or sell their properties.

Staff recommends the City Council adopt the proposed ordinance to further the City's long-term economic development objectives and Code Enforcement's property maintenance objectives.

7. ATTACHMENTS

- Ordinance No. 04-26
- Resolution No. 11687

ORDINANCE NO. 04-26

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ORANGE ADDING CHAPTER 8.38 TO THE ORANGE MUNICIPAL CODE RELATING TO THE MAINTENANCE AND SECURITY STANDARDS FOR UNOCCUPIED OR ABANDONED PROPERTIES.

WHEREAS, California Constitution, Article XI, Section 7, authorizes cities to make and enforce within its limits all local, police, sanitary, and other ordinances, and regulations not in conflict with general laws; and

WHEREAS, California Government Code section 38771 provides that legislative bodies of cities may declare what constitutes a nuisance; and

WHEREAS, California Government Code section 38772 et seq. further provides that legislative bodies of cities may also provide for the summary abatement of any nuisance at the expense of the persons creating, causing, committing, or maintaining it, and by ordinance may make the expense of abatement of nuisances a lien against the property on which the nuisance is maintained and a personal obligation against the property owner; and

WHEREAS, California Health and Safety Code section 101450 authorizes the City Council to take measures necessary to preserve and protect public health, including the adoption of ordinances and regulations to address unsafe, unsecured, and nuisance conditions associated with unoccupied and abandoned properties; and

WHEREAS, the Legislature of the State of California, in adopting section 2929.3 of the California Civil Code (requiring owners of vacant residential property acquired at a foreclosure sale or by foreclosure under a mortgage or deed of trust to adequately maintain the property and to abate any violations threat) specifically provides that said section does not preempt any local ordinance; and

WHEREAS, Unoccupied or Abandoned Properties can be a major cause and source of blight in the City; and

WHEREAS, Unoccupied or Abandoned Properties that are not actively maintained or secured may pose a serious threat to public health and safety due to the secondary effects of criminal activity, vandalism, trespassing, graffiti, fire hazards, unsafe conditions, depressed surrounding property values, and reduced economic development; and

WHEREAS, property owners are responsible for preventing their property from becoming a nuisance to the community and from creating a financial burden on City resources due to repeated responses by code enforcement, police, and fire services; and

WHEREAS, the City Council finds that Unoccupied or Abandoned Properties may create conditions that threaten the public health, safety, and welfare; and further finds that it is in the best interests of the City and its residents to ensure that all properties within the City are maintained to

reasonable standards through the adoption of a Maintenance and Security Standards for Unoccupied or Abandoned Properties Ordinance; and

WHEREAS, implementing the foregoing ordinance will assist the City in protecting the community from the negative impacts and conditions that occur as a result of vacancy, absentee ownership, and lack of compliance with City regulations and laws.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ORANGE DOES HEREBY ORDAIN AS FOLLOWS:

SECTION I:

The Ordinance is not a "project" subject to the provisions of the California Environmental Quality Act (CEQA) per State CEQA Guidelines Section 15378 because it involves an organizational and administrative activity of the City of Orange that will not result in direct or indirect physical changes in the environment.

SECTION II:

A new Chapter 8.38 of Title 8 ("Health and Safety") of the Orange Municipal Code (OMC) is hereby added to read as follows:

CHAPTER 8.38

MAINTENANCE AND SECURITY STANDARDS FOR UNOCCUPIED OR ABANDONED PROPERTIES

8.38.010 Purpose and Intent.
8.38.020 Definitions.
8.38.030 Applicability; Exceptions.
8.38.040 Right of Inspection and Entry.
8.38.050 Inspection, Classification, Monitoring and Response.
8.38.060 General Maintenance and Security Standards for Unoccupied or Abandoned Properties.
8.38.070 Screening Standards for Unoccupied or Abandoned Storefronts.
8.38.080 Waiver or Modification Request.
8.38.090 Administrative Regulations.
8.38.100 Appeals.
8.38.110 Collection of Fees and/or Costs.
8.38.120 Emergency Abatement Authority.
8.38.130 Enforcement.

8.38.010 Purpose and Intent.

A. The purpose of this chapter is to establish regulations and monitoring program for Unoccupied or Abandoned Properties to assist the City with code enforcement efforts to reduce blight in the City.

B. By establishing maintenance and security standards, inspection and enforcement procedures, penalties, and cost recovery mechanisms, the City will reduce the adverse secondary effects associated with vacant, distressed, unoccupied, and abandoned properties.

C. The Community Development Director is hereby authorized to administer and enforce the provisions of this chapter.

8.38.020 Definitions.

If a term or phrase is not defined in this chapter, or elsewhere in this Code, the most common dictionary definition is presumed to be correct unless the context clearly requires otherwise.

"Abandoned" or **"Distressed"** means any real property (Property) that is Vacant and meets any of the following conditions: (i) is under a current notice of default; (ii) is under a current notice of trustee's sale; (iii) is pending a tax assessor's lien sale; (iv) has been the subject of a foreclosure sale where the title was retained by the beneficiary of a deed of trust involved in the foreclosure; or (v) has been transferred under a deed in lieu of foreclosure.

"Business Activity" means the lawful, continuous operation of a mixed-use, commercial, or industrial use within a structure, building or on a property for its intended and permitted purpose, as evidenced by customary ongoing activities, including the presence of employees, contractors, or customers during normal or posted business hours, the active offering of goods or services for sale, the maintenance of valid business licenses and required permits, the operation of utilities at levels consistent with occupancy, and the maintenance of inventory, equipment, furnishings, or fixtures appropriate to the business. Business activity shall not include sporadic or incidental use; pop up events or activities, temporary or vending permits; the mere storage or display of furniture, equipment, furnishings, fixtures or merchandise without active operations; maintenance of a business license without on-site activity; administrative use lacking regular physical occupancy (unless such use constitutes the primary permitted use); or any activity undertaken solely to avoid classification as a Unoccupied or Abandoned Property.

"Evidence of Vacancy" means conditions existing on or around a Property including but not limited to overgrown and/or dead vegetation; accumulation of newspapers, circulars, flyers, and/or mail; past due utility notices and/or disconnected utilities; accumulation of trash, litter, junk, and/or other debris; the absence of window coverings such as curtains, blinds, and/or shutters; unsecured or broken doors or windows; the absence of commercial furnishings; statements by neighbors, passersby, delivery agents, and government employees or any other evidence that demonstrates that the Property is Vacant, Distressed, Unoccupied or Abandoned.

"Owner" includes any person or entity having legal title to, or who leases, rents, occupies or has charge, control, or possession of any real Property in the City, including all persons listed as Owners on the last equalized assessment roll of the Orange County Assessor's Office. Owners include persons with power of attorney, executors of estates, trustees, heirs, or court-appointed administrators, conservators, guardians, receivers, and any beneficiary and trustee who holds a deed of trust on a Property in the City. For providing notice to an Owner under this Code, "Owner" includes the Owner's agent, employee, property manager or other legal representative.

"Screening" means a professionally designed display made of film, vinyl, polymath, canvas, or heavy-duty paper or other material and that is placed on the inside of a window, window area and glass door of an Unoccupied or Abandoned Storefront which conceals the interior of the premises from any public or private view.

"Securing" means making the Property inaccessible to unauthorized person(s), including, but not limited to repair or installation of fences, walls, and other barriers; chaining or pad locking of gates, doors; the repair, replacement or boarding of doors, windows, and/or other openings.

"Storefront" means the ground-floor or second story exterior façade of any building, structure or tenant space on a mixed-use, commercial, or industrial property that is designed or intended to provide visual access to the interior and direct access for members of the public to engage in business activity, and that contains one or more display windows, glazed window areas, or glass doors visible from a public street, sidewalk, walkway, private parking area open to the public, or other publicly accessible right-of-way.

"Unoccupied" means any vacant property that is not lawfully inhabited, leased, rented, or actively used for business activity or other purposes consistent with its intended mixed-use, residential, commercial, or industrial zone.

"Vacant" or **"Vacant Property"** means any lot, tract, or parcel of land, or any and each building, structure, or improvement thereon, including but not limited to any storefront, individual unit, tenant space, or portion thereof, located within a mixed-use, residential, commercial, or industrial zone, that is not lawfully inhabited, leased, rented, or actively used for business activity or other intended purpose consistent with the Code, and that either (i) remains Unoccupied for more than sixty (60) consecutive calendar days, and/or (ii) exhibits objective Evidence of Vacancy, and/or (iii) is Abandoned or Distressed.

8.38.030 Applicability; Exceptions.

A. Applicability. This chapter applies to all Unoccupied or Abandoned residential, commercial, industrial, and mixed-use properties, including undeveloped land and tenant spaces within multi-tenant buildings.

B. Exceptions. This chapter does not apply as follows:

1. Active Construction Activity. An Unoccupied or Abandoned Property with a valid, unexpired building permit where inspections occur at least once every three (3) months for construction activities (e.g., demolition, repair, alteration, rehabilitation, or tenant improvements), and the owner is diligently progressing toward completion.

2. Pending Permits, Licenses or Approval. The owner or leaseholder has filed an application for, and is actively seeking to obtain authorization, permits, or licenses required by State, County, or local law permitting the lawful use and occupancy of the Unoccupied or Abandoned Property.

3. Actively Marketed Residential Properties. A vacant unit or entire dwelling including, but not limited to, a multi-family development, apartment, duplex, condominium, townhouse, single-family residence, ADU, JADU, or short-term rental in a residential zone that is actively and continuously offered for sale, lease, or rent, and otherwise complies with all applicable Federal, State, and OMC requirements, including this chapter.

C. Notwithstanding this section, an Unoccupied or Abandoned Property is ineligible for exclusion if the owner, although promptly correcting violations within forty-eight (48) hours of notice by the Code Enforcement Division, receives more than two (2) written notices of violation within any sixty (60) calendar-day period.

8.38.040 Right of Inspection and Entry.

The Community Development Director, or any authorized City personnel, may enter and inspect any unoccupied, abandoned, or suspected vacant property at reasonable times for purposes of enforcing this chapter, with the verbal or written consent of the owner or person in control of the property. If entry is refused, the City may seek an administrative inspection warrant in accordance with applicable law. In cases of emergency, or where conditions pose an immediate threat to public health, safety, or welfare, the City may enter the Property without prior notice or warrant to the extent permitted by law. The City may also enter the Property to abate violations as authorized by law, this chapter, or other provisions of the Code.

8.38.050 Inspection, Classification, Monitoring and Response.

A. Upon receipt of a complaint or through proactive enforcement efforts involving an Unoccupied or Abandoned Property, the City, including the Community Development Department, Fire Department, Police Department, and other designated City personnel, may conduct an inspection of the interior and/or exterior of the Property following reasonable notice or as otherwise authorized by law or this chapter. Reasonable notice shall consist of the City providing not less than three (3) calendar days' advance written notice of the inspection, specifying the date and time of the inspection. A visual exterior inspection of an Unoccupied or Abandoned Property may be conducted by City personnel without entering the Property and from a public right-of-way, adjacent private property with the consent of the owner or person in control of such property, or as otherwise permitted by law.

B. Notice of Violations and Classification of Unoccupied or Abandoned Property. Following an inspection by Code Enforcement, the owner of an Unoccupied or Abandoned Property that does not qualify as a Level 1—Stable Property shall be either served, by mail, certified mail, personal service, and/or posting on the Property, with a written notice of violation. The notice shall specify the violations as contained in this chapter and provide a reasonable period to correct or otherwise remedy them. If the violations remain uncorrected after the compliance period, the Property shall be assigned a classification based on its overall condition and level of compliance, as follows:

1. Level 1—Stable Property: An Unoccupied or Abandoned Property maintained in full compliance with the OMC and provisions contained in this chapter. Stable Properties shall

not be subject to Monitoring and Response Fees, and the related Code Enforcement case shall be closed.

2. Level 2—At-Risk Property: In addition to any citations, notices and/or fees or costs of City enforcement efforts, including costs to abate a nuisance, Unoccupied or Abandoned Property that exhibits violations of the OMC and/or provisions contained in this chapter shall be subject to biweekly monitoring and response by City Code enforcement. At Risk Properties are subject to biweekly Monitoring and Response Fees.

3. Level 3—Problematic Property: In addition to any citations, notices and/or fees or costs of City enforcement efforts, including costs to abate a nuisance, a Unoccupied or Abandoned Property that exhibits violations of the OMC and/or provisions contained in this chapter and is unsafe, dangerous, substandard, unlawful, hazardous, condemned, fire damaged buildings, structures, equipment, or property that are not safe and/or unfit for human occupancy pursuant to the OMC or State law, and/or poses immediate threat to the public health, safety, and welfare shall be subject to a weekly monitoring and response by City Code enforcement. Problematic Property is subject to weekly Monitoring and Response Fees.

C. In addition to the provisions of this chapter, Level 2 and 3 properties are subject to all applicable City enforcement actions, including but not limited to, criminal, administrative, and civil citations, for violations of the OMC, State or Federal law, or for conditions constituting a public nuisance.

D. Unsafe, dangerous, substandard, unlawful, hazardous, condemned, or fire damaged buildings, structures, equipment, or property that are not safe and/or unfit for human occupancy pursuant to the OMC or State law shall either be demolished or fully repaired by obtaining a valid building permit within ninety (90) days. The Community Development Director may grant continuation if documentation is provided to the satisfaction of the Director showing any delay is of no fault of the Owner and the Owner has made good faith efforts to demolish or fully repair within said ninety (90) days. Until demolition or repairs are completed, the Owner shall secure the building, structure, and property to prevent unauthorized access.

E. If an Unoccupied or Abandoned Property moves from Stable to At Risk or from At Risk to Problematic, the Monitoring and Response Fees will be set to the higher classification. Likewise, if an Unoccupied or Abandoned Property moves to a lower classification, the fees will be the lower classification, if any. The Code Enforcement Division of the City will conduct a reassessment of the Unoccupied or Abandoned Property upon request of the Property Owner.

F. An Unoccupied or Abandoned Property may be reclassified based on the following:

1. The Property Owner has made the required corrections to the Unoccupied or Abandoned Property to become fully compliant with the OMC and/or provisions contained in this chapter;

2. The Property Owner has had no new violations documented or observed for the past sixty (60) consecutive days by the Community Development Department; and

3. The Property Owner requests a site inspection at least two (2) weeks prior to the due date of the current monitoring and response fee being billed.

G. If the Unoccupied or Abandoned Property qualifies for a lower classification, then the corresponding Monitoring and Response Fees, if any, will be assessed.

H. Monitoring and Response Fees as established by resolution of the City Council and those contained in the City's Master Fee Schedule shall be billed and paid to the City within thirty (30) calendar days of the billing notice to any applicable property owner of an Unoccupied or Abandoned Property. Monitoring and Response Fees shall fully recover the City's costs for Code Enforcement administration, equipment, supplies and personnel, as well as applicable hourly rates set forth in the City's Master Fee Schedule for personnel responses by Building and Safety, Fire, Police and/or any other designated City personnel enforcing the provisions of this chapter. These fees are not refundable, prorated, or rebated. The assessment of applicable Monitoring and Response Fees by Code Enforcement upon a property owner of an Unoccupied or Abandoned Property is final, unless appealed in accordance with this chapter.

8.38.060 General Maintenance and Security Standards for Unoccupied or Abandoned Properties.

A. Every owner of real property within the City is required to maintain such property in a manner so as not to violate the provisions of this chapter or this Code and such owner remains strictly liable for violations thereof regardless of any contract or agreement with any third party regarding such property.

B. Unless the Community Development Director provides in writing waiver from the following requirements, Unoccupied or Abandoned Property Owners shall ensure:

1. Maintenance of landscaping be maintained in a clean, watered, and weed-free condition, with hedges, bushes, and shrubs not exceeding forty-two (42) inches in height to ensure clear visibility from the public right-of-way, trees regularly pruned to remove overgrowth and dead or dying material, adequate irrigation provided to sustain all vegetation, and any dead or dying plant material removed; additionally, approved groundcover, hardscape, or softscape shall be installed and maintained throughout the period of vacancy, with groundcover not exceeding six (6) inches in height and supported by adequate irrigation, and the Director may require additional measures as necessary to eliminate unsafe conditions.

2. Maintenance of the exterior of the building or structure, including, but not limited to, ensuring paint, finishes, roof, windows and doors, fences and walls, and porches and patios are in a good condition.

3. Maintenance of any swimming pools, spas, or water in such a manner so as to be free and clear of pollutants, debris, mosquitoes, insects, vectors, water that is clouded or green, bacterial growth, or algae and properly Securing with minimum security fencing and self-locking devices, as required by State law.

4. Regular removal of interior and exterior junk, trash, litter, debris, newspapers, flyers, lumber, construction materials, household furniture, appliances, clothing, combustible material, or discarded, unused, or abandoned personal property and graffiti, tagging, or other markings, with any painting over to be done with similar exterior grade colored paint.

5. Property is secured so as to prevent unauthorized trespassing on the premises, or, squatting, drug or criminal activity, malicious mischief, vandalism, and other public nuisances.

6. Provide power for exterior lighting, any applicable fire sprinkler system, fire or burglar alarm, security surveillance systems or irrigation systems, which shall all be maintained in working order.

7. Maintenance of Screening material free from blight and not accessible to unauthorized persons, including, but not limited to, the replacement of broken windows, doors and the closing and locking of windows, doors (walk-through, sliding and garage), gates, fences and any other opening that may allow access to the interior or exterior of the Property.

8. Provide evidence of pest and rodent control if requested by Code Enforcement Division to verify that any infestation has been treated by a State licensed pest control professional.

9. Remove any parked, abandoned, or inoperative vehicles including any vehicle parts thereof that are visible to public view and/or from an adjoining Property.

10. Maintain all emergency access areas, egress points, stairways, roof-access ladders and exit signage are in functioning condition and free from obstruction.

11. Removal of abandoned signs that advertise goods or services which have not been available for a period of ninety (90) or more days and the area where signs were installed maintained or painted to match the existing building or structural color.

12. Maintenance of parking areas free of deterioration, potholes and in accordance with the applicable zoning standards and off-street parking requirements and/or conditions of approval, including, but not limited to, lighting, stall markings, art installations, signage, bollards, fire lane markings, and permitted mechanical equipment.

13. Installation of a key box to provide emergency access, if necessary, and as approved by the Fire Chief, or designee.

14. Posted with conspicuous signage displaying the name and 24-hour contact telephone number of the owner or local property management company for receipt of public and City complaints to mitigate nuisance conditions, as well as "No Trespassing" signage, as required by State law.

15. Motion-activated video surveillance cameras and lighting in working order and provides two-way communication and mobile live-view video feed for physical monitoring by means of the Owner. "Continuous physical monitoring" shall mean the use of a local and CA licensed security patrol agency providing either onsite fixed security personnel, roaming security patrol and/or video surveillance;

a. Property Documentation demonstrating adequate security patrol is being provided by as determined by the Code Enforcement Division.

16. Broken windows, doors, and other openings are secured as required by the Code Enforcement Division or Police Department including temporary board-up must be painted in a color consistent with the exterior of the building. Plywood must be of un-sanded CDX grade and must have a minimum thickness of one-half inch for window openings, five-eighths inch for door openings and three-quarter inch for a sliding door and French door openings; Plywood boarding must be completed to a minimum of the current United States Department of Housing and Urban Development (HUD) Securing standards at the time the boarding is completed or required and must be consistent with the requirements of this chapter.

a. Long-term boarding of windows, doors or other openings exceeding thirty (30) days may be considered and approved by the Director upon a showing of good cause or reason by the Owner for keeping the boarded building secured against unauthorized trespassing long-term.

17. If applicable maintain unimproved Vacant lots or improved Unoccupied or Abandoned buildings or structures secure in accordance with the following standards:

a. Temporary perimeter fencing, a minimum of forty-two (42) inches and not exceeding six (6) feet in height, constructed of wrought iron, chain link, Kentucky-style fencing, or other building materials approved by the Director, including mesh or other screening material secured to the interior side, that provides at least fifty percent (50%) visibility from ground level and includes a secured gate for emergency access.

b. Temporary fencing must be kept free of posters, signs, graffiti, artwork, or similar decoration unless it is approved by the Director. All unauthorized postings, signage, artwork, graffiti, or similar decoration must be immediately removed, and/or the fencing, mesh, or other Screening material be painted over to match the existing color;

c. Missing or damaged temporary fencing or mesh material must be repaired or replaced.

18. Compliance with Laws. The Property, including any building, structure, tenant space, or storefront, shall be maintained and operated in compliance with all applicable local, State, and Federal laws, including, but not limited to, zoning, building, fire, public health, safety, welfare and administrative regulations.

8.38.070 Screening Standards for Unoccupied or Abandoned Storefronts.

A. An Unoccupied or Abandoned Property with a Storefront shall maintain at least one of the following types of Storefront window Screening displays on or inside all ground-floor or second story exterior façade windows, window areas and glass doors visible from a public street, sidewalk, walkway, private parking area open to the public, or other publicly accessible right-of-way of the Property:

1. Faux window dressings containing goods, services, or a future business at the location with the appearance of a vibrant business using background panels or other methods to screen views of the Unoccupied or Abandoned Storefront windows, window areas and glass doors;

2. Works of art, including paintings or sculptures or other displays of cultural, historical pictures of the City, or educational value, utilizing colorful and vibrant materials, and using background panels or other methods to screen views of the Unoccupied or Abandoned Storefront windows, window areas and glass doors;

3. Paintings or graphic design applied directly to the windows, window areas and glass doors surface featuring visually appealing, colorful, vibrant scenes, shapes, or images; Other design or decorative measures approved by the Director or designee in writing that achieves the purpose of this chapter to avoid visual blight in the City's mixed-use, commercial or industrial zones and to enliven pedestrian or vehicular traffic experiences while passing through;

a. Storefront window, window area, and glass door Screening shall comply with the following standards:

i. Any adhesive materials used to affix the Screening shall not be visible from the exterior of the Storefront windows, window areas, or glass doors;

ii. No seams, gaps, or overlaps in the Screening material shall be visible from the exterior of the Storefront windows, window areas, or glass doors;

iii. All window Screenings shall be maintained in a clean, neat, and orderly condition and shall not be torn, faded, damaged, or otherwise deteriorated;

iv. Storefront windows, window areas, and glass doors shall not be screened or covered with textile or temporary materials, including but not limited to fabric,

tarps, cloth, plastic film, metal foil, rubber sheeting, vinyl plastic, cardboard, or paper; and

v. All window Screening shall be removed within thirty (30) calendar days after lawful occupancy and active business activity or operations have commenced, unless an extension is approved in writing by the Director or designee.

8.38.080 Waiver or Modification Request.

The Owner may submit to the Community Development Director a Request for Waiver or Modification of the Unoccupied or Abandoned Property Requirements on a form provided by the Community Development Department. The Director shall consider the relevant facts and circumstances in determining whether the requested change is necessary to protect the property or surrounding community from nuisance conditions or threats to the public health, safety, and welfare. The Director's decision is final, unless appealed in accordance with this chapter.

8.38.090 Administrative Regulations

Authority to Adopt Administrative Regulations. The Community Development Director may adopt, modify and implement administrative rules, procedures, and requirements consistent with this chapter as necessary to enforce and administer the Unoccupied or Abandoned Property regulations. All regulations must be published in advance and filed with the City Clerk's office for public inspection.

8.38.100 Appeals.

A. Any Owner may appeal to the City Manager, or designee any decision or action arising from this chapter by filing a written notice of appeal to the City Clerk's office.

B. The appeal and payment of the administrative appeal fee must be received at the Clerk's Office no later than fourteen (14) days of a decision or action. The administrative appeal fee as established by resolution of the City Council. An appeal will not be accepted without payment of the administrative appeal fee.

C. An independent hearing officer shall be selected by the City Manager to hear and make a determination as to the appeal. The hearing officer shall set the date and time of the hearing. At the hearing, the Owner who filed the appeal shall have the burden of proof by a preponderance of the evidence and may be given the opportunity to testify, present witnesses and evidence concerning the appeal as determined by the hearing officer.

D. The hearing officer shall issue a written decision within fourteen (14) business days to either uphold, dismiss, or modify any decision or action. The hearing officer shall state the reasons for the decision and shall send a copy of the decision to the appellee and to the Community Development Department. The decision of the hearing officer is final, unless appealed as permitted by State law.

8.38.110 Collection of Fees and/or Costs.

A. Each collection of fees in connection with any applicable Monitoring and Response Fee(s) and/or emergency abatement costs, shall be billed, and paid to the City within thirty (30) calendar days of each billing notice date.

B. If the fees are not paid within thirty (30) calendar days of each billing notice date, the City may use all available legal and equitable remedies to collect any fees as allowed by law, including, but not limited to, the recordation of a lien (secured or unsecured) with the Orange County Recorder's Office.

C. The City may also withhold, or refuse to issue, extend, or renew any City permit, license, or other City approval to any Owner who has unpaid fees and/or costs under this chapter.

8.38.120 Emergency Abatement Authority.

Nothing in this chapter shall supersede or otherwise interfere with the City's rights or remedies pursuant to other provisions of the Orange Municipal Code, or Federal, State, or local laws. Upon the failure or refusal of an Owner to eliminate or abate any violation(s) of this chapter, the City may, at its election, to cause the Unoccupied or Abandoned Property to be maintained, secured or in any other manner necessary to eliminate or abate the violation(s) and charge the Unoccupied or Abandoned Property Owner for the City's costs thereto. This abatement may be performed by City personnel, private contract vendor, or by any other means as determined by the City. The failure by the Owner to abate the violation(s) shall result in any costs and/or expenses incurred by the City to abate any violation(s) be billed to the Owner, which may be assessed as a lien against the Property, including interest thereon, until paid in full.

8.38.130 Enforcement.

A. Strict Liability. Any violation of this chapter constitutes a strict liability offense and shall be deemed to have occurred regardless of the Owner's intent, knowledge, negligence, or fault, and regardless of whether the Owner knew or reasonably should have known of the violation.

B. Violations Unlawful. It is unlawful and declared a public nuisance for any person or Owner having charge, control or failed to maintain an Unoccupied or Abandoned Property contrary to the provisions of this chapter.

C. No limitation on other remedies. The remedies provided by this chapter are cumulative and in addition to any other remedies available at law or in equity.

D. This chapter provides a nonexclusive and cumulative method of enforcement. The City may pursue any and all other remedies authorized by this Code and applicable law, whether concurrently, separately, or consecutively, including but not limited to administrative and criminal enforcement under Chapters 1.08 and/or 1.10, civil actions (including injunctive relief), and nuisance abatement procedures. This chapter supplements all other remedies available under the Orange Municipal Code, State law, and other applicable regulations.

E. Any person or Owner found in violation of Sections 8.38.060, and/or 8.38.070 of the Orange Municipal Code may be subject to administrative citation, with progressive fines established by City Council resolution.

1. Progressive fines shall be as follows for each violation:

a. 1st Violation within a twelve (12) month period:

b. 2nd Violation within a twelve (12) month period:

c. 3rd and Subsequent Violation within a twelve (12) month period:

F. Appeals of Fines. Administrative fines issued under this chapter may be appealed in accordance with Chapter 1.10 upon payment of an applicable administrative citation appeal fee as adopted by resolution of the City Council. The administrative citation appeal fee is intended to offset City costs associated with report preparation, evidence compilation, and hearing officer services.

SECTION III:

If any section, subdivision, paragraph, sentence, clause or phrase of this Ordinance is for any reason held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each section, subdivision, paragraph, sentence, clause and phrase thereof, irrespective of the fact that any one (or more) section, subdivision, paragraph, sentence, clause or phrase had been declared invalid or unconstitutional.

SECTION IV:

The City Clerk is hereby directed to certify the adoption of this Ordinance and cause the same to be published as required by law. This Ordinance shall take effect thirty (30) days from and after the date of its final passage.

ADOPTED this ____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney
City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Ordinance was introduced at the regular meeting of the City Council held on the ___ day of _____, 2026, and thereafter at the regular meeting of said City Council duly held on the ___ day of _____, 2026 was duly passed and adopted by the following vote, to wit:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

RESOLUTION NO. 11687

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING THE CITY'S MASTER FEE SCHEDULE SETTING THE AMOUNT OF FEES AND FINES FOR REGULATIONS, MONITORING AND PROGRESSIVE ADMINISTRATIVE CITATIONS RELATING TO UNOCCUPIED OR ABANDONED PROPERTIES AS CONTAINED IN NEWLY ADDED CHAPTER 8.38 TO THE ORANGE MUNICIPAL CODE.

WHEREAS, California Constitution, Article XI, Section 7, authorizes cities to make and enforce within its limits all local, police, sanitary, and other ordinances, and regulations not in conflict with general laws;

WHEREAS, Unoccupied or Abandoned Properties can be a major cause and source of blight in the City;

WHEREAS, Unoccupied or Abandoned Properties may pose a serious threat to the public's health and safety in part because of the secondary effects of criminal activities, fire, depressed market values of surrounding properties, less economic development around the Unoccupied or Abandoned Property; and

WHEREAS, the City Council desires to prevent the adverse problems associated with unattended Unoccupied or Abandoned Properties by adopting a Maintenance and Security Standards for Unoccupied or Abandoned Properties ordinance;

WHEREAS, on June 9, 2026, the City Council introduced Ordinance No 04-26, adding Chapter 8.38 of Title 8 ("Health and Safety") to the Orange Municipal Code relating to the Maintenance and Security Standards for Unoccupied or Abandoned Properties.

NOW, THEREFORE, IT BE RESOLVED by the City Council of the City of Orange as follows:

1. Monitoring fees shall be assessed for each registered or unregistered vacant property based on its classification into one of three categories, as determined by Code Enforcement through a visual inspection of the property's overall condition. Monitoring and Response Fees are intended to fully recover the City's costs, including Code Enforcement personnel and applicable hourly rates for Building and Safety, Fire, and/or Police services involved in enforcing this chapter.

- "Stable (Level 1)" – No monitoring fee required due to ongoing compliance with the City Code.
- "At-Risk (Level 2)" – Biweekly monitoring fee of $710.00 required until full compliance with the City Code is achieved.

- "Problematic (Level 3)" – Weekly monitoring fee of $1,310.00 required until full compliance with the City Code is achieved.

2. As provided in Section 8.38.130.E of the Orange Municipal Code, the following schedule of administrative fines is adopted for progressive penalties:

a. 1st Violation within a twelve (12) month period is punishable by a fine of $1,000.

b. 2nd Violation within a twelve (12) month period is punishable by a fine of $2,000.

c. 3rd and Subsequent Violation within a twelve (12) month period are punishable by a fine of $5,000.

3. This Resolution shall be effective immediately upon the effective date of Ordinance No. 04-26.

ADOPTED this ____ day of _____, 2026

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the _____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

Agenda Item

Orange City Council

Item #: 9.1. 6/9/2026 **File #:** 26-0356

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Fiscal Year 2026-2027 City of Orange Operating Budget and Five-Year Capital Improvement Program

2. SUMMARY

The City Council affirmed the Fiscal Year 2026-2027 preliminary operating budget and capital improvement plan at the May 26 Regular City Council meeting. This budget document is prepared following the affirmation and directions given by the City Council.

3. RECOMMENDED ACTION

The following action items are recommended to adopt the Fiscal Year 2026-2027 Budget, effective July 1, 2026:

1. Adopt Resolution No. 11702. A Resolution of the City Council of the City of Orange adopting said City's Budget for the Fiscal Year 2026-27 and authorizing transfer of funds within and between appropriations, transfer of funds between funds, and additional appropriations.
    a. Total revenues of $292.4 million and total expenditures of $315.7 million, including transfers.
    b. General Fund revenues totaling $170.7 million and expenditures totaling $169.6 million;
    c. Staffing for Fiscal Year 2026-2027 at 708.7 budgeted FTEs; and
    d. Five-Year Capital Improvement Program.
2. Adopt Resolution No. 11699. A Resolution of the City Council of the City of Orange adopting the appropriations limit for the Fiscal Year 2026-2027.
3. Adopt Resolution No. 11700. A Resolution of the City Council of the City of Orange amending Resolution No. 11668 between the City of Orange and the Orange Municipal Employees' Association.

4. FISCAL IMPACT

The Fiscal Year 2026-2027 Annual Operating and Capital Improvement Budget includes total revenues of $292.4 million and total expenditures of $315.7 million for all funds, including transfers. Available fund balance will be used to cover the difference between revenue and expenditure in Special Revenue Funds and Capital Improvement Project Funds. This does not necessarily reflect an ongoing structural imbalance, but rather timing and funding strategy for these funds.

The total General Fund revenues are $170.7 million, and expenditures are $169.6 million, including

transfers.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability.

6. DISCUSSION AND BACKGROUND

Background:

The City's budget is a financial plan based on anticipated revenues and expenditures in a fiscal year starting July 1st through June 30th. Each year, the City's budget is prepared, prioritizing public safety and infrastructure projects, City Council Goals, and providing the highest possible level of service to the community. The Fiscal Year 2026-2027 (FY27) budget development has been presented and reviewed over the course of three City Council budget study sessions, taking place in March, April, and May 2026.

As noted in the budget study sessions, FY27 continues to present significant financial challenges for the General Fund, as the City faces an ongoing structural imbalance between recurring revenues and expenditures. Development of the FY27 Budget began with a zero-based budgeting approach, requiring departments to justify expenditures from the ground up rather than relying on prior-year spending as the baseline. Over the last couple of months, staff continued to refine the FY27 budget to incorporate the City Council directions, reprioritize operational needs, and incorporated changes from the third quarter financial information.

The FY27 Preliminary Budget was affirmed by the City Council on May 26th for all funds, with total revenues of approximately $292.9 million and total expenditures of $317.3 million, including transfers. In response to the City Council's feedback related to the inclusion of a vacancy rate in the budget, the following adjustments have been made to the proposed adopted budget:

- Reduced the General Fund salaries budget by $1.2 million;
- Reduced the transfer in from Capital Projects Fund (CIP) by $500,000; and
- Increased the Catastrophic Reserve to 20% from 18%.

Details of these adjustments are noted in the discussion of the staff report.

The FY27 Adopted Budget document reflects $292.4 million in revenue, a decrease of $500,000, and expenditures of $315.7 million, a decrease of $1.7 million, in all funds when compared to the FY27 Preliminary Budget. Available fund balance will be used to cover the difference between revenue and expenditure in Special Revenue Funds and Capital Improvement Project Funds. This does not necessarily reflect an ongoing structural imbalance, but rather timing and funding strategy for these funds. The total full-time equivalent (FTE) is 708.7 FTEs, with approximately 600 FTEs being funded by the General Fund. The total General Fund revenues are $170.7 million, a decrease of $500,000, and expenditures of $169.6 million, a decrease of $1.2 million, from the FY27 Preliminary Budget.

Discussion:

Fiscal Year 2025-26 (FY26) General Fund Year-End Estimates

There are no changes to the FY26 Year-end Estimates as presented last month. The FY26 General Fund revenues are estimated at $157.4 million. Revenue estimates are based on FY26 trends in property transfer tax, fees for services, fines, plan check fees, construction inspection fees, building

permit revenues, and miscellaneous revenues.

FY26 General Fund expenditures are estimated at $161.1 million. Expenditures estimates are based on ongoing operating expenses incurred throughout FY26, including several costs recognized later in the fiscal year, such as the City's $1.5 million North SPA payment and one-time paid-parking implementation costs.

Considering these estimates, the General Fund is projected to end FY26 with an operating deficit of $3.7 million. After maintaining the 18% Catastrophic Reserve, the estimated undesignated fund balance is $1.9 million. These estimates are based on year-to-date actual results and do not include year-end accounting entries. A comprehensive review of FY26 financial results will be presented following completion of the annual financial audit.

Table 1: FY26 Year-End Estimated Fund Balance

	FY26 YE Estimate
Operating Revenues	$157,868,578
Total Revenues	**157,868,578**
Operating Expenditures	144,093,480
Debt Service	17,519,111
Total Expenditures	**161,612,591**
Operating Surplus/Deficit	**-3,744,013**
Transfers-In	4,485,252
Transfers-Out	1,455,252
Net Surplus/Deficit	**-714,013**
Estimated Beginning Fund Balance - 7/1/2025	28,553,772
Estimated Ending Fund Balance - 6/30/2026	27,839,759
Catastrophic Reserve	25,936,826
Undesignated Ending Fund Balance - 6/30/2026	**$1,902,932**

Fiscal Year 2026-27 (FY27) General Fund Revenue

The FY27 General Fund operating revenues, including transfers, is projected to be almost $170.7 million, a decrease of $500,000 from the preliminary budget. This is due to the decrease in transfers from the CIP Fund.

Provided below is a summary of the assumptions used for the FY27 General Fund revenues as presented at the preliminary budget meeting.

- **Property Tax:** The City’s largest source of General Fund revenues is proposed to be $61.7 million in FY27, an increase of approximately $1.9 million (3.1%) over the FY26 year-end estimates. The increase reflects revised year-end revenue estimates and signs of a strengthening housing market driven by slightly lower interest rates and rising rental costs, which have contributed to increased home sales activity. While Proposition 13 generally limits annual assessed value increases to 2% on existing properties, additional growth occurs when properties change ownership and are reassessed at current market value. The housing market

is expected to remain stable in FY27, supporting continued modest growth in property tax revenues.

FY25 Actuals: $57,658,841
FY26 Year-end Estimate: $59,822,181
FY27 Budget: $61,700,600
Increase/Decrease to YE: +$1,878,419 or +3.1%

- **Sales Tax:** The FY27 revenue is projected at approximately $51.6 million, reflecting a $258,000 (0.5%) increase over the FY26 year-end estimates. According to statewide reports from the City's sales tax consultant, while inflation has moderated and interest rates have declined, statewide economic indicators suggest consumers still remain cautious. As a result, taxable sales growth is expected to remain modest in all other categories, with consumer spending largely focused on essential goods and value-oriented purchases. Although fuel prices have continued to trend upward due to external and foreign market factors, the FY27 projections assume moderate additional growth in sales tax revenues due to thresholds within the City's current sales tax agreements and the potential volatility of this sector.

  FY25 Actuals: $49,342,726
  FY26 Year-end Estimate: $51,335,804
  FY27 Budget: $51,594,300
  Increase/Decrease to YE: +$258,496 or +0.5%
- **Fines and Forfeitures:** Fine and forfeitures revenue is projected at approximately $2.9 million in FY27, an increase of about $471,000 (19.4%) over the year-end estimates. This reflects anticipated revenues of approximately $1.0 million from the City's paid parking program in Old Towne, as well as $300,000 from increased collections associated with Transient Occupancy Tax and Business License audit activities.

  FY25 Actuals: $2,636,075
  FY26 Year-end Estimate: $2,426,324
  FY27 Budget: $2,897,600
  Increase/Decrease to YE: +$471,276 or +19.4%

- **Fees for Service:** The city is projecting just under a total of almost $8.0 million in FY27, an increase of just over $300,000 (4.0%), compared to the year-end estimates. These fees are intended to offset the City's operating costs of providing services and have been revised following the user fee study to more appropriately align charges with the cost of service delivery. This estimate considers the updated fees adopted at the January 13th Council meeting, the April 28th Council meeting.

  FY25 Actuals: $6,602,124
  FY26 Year-end Estimate: $7,647,596
  FY27 Budget: $7,953,100
  Increase/Decrease to YE: +$305,504 or +4.0%

- **Internal Service Charges:** Internal Service Charges are projected to be approximately $4.8 million, an decrease of $5.2 million (-52.1%) from the FY26 year-end estimates. The decrease in Internal Service Charges reflects a revised methodology that excludes Internal Service Charges charged to and from the General Fund; as a result, both expenditure and revenue

projections are lower compared to the FY26 Year-End Estimate. This does not reflect any reduction in services but rather an accounting change.

FY25 Actuals: $15,474,265
FY26 Year-end Estimate: $10,077,495
FY27 Budget: $4,830,500
Increase/Decrease to YE: -$5,246,995 or -52.1%

- **Miscellaneous/Other Revenue**: Miscellaneous/other revenue is projected at almost $4.2 million in FY27, an increase of approximately $183,000 (4.6%) compared to year-end estimates. This category includes one-time reimbursements, donations, and other miscellaneous revenues, including approximately $1.0 million in Cal OES reimbursements for fire deployments and $150,000 to offset credit card fee surcharges.

FY25 Actuals: $1,620,906
FY26 Year-end Estimate: $3,995,136
FY27 Budget: $4,177,800
Increase/Decrease to YE: +$182,664 or +4.6%

- **Revenue from Other Agencies:** FY27 revenue in this category is projected at approximately $1.5 million, almost $312,000 (-17.2%) decrease from the FY26 year-end estimates. This category is primarily comprised of revenue received from other government agencies, as well as one-time grants from state funded programs. As is typical, revenue in this category may fluctuate throughout the year as additional grant programs are awarded and recognized.

FY25 Actuals: $2,501,399
FY26 Year-end Estimate: $1,816,924
FY27 Budget: $1,505,100
Increase/Decrease to YE: -$311,824 or -17.2%

- **Transfers In**: Transfers into the General Fund are projected to total $15 million in FY27, a decrease of $500,000 from the FY27 Preliminary Budget, and an increase of over $10.5 million (234.4%) over the FY26 year-end estimates. This amount primarily reflects one-time transfers of available fund balances from the Emergency Medical Transport Fund ($3.5 million), Equipment Replacement Fund ($3 million), and Capital Improvement Program Fund ($8.5 million) to temporarily offset the projected General Fund operating deficit. These transfers are non-recurring in nature and provide temporary budget relief rather than a long-term structural solution.

FY25 Actuals: $3,250,000
FY26 Year-end Estimate: $4,485,252
FY27 Budget: $15,000,000
Increase/Decrease to YE: +$10,514,748 or +234.4%

Provided in Table 2 is a summary of the major General Fund revenues by source type, comparing the changes from the FY26 year-end estimates and FY27 Adopted Budget:

Table 2: General Fund Revenues

Revenue Category	FY25 Actual	FY26 YE Estimate	FY27 Adopted	Variance to FY25 Actual	Variance to FY26 Estimate
Property Tax	$57,658,841	$59,822,181	$61,700,600	7.0%	3.1%
Sales Tax	49,342,726	51,335,804	51,594,300	4.6%	0.5%
Internal Service Charges	15,474,265	10,077,495	4,830,500	-68.8%	-52.1%
Fees for Services	6,602,124	7,647,596	7,953,100	20.5%	4.0%
Licenses and Permits	6,667,071	7,645,141	7,835,100	17.5%	2.5%
TOT	6,150,976	6,100,192	6,198,100	0.8%	1.6%
Miscellaneous Revenue	1,620,906	3,995,136	4,177,800	157.7%	4.6%
Use of Property	3,730,340	3,922,905	3,929,100	5.3%	0.2%
Franchises	2,753,299	3,078,880	3,057,300	11.0%	-0.7%
Fines and Forfeitures	2,636,075	2,426,324	2,897,600	9.9%	19.4%
Revenue from other Agencies	2,501,399	1,816,924	1,505,100	-39.8%	-17.2%
Total Operating Revenues	**155,138,022**	**157,868,578**	**155,678,600**	**0.3%**	**-1.4%**
Transfers-In	3,250,000	4,485,252	15,000,000	361.5%	234.4%
TOTAL REVENUES	**$158,388,022**	**$162,353,830**	**$170,678,600**	**7.8%**	**5.1%**

In summary, FY27 General Fund operating revenues, excluding transfers, are projected at approximately $155.7 million. Revenue projections were developed using FY26 year-end estimates and current trends across the City's major revenue categories, including property tax, sales tax, fees for services, licenses and permits, transient occupancy tax, and other local revenues. While several revenue categories are projected to increase in FY27, total operating revenues are projected to remain relatively consistent with FY25 actual revenues and slightly below FY26 estimated revenues. Including transfers-in of $15.0 million, total FY27 General Fund revenues are projected at approximately $170.7 million.

FY27 General Fund Expenditures

The General Fund operating expenditures, including debt service, for FY27 is almost $160.1 million, a decrease of $1.2 million from the preliminary budget and a decrease of almost $1.6 million (-1%) from the FY26 year-end estimates. The operating expenditure reflects the continued focus on

maintaining service levels while holding costs steady.

Based on City Council direction, the FY27 budget was created through a zero-based budget process. All departments provided documentation and descriptions of all non-personnel expenditure requests. Budget meetings were held between the departments and City Manager and Director of Finance to discuss the requests and necessity of the expenditure.

Provided below are the budget assumptions impacting the FY27 Operating Budget for the General Fund expenditures as presented at the preliminary budget meeting, except for salaries & benefits:

- **Salaries & Benefits:** The FY27 Preliminary Budget for salaries and benefits is $108.6 million, an increase of just over $4.6 million (4.5%) above the FY26 year-end estimates. The increase reflects the revised staffing assumptions as well as the transfer of five firefighter positions previously charged to the EMT Fund (Fund 225) back to the General Fund. As presented during the FY27 Budget Study Session, the FY27 salaries and benefits budget includes annual step increases and a proposed 3% salary adjustment for all City employees, fully funds projected overtime costs based on recent historical trends, and incorporates approved position changes, including the elimination of 43.55 FTEs, maintaining 12 frozen positions, and adding 18.75 FTEs in FY27. Although the budget includes significant position reductions, salaries and benefits continue to increase year-over-year primarily due to negotiated compensation adjustments and the City's transition to fully funding projected overtime costs rather than relying on vacancy savings.

  The City Council expressed concern regarding the absence of vacancy savings in the FY27 budget. In response, staff conducted a review of unspent salary budgets over the last four fiscal years.

  Based on this analysis, staff identified four departments, Community Development, Library, Police, and Public Works, that have consistently carried unspent salary budgets of 3% or more. As a result, staff applied a 3% vacancy savings reduction to the salary budgets of these departments, resulting in a reduction of approximately $1.2 million. The vacancy savings does not reduce authorized positions or FTEs. It is a budgeting assumption based on the expectation that some positions will remain vacant for a portion of the year due to normal turnover, retirements, promotions, recruitment timelines, and onboarding periods.

FY25 Actuals:	$104,364,884
FY26 Year-end Estimate:	$103,947,889
FY27 Budget:	$108,599,700
Increase/Decrease to YE:	+$4,651,811 or +4.5%

- **Professional/Other Services:** The proposed FY27 budget for contractual services is approximately $7.5 million. This reflects a net decrease of over $2.6 million (-25.9%) compared to the year-end estimates. This expenditure category includes $125,000 to support enhancements within the City's Economic Development Division, $250,000 for year-round aquatics services, $498,000 for the Old Towne paid parking program, and $100,000 for on-call building inspection services.

FY25 Actuals:	$6,141,942
FY26 Year-end Estimate:	$10,083,247
FY27 Budget:	$7,473,200

Increase/Decrease to YE: -$2,610,047 or -25.9%

- **Materials and Supplies:** The proposed FY27 budget for materials and supplies is almost $4.7 million and reflects a nominal increase of about $28,000 (0.6%) compared to the year-end estimates.

  FY25 Actuals: $4,851,803
  FY26 Year-end Estimate: $4,702,718
  FY27 Budget: $4,731,000
  Increase/Decrease to YE: +$28,282 or +0.6%

- **Miscellaneous Expenditures:** The FY27 budget for miscellaneous expenditures totals approximately $3.9 million, representing an increase of $676,000 (21.0%) compared to the FY26 year-end estimate. This expenditure category includes costs associated with North SPA services, election services, employee education incentives pursuant to labor agreements, mileage reimbursements, dues and memberships, training and conferences, and other miscellaneous operating expenses. The increase in FY27 is primarily attributable to anticipated election-related costs and increased General Fund contributions for North SPA services.

  FY25 Actuals: $961,597
  FY26 Year-end Estimate: $3,217,645
  FY27 Budget: $3,894,200
  Increase/Decrease to YE: +$676,655 or +21.0%

- **Internal Service Costs/Allocations:** Internal service costs are projected to total approximately $3.7 million, a decrease of approximately $5.1 million (-57.9%) from year-end estimates. Figures have been refined using the Cost Allocation Plan model and FY26 Year End Estimates. The FY27 Budget reflects a revised methodology that excludes Internal Service Charges charged to and from the General Fund; as a result, both expenditure and revenue projections are lower compared to the FY26 Year-End Estimate

  FY25 Actuals: $14,029,588
  FY26 Year-end Estimate: $8,866,258
  FY27 Budget: $3,733,900
  Increase/Decrease to YE: -$5,132,358 or -57.9%

- **Transfers to Internal Service Funds**: The FY27 Budget includes a transfer of approximately $9.5 million to the Employee Accrued Liability Fund, this is an increase of almost $8.1 million (556.5%). The Employee Accrued Liability Fund is estimated to close FY26 with a deficit of approximately $5.6 million. The transfer is necessary to support the projected accrued leave payouts and unfunded liability during the year.

  FY25 Actuals: $487,680
  FY26 Year-end Estimate: $1,455,252
  FY27 Preliminary Budget: $9,554,500
  Increase/Decrease to YE: +$8,099,248 or +556.5%

Table 3: General Fund Expenditures

Expenditure Category	FY25 Actual	FY26 YE Estimate	FY27 Adopted	Variance to FY25 Actual	Variance to FY26 Estimate
Salaries and Benefits	$104,364,884	$103,947,889	$108,599,700	4.1%	4.5%
Repair/Maintenance	6,865,145	9,594,564	10,037,200	46.2%	4.6%
Professional/Other Services	6,141,942	10,083,247	7,473,200	21.7%	-25.9%
Internal Service Charges	14,029,588	8,866,258	3,733,900	-73.4%	-57.9%
Materials and Supplies	4,851,803	4,702,718	4,731,000	-2.5%	0.6%
Utility Charges	3,321,196	3,534,948	3,605,500	8.6%	2.0%
Capital Outlay	1,006,636	146,212	74,500	-92.6%	-49.0%
Miscellaneous	961,597	3,217,645	3,894,200	305.0%	21.0%
Debt Services	17,377,333	17,519,111	17,908,400	3.1%	2.2%
Total Operating Expenditures	**158,920,124**	**161,612,591**	**160,057,600**	**0.7%**	**-1.0%**
Transfers Out	487,680	1,455,252	9,554,500	1859.2%	556.6%
TOTAL EXPENDITURES	**$159,407,804**	**$163,067,843**	**$169,612,100**	**6.4%**	**4.0%**

In summary, FY27 General Fund expenditures, including transfers, are projected at approximately $169.6 million, which is consistent with the FY27 Preliminary Budget presented at the last month, with the exception of incorporating a vacancy rate adjustment within the Salaries and Benefits category. Expenditure projections reflect anticipated personnel costs, operational and maintenance needs, debt service obligations, and planned transfers.

Total FY27 General Fund expenditures represent an increase of approximately $6.5 million, or 4.0%, compared to FY26 estimated expenditures. The majority of this increase is attributable to the planned transfer for employee accrued liabilities.

FY27 General Fund - Fund Balance

Based on the FY26 Year-End Estimates, the FY27 beginning fund balance is projected to be approximately $27.8 million, of which approximately $1.9 million is undesignated fund balance. The FY27 Adopted Budget projects an operating deficit of $4.4 million, reflecting the difference between total revenues of $155.7 million and total expenditures of $160.1 million. However, the General Fund also includes a planned $15.0 million transfer-in and a $9.6 million transfer-out, resulting in a projected net surplus of approximately $1.1 million and an estimated ending fund balance of $28.9 million.

The Fiscal Management Policies adopted by the City Council on August 12, 2025, recommend maintaining a catastrophic reserve equal to 20% of General Fund operating expenditures. While the FY27 Preliminary Budget recommended reducing the reserve to 18% due to projected fiscal challenges, subsequent vacancy rate adjustments within the Salaries and Benefits expenditure category improved the General Fund's projected financial position. As a result, the FY27 Adopted Budget includes a catastrophic reserve at the full 20% policy target, resulting in a reserve balance of approximately $28.4 million.

After accounting for the catastrophic reserve, the General Fund is projected to end FY27 with an undesignated ending fund balance of approximately $476,000. Although the FY27 budget is balanced through transfers and other available resources, the General Fund continues to face a structural operating imbalance, as operating expenditures exceed operating revenues by approximately $4.4 million.

The table below summarizes the FY27 Adopted General Fund budget, estimated ending fund balance, catastrophic reserve, and undesignated ending fund balance.

Table 4: General Fund Balance

	FY26 YE Estimate	FY27 Adopted	Variance to FY26 Estimate
Operating Revenues	$157,868,578	$155,678,600	-1.4%
Total Revenues	**157,868,578**	**155,678,600**	**-1.4%**
Operating Expenditures	144,093,480	142,149,200	-1.3%
Debt Service	17,519,111	17,908,400	2.2%
Total Expenditures	**161,612,591**	**160,057,600**	**-1.0%**
Operating Surplus/Deficit	**-3,744,013**	**-4,379,000**	**17.0%**
Transfers-In	4,485,252	15,000,000	234.4%
Transfers-Out	1,455,252	9,554,500	556.6%
Projected Net Surplus/Deficit	**-714,013**	**1,066,500**	**-249.4%**
Estimated Beginning Fund Balance - 7/1	28,553,772	27,839,759	-2.5%
Estimated Ending Fund Balance - 6/30	27,839,759	28,906,259	3.8%
Catastrophic Reserve	25,936,826	28,429,840	9.6%
Undesignated Ending Fund Balance - 6/30	**$1,902,932**	**$476,419**	**-75.0%**

FY27 Budget for Other Funds

Special Revenue Funds (200 - 400 Series):

There are no changes to the Special Revenue Funds. The FY27 Budget for Special Revenue Funds are used to account for revenues that are legally restricted or committed to expenditures for specific purposes. These funds support a variety of City programs and services that are financed through

dedicated revenue sources such as grants, state and federal funding, development-related fees, public safety revenues, and other restricted resources. Unlike the General Fund, Special Revenue Funds may only be used for their designated purposes and are subject to specific legal, regulatory, or policy requirements governing their use. The City's Special Revenue Funds support programs including transportation improvements, public safety initiatives, community development activities, housing programs, and other operational and capital needs. As external funding sources and economic conditions fluctuate, the City continues to closely monitor revenues and expenditures within these funds to ensure ongoing compliance, maintain service levels, and support long-term program sustainability.

Table 5: Fund Balance - Special Revenue Funds

	EMT Program (225)	**Measure M2 (263)**	**Other Transportation Funds (270-274)**	**Citywide TSIP (287)**
Revenues	$5,353,600	$4,335,500	$7,474,000	$304,000
Transfers-In	-	-	-	-
Total Revenues	**5,353,600**	**4,335,500**	**7,474,000**	**304,000**
Expenditures	5,575,900	4,205,600	7,801,300	1,695,900
Transfers-Out	3,500,000	-	-	-
Total Expenditures	**9,075,900**	**4,205,600**	**7,801,300**	**1,695,900**
Projected Surplus/Deficit	**-3,722,300**	**129,900**	**-327,300**	**-1,391,900**
Estimated Beginning Fund Balance - 7/1/26	4,176,378	6,919,471	6,764,540	3,662,662
Projected Ending Fund Balance - 6/30/27	**$454,078**	**$7,049,371**	**$6,437,240**	**$2,270,762**

Capital Improvement Funds (500 Series):

The only change to the Capital Improvement Funds from the Preliminary Budget is the reduction in transfers to the General Fund. The FY27 Capital Improvement Program totals just over $33.2 million, across 17 different funding sources. In addition, the FY27 Adopted Budget includes an $8.5 million transfer-out from the Capital Improvement Program Fund to the General Fund, which is $500,000 lower than the FY27 Preliminary Budget. Following City Council feedback regarding the inclusion of vacancy savings assumptions in the General Fund budget, staff incorporated a vacancy factor within select department salary budgets, reducing the projected General Fund operating deficit. As a result, less one-time funding was needed from the CIP Fund, allowing the City to preserve an additional $500,000 in capital resources for future infrastructure and capital improvement projects. The

following table reflects fund balances for the major capital funds.

Table 6: Fund Balance - Capital Improvement Funds

	Capital Project Fund (500)	Park Funds (510-12)	Fire Facilities Fund (560)	Police Facilities Fund (570)	Library Facilities Fund (580)
Revenues	$3,585,000	$383,100	$22,800	$21,500	$17,800
Transfers-In	-	-	-	-	-
Total Revenues	**3,585,000**	**383,100**	**22,800**	**21,500**	**17,800**
Expenditures	5,140,400	2,870,000	600,000	615,000	326,900
Transfers-Out	8,500,000	-	-	-	-
Total Expenditures	**13,640,500**	**2,870,000**	**600,000**	**615,000**	**326,900**
Projected Surplus/Deficit	**-10,055,500**	**-2,486,900**	**-577,200**	**-593,500**	**-309,100**
Estimated Beginning Fund Balance - 7/1/26	12,013,635	8,462,380	703,983	724,052	468,497
Projected Ending Fund Balance - 6/30/27	**$1,958,135**	**$5,975,480**	**$126,783**	**$130,552**	**$159,397**

Internal Service Funds (700 Series):

There are no changes to Internal Service Funds for FY27 Budget. Internal Service Funds are used to account for the financing of goods and services provided by one department or agency to other departments or agencies on a cost reimbursement basis. Allocations to the City's Internal Service Funds (ISFs), from the General Fund and other operating funds, including Enterprise Funds and eligible Special Revenue Funds, support operating costs related to accrued liability, workers compensation, and general liability insurance.

Historically, these ISFs were intentionally underfunded to minimize impacts to the General Fund, with the expectation that any year-end surpluses would be used to supplement shortfalls through transfers. However, as the City has continued to face budgetary constraints, fewer surplus funds have been available, resulting in continued underfunding of these ISFs and the deferral of necessary capital replacements and other long-term obligations.

It should also be noted that the ISFs for the City's Information Technology and Fleet divisions were consolidated into the General Fund in FY25. As a result, the associated operational costs associated with those services continue to be reflected comprehensively within the General Fund.

Table 8: Fund Balance - Internal Service Funds

	Equipment Replacement (720)	Worker's Comp (730)	General Liability (731)	Accrued Liability (760)	IT Capital (790)
Revenues	$244,200	$6,239,400	$4,887,600	$3,613,000	$446,800
Transfers-In	-	-	-	9,554,500	-
Total Revenues	**244,200**	**6,239,400**	**4,887,600**	**13,167,500**	**446,800**
Expenditures	2,795,000	5,344,700	6,144,400	10,618,200	1,116,000
Transfers-Out	-	-	-	-	3,000,000
Total Expenditures	**2,795,000**	**5,344,700**	**6,144,400**	**10,618,200**	**4,116,000**
Projected Surplus/Deficit	**-2,550,800**	**894,700**	**-1,256,800**	**2,549,300**	**-$3,669,200**
Estimated Beginning Fund Balance - 7/1/26	3,052,486	-12,755,459	-12,302	-5,606,386	7,181,367
Projected Ending Fund Balance - 6/30/27	**$501,686**	**-$11,860,759**	**-$1,269,102**	**-$3,057,086**	**$3,512,167**

Enterprise Funds (600 Series):

There are no changes to the FY 27 Enterprise Funds Budget. Enterprise Funds are used to account for services provided to the public on a fee-for-service basis, where the costs of operations, capital improvements, and debt obligations are primarily recovered through user charges. The City's Water and Sewer Enterprise Funds support the operation, maintenance, and long-term sustainability of critical utility infrastructure, including water production, distribution, and wastewater collection systems.

In FY27, the City is proposing approximately $6.5 million in water infrastructure improvements to support system reliability, increase groundwater production capacity, and replace aging infrastructure throughout the water system. Additionally, approximately $3.5 million is proposed for sewer system improvements to continue the replacement and rehabilitation of aging sewer pipelines and related infrastructure throughout the City. These investments are intended to address aging infrastructure, reduce ongoing maintenance demands, improve operational efficiency, and ensure the City can continue to meet service and regulatory requirements while maintaining reliable utility services for residents and businesses.

The table below provides a high-level overview of the City's Enterprise funds, reflecting projected revenues, expenditures for operating and capital expenses, and fund balances.

Table 7: Fund Balance - Enterprise Funds

	Water (600)	**Sewer (601)**
Revenues	$45,584,600	$9,486,700
Transfers-In	-	-
Total Revenues	**45,584,600**	**9,486,700**
Proposed Expenditures	49,920,000	9,248,600
Proposed Transfers-Out	-	-
Total Expenditures	**49,920,000**	**9,248,600**
Projected Surplus/Deficit	**-4,335,400**	**238,100**
Estimated Beginning Fund Balance - 7/1/26	6,057,236	4,917,562
Projected Ending Fund Balance - 6/30/27	**$1,721,836**	**$5,155,662**

Appropriations Limit (Gann Limit)

Article XIII B of the California Constitution requires local governments to annually calculate an appropriations limit, commonly referred to as the Gann Limit. The appropriations limit establishes a constitutional cap on the amount of tax proceeds that may be appropriated each fiscal year and is adjusted annually based on the population growth factor and changes in California per capita personal income.

The City calculates its annual appropriations limit using the adjustment factors published by the California Department of Finance. Consistent with State guidance, the City utilizes the greater of the annual population change for the City of Orange or Orange County as the population factor. This factor is multiplied by the California per capita personal income factor to determine the annual adjustment to the City's appropriations limit.

During preparation of the FY27 appropriations limit calculation, staff identified an error in the population growth factor used in the FY21 and FY22 appropriations limit calculations, which resulted in the City's appropriations limits being understated. The prior-year appropriations limits were corrected and used as the basis for calculating the FY27 appropriations limit. The correction did not result in the City exceeding its appropriations limit in any prior fiscal year and has no impact on previously adopted budgets or financial statements.

Based on the adjustment factors published by the California Department of Finance, the City's FY27 appropriations limit is calculated at approximately $268.0 million. Appropriations subject to limitation, which are primarily financed by proceeds of taxes, are estimated at approximately $132.6 million, representing 49.4% of the City's appropriations limit. Accordingly, the City remains well below its constitutional spending limitation for FY27, with available appropriations capacity of approximately

$135.4 million.

Financial Model

The Financial Management Policy requires a long-range financial forecast to accompany budget adoption. The forecast serves as a planning tool to support long-term financial policies, operational decision-making, and fiscal sustainability strategies. It also helps evaluate the effectiveness of current policies and financial strategies while identifying when adjustments may be necessary to address future fiscal challenges. Staff prepared two five-year financial forecasts (FY27 Models) using the FY27 Budget as the baseline. Model 1, a baseline model, were developed using a combination of historical trend analysis, recent actual performance, current economic conditions, inflationary trends, and available market indicators. Historical growth trends over multiple time periods were evaluated to balance recent performance with long-term economic cycles.

To better evaluate long-term pension-related risks and forecast sensitivity, staff developed a second forecasting scenario using modified CalPERS assumptions, Model 2.

FY27 Model 1

Revenue Assumptions

Sales Tax:

While the City's historical five-year average sales tax growth is approximately 0.7%, the forecast assumes gradual growth beginning at 0.7% in FY28 and increasing incrementally to 2.5% by FY32. This approach balances historical performance with long-term inflationary expectations, anticipated economic stabilization, and projected taxable sales activity. The assumption is intended to reflect normalized long-term economic conditions rather than recent post-pandemic volatility.

Property Tax:

Property tax has historically been one of the City's more stable major revenue sources, with historical growth averaging between 4.1% and 5.3% over the past 10 years. The model assumes annual growth of 4.9%, consistent with the City's 10-year historical average.

Transient Occupancy Tax (TOT):

Unlike property tax, TOT revenues are more sensitive to market conditions, tourism activity, and economic fluctuations. Historical growth ranges from approximately 3.7% based on the five-year average to 12.3% using the 10-year average. Given the economic sensitivity of this revenue source, the model utilizes the more conservative five-year average growth assumption of 3.7%.

Fees and Fines:

These revenues have historically demonstrated moderate stability, with growth trends ranging from 3.7% to 6.4%. Considering recent Council-approved fee adjustments and the implementation of new fines, the model assumes annual growth of 4%.

Other Revenues:

This category includes investment earnings, donations, leases, rents, and miscellaneous revenues, which can fluctuate significantly from year to year. Due to the volatility of these revenues, the model assumes a conservative 2% annual increase based on recent historical trends.

Internal Service Revenues:

This category reflects cost allocation charges to Special Revenue and Enterprise Funds. The City's recently updated cost allocation study prepared by Matrix Consulting Group recommends annual CPI -based adjustments and a comprehensive update every five years. Consistent with that recommendation, the model assumes annual growth of 3%.

Actual results may vary depending on broader economic conditions, consumer spending patterns, inflationary trends, and regional economic performance.

Expenditure Assumptions

Salaries and Benefits:

Historical growth averages for salaries and benefits are approximately 3.1% over 10 years and 3.3% over 15 years, which are generally consistent with the current March 2026 CPI-U of 3.3%. More recent three- and five-year averages are significantly lower at approximately 0.7%, reflecting the City's efforts to control personnel costs during periods of structural fiscal imbalance. The model assumes annual growth of 3% to align with long-term inflationary expectations and anticipated labor cost pressures.

Vacancy savings: As mentioned in the FY27 budget assumptions, The FY27 Model has been updated to include a vacancy savings for four departments, Community Development, Library, Police, and Public Works. These departments have consistently carried an average unspent salary budgets of 3% or more over the last four fiscal years. As a result, staff applied a 3% vacancy savings reduction to the salary budgets of these departments, resulting in a reduction of approximately $1.2 million. The vacancy savings does not reduce authorized positions or FTEs. It is a budgeting assumption based on the expectation that some positions will remain vacant for a portion of the year due to normal turnover, retirements, promotions, recruitment timelines, and onboarding periods.

Operating Non-Personnel Expenses:

This category includes contracted services, maintenance, supplies, utilities, and other operating costs. Historical growth has fluctuated significantly due to inflationary pressures and operational needs. Although historical growth rates exceeded inflation in certain years due to one-time operational needs and elevated inflationary pressures, the model assumes a normalized annual increase of 3%, consistent with anticipated CPI trends and ongoing expenditure management efforts.

Internal Service Costs:

Similar to Internal Service Revenues, these costs are based on the City's updated cost allocation study prepared by Matrix Consulting Group. The model assumes annual CPI-based increases of 3%.

Leave Payouts:

Under various Memoranda of Understanding (MOUs), the City is obligated to provide annual payouts for certain accrued leave balances. Annual leave payout obligations are estimated at approximately $6 million. The existing cost allocation model recovers approximately $3 million annually, requiring an estimated additional General Fund contribution of approximately $3 million, which is included in the forecast.

Unfunded Accrued Liability (UAL):

The UAL represents the City's annual required contribution to CalPERS for unfunded pension obligations. One modeled scenario assumes FY26 investment returns of approximately 12%, resulting in projected UAL payments decreasing to approximately $5.2 million in FY28 and no projected payments in subsequent years. While this scenario is mathematically possible under current modeling assumptions, it presents a significant forecasting risk and may not be sustainable over the long term.

Workers' Compensation:

The Workers' Compensation Fund is projected to end FY27 with an estimated fund balance of approximately $12 million. Staff recommends an ongoing annual contribution of $1 million to support long-term fund stability and offset projected operating deficits.

General Liability:

The General Liability Fund is projected to end FY27 with a negative fund balance of approximately $1.3 million and is currently experiencing annual operating deficits of approximately $1.3 million. To stabilize the fund and support ongoing operational needs, the model includes an annual contribution of $1.5 million.

Capital Projects Fund:

The City is required to maintain an annual Maintenance of Effort (MOE) contribution of approximately $4.3 million to remain eligible for Measure M2 grant funding. The model includes an annual contribution of $2 million toward meeting this long-term funding requirement.

Based on these assumptions, Model 1 projects an operating deficit of approximately $16.5 million in FY28, improving to approximately $6.9 million by FY32. As a result, the General Fund balance is projected to decline to approximately $12.4 million in FY28 and be fully depleted by FY30.

While the model incorporates a balanced approach using historical trends, current economic conditions, and inflationary assumptions, it is important to recognize that the assumption of substantially reduced UAL payments beyond FY28 represents a significant forecasting risk. Changes in CalPERS actuarial assumptions, investment performance, or discount rate policies could result in higher future pension costs and further impact the City's long-term financial outlook.

FY27 Model 2

Model 2 reflects a sensitivity scenario in which CalPERS exercises its Funding Risk Mitigation Policy, similar to the 2021 reduction in the discount rate following strong investment performance. All other revenue and expenditure assumptions remained consistent with Model 1.

CalPERS currently maintains a Funding Risk Mitigation Policy that allows for future reductions to the discount rate when investment returns materially exceed assumptions over multiple years. Given recent strong investment performance, there is a reasonable possibility that CalPERS could reduce the discount rate in future valuation cycles. Although strong investment performance may improve funded status, a lower discount rate also increases the present value of future pension obligations, which can increase annual employer contribution requirements.

To evaluate this potential risk, staff prepared a second scenario reducing the CalPERS discount rate assumption from 6.8% to 6.6%. Under this scenario, projected UAL payments nearly doubled to just over $10 million in FY28 and added an additional estimated payment of approximately $6.6 million in

FY29.

Under this alternative scenario, the projected operating deficit increases to approximately $21.3 million in FY28 before improving to approximately $6.9 million by FY32, consistent with Model 1. The General Fund balance is projected to decline to approximately $7.6 million in FY28 and be fully depleted by FY29.

Long-range financial forecasting is inherently sensitive to changes in economic conditions, inflation, labor negotiations, CalPERS actuarial assumptions, investment performance, and future policy decisions. Actual results will vary and should be reevaluated annually as part of the budget development process.

Conclusion

Both forecasting scenarios demonstrate the ongoing structural fiscal challenges facing the City. The forecasts demonstrate that, absent structural changes, expenditure growth is projected to continue outpacing recurring revenue growth over the long term. While economic conditions, investment performance, and inflationary trends may improve certain financial indicators over time, the City continues to face long-term expenditure pressures, particularly related to pension obligations, liability costs, and operational sustainability. As a result, the City will likely need to evaluate a combination of ongoing expenditure reductions, operational and organizational efficiencies, long-term financial planning strategies, and potential revenue enhancements to achieve long-term fiscal sustainability.

Unfunded Requests and Future Considerations

Due to limited ongoing revenues, several priority needs were not included in the FY27 Preliminary Budget and remain subject to future Council consideration if additional recurring resources become available, with priority given to those that support public safety, regulatory compliance, and core service delivery. The following items are identified:

Operating Budget

- Restore negative fund balance in the ISFs.
- Restore public safety positions.
- Address deferred maintenance.
- Expansion of Fire Prevention staffing model to address increased inspection, plan review, and compliance workload.
- Restore community programs and events.
- Implementation of a body-worn camera program for the Code Enforcement Division to enhance transparency, accountability, and staff safety.
- Restoration of the Historic Preservation Planner position to support planning, development review, and preservation efforts.
- Additional administrative support within the City Manager’s Office, City Clerk’s Office, and Finance Department to address increasing operational demands and workload.

Deferred Capital Projects

- Facilities Condition Assessment
- City Hall Roof Replacement
- Fire Station 7 - Roof Replacement

- Fire Station 8 - Exterior Paint and Roof Replacement
- Main Library Gutter Replacement
- Community Services Building Roof Replacement
- City Hall Landscape Renovation
- City Hall - Elastomeric Coating Renewal

Conclusion

The FY27 Operating and Capital Budget reflects the significant fiscal challenges facing the City while prioritizing public safety and maintaining a standard level of service for the residents and businesses of Orange. The budget includes substantial balancing measures, operational adjustments, and the strategic use of available resources to address ongoing structural budget pressures and support core City operations. However, limited financial resources continue to constrain the City's ability to address deferred maintenance, restore service reductions, and meet increasing operational demands and community expectations. While the FY27 Budget provides a responsible financial plan for the coming year, long-term fiscal sustainability will require continued evaluation of expenditures, service levels, organizational efficiencies, and revenue strategies. Tonight, staff is seeking the City Council's adoption of the FY27 Operating and Capital Budget for all funds.

7. ATTACHMENTS

- Attachment 1 Resolution No. 11702
- Attachment 2 Resolution No. 11699
- Attachment 3 Resolution No. 11700
- Attachment 4 Schedule of Changes in Fund Balance
- Attachment 5 Schedule of Revenues and Expenditures
- Attachment 6 Recommended Staffing Changes
- Attachment 7 Schedule of Positions by Department
- Attachment 8 FY27 Budget Reductions and Balancing Measures
- Attachment 9 Five-Year Capital Improvement Plan
- Attachment 10 Fund Description
- Attachment 11 FY27 Financial Model

Agenda Item

Orange City Council

Item #: 9.1. 6/9/2026 **File #:** 26-0356

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Trang Nguyen, Finance Director**

1. SUBJECT

Fiscal Year 2026-2027 City of Orange Operating Budget and Five-Year Capital Improvement Program

2. SUMMARY

The City Council affirmed the Fiscal Year 2026-2027 preliminary operating budget and capital improvement plan at the May 26 Regular City Council meeting. This budget document is prepared following the affirmation and directions given by the City Council.

3. RECOMMENDED ACTION

The following action items are recommended to adopt the Fiscal Year 2026-2027 Budget, effective July 1, 2026:

1. Adopt Resolution No. 11702. A Resolution of the City Council of the City of Orange adopting said City's Budget for the Fiscal Year 2026-27 and authorizing transfer of funds within and between appropriations, transfer of funds between funds, and additional appropriations.
    a. Total revenues of $292.4 million and total expenditures of $315.7 million, including transfers.
    b. General Fund revenues totaling $170.7 million and expenditures totaling $169.6 million;
    c. Staffing for Fiscal Year 2026-2027 at 708.7 budgeted FTEs; and
    d. Five-Year Capital Improvement Program.
2. Adopt Resolution No. 11699. A Resolution of the City Council of the City of Orange adopting the appropriations limit for the Fiscal Year 2026-2027.
3. Adopt Resolution No. 11700. A Resolution of the City Council of the City of Orange amending Resolution No. 11668 between the City of Orange and the Orange Municipal Employees' Association.

4. FISCAL IMPACT

The Fiscal Year 2026-2027 Annual Operating and Capital Improvement Budget includes total revenues of $292.4 million and total expenditures of $315.7 million for all funds, including transfers. Available fund balance will be used to cover the difference between revenue and expenditure in Special Revenue Funds and Capital Improvement Project Funds. This does not necessarily reflect an ongoing structural imbalance, but rather timing and funding strategy for these funds.

The total General Fund revenues are $170.7 million, and expenditures are $169.6 million, including

transfers.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability.

6. DISCUSSION AND BACKGROUND

Background:

The City's budget is a financial plan based on anticipated revenues and expenditures in a fiscal year starting July 1st through June 30th. Each year, the City's budget is prepared, prioritizing public safety and infrastructure projects, City Council Goals, and providing the highest possible level of service to the community. The Fiscal Year 2026-2027 (FY27) budget development has been presented and reviewed over the course of three City Council budget study sessions, taking place in March, April, and May 2026.

As noted in the budget study sessions, FY27 continues to present significant financial challenges for the General Fund, as the City faces an ongoing structural imbalance between recurring revenues and expenditures. Development of the FY27 Budget began with a zero-based budgeting approach, requiring departments to justify expenditures from the ground up rather than relying on prior-year spending as the baseline. Over the last couple of months, staff continued to refine the FY27 budget to incorporate the City Council directions, reprioritize operational needs, and incorporated changes from the third quarter financial information.

The FY27 Preliminary Budget was affirmed by the City Council on May 26th for all funds, with total revenues of approximately $292.9 million and total expenditures of $317.3 million, including transfers. In response to the City Council's feedback related to the inclusion of a vacancy rate in the budget, the following adjustments have been made to the proposed adopted budget:

- Reduced the General Fund salaries budget by $1.2 million;
- Reduced the transfer in from Capital Projects Fund (CIP) by $500,000; and
- Increased the Catastrophic Reserve to 20% from 18%.

Details of these adjustments are noted in the discussion of the staff report.

The FY27 Adopted Budget document reflects $292.4 million in revenue, a decrease of $500,000, and expenditures of $315.7 million, a decrease of $1.7 million, in all funds when compared to the FY27 Preliminary Budget. Available fund balance will be used to cover the difference between revenue and expenditure in Special Revenue Funds and Capital Improvement Project Funds. This does not necessarily reflect an ongoing structural imbalance, but rather timing and funding strategy for these funds. The total full-time equivalent (FTE) is 708.7 FTEs, with approximately 600 FTEs being funded by the General Fund. The total General Fund revenues are $170.7 million, a decrease of $500,000, and expenditures of $169.6 million, a decrease of $1.2 million, from the FY27 Preliminary Budget.

Discussion:

Fiscal Year 2025-26 (FY26) General Fund Year-End Estimates

There are no changes to the FY26 Year-end Estimates as presented last month. The FY26 General Fund revenues are estimated at $157.4 million. Revenue estimates are based on FY26 trends in property transfer tax, fees for services, fines, plan check fees, construction inspection fees, building

permit revenues, and miscellaneous revenues.

FY26 General Fund expenditures are estimated at $161.1 million. Expenditures estimates are based on ongoing operating expenses incurred throughout FY26, including several costs recognized later in the fiscal year, such as the City's $1.5 million North SPA payment and one-time paid-parking implementation costs.

Considering these estimates, the General Fund is projected to end FY26 with an operating deficit of $3.7 million. After maintaining the 18% Catastrophic Reserve, the estimated undesignated fund balance is $1.9 million. These estimates are based on year-to-date actual results and do not include year-end accounting entries. A comprehensive review of FY26 financial results will be presented following completion of the annual financial audit.

Table 1: FY26 Year-End Estimated Fund Balance

	FY26 YE Estimate
Operating Revenues	$157,868,578
Total Revenues	**157,868,578**
Operating Expenditures	144,093,480
Debt Service	17,519,111
Total Expenditures	**161,612,591**
Operating Surplus/Deficit	**-3,744,013**
Transfers-In	4,485,252
Transfers-Out	1,455,252
Net Surplus/Deficit	**-714,013**
Estimated Beginning Fund Balance - 7/1/2025	28,553,772
Estimated Ending Fund Balance - 6/30/2026	27,839,759
Catastrophic Reserve	25,936,826
Undesignated Ending Fund Balance - 6/30/2026	**$1,902,932**

Fiscal Year 2026-27 (FY27) General Fund Revenue

The FY27 General Fund operating revenues, including transfers, is projected to be almost $170.7 million, a decrease of $500,000 from the preliminary budget. This is due to the decrease in transfers from the CIP Fund.

Provided below is a summary of the assumptions used for the FY27 General Fund revenues as presented at the preliminary budget meeting.

- **Property Tax:** The City’s largest source of General Fund revenues is proposed to be $61.7 million in FY27, an increase of approximately $1.9 million (3.1%) over the FY26 year-end estimates. The increase reflects revised year-end revenue estimates and signs of a strengthening housing market driven by slightly lower interest rates and rising rental costs, which have contributed to increased home sales activity. While Proposition 13 generally limits annual assessed value increases to 2% on existing properties, additional growth occurs when properties change ownership and are reassessed at current market value. The housing market

is expected to remain stable in FY27, supporting continued modest growth in property tax revenues.

FY25 Actuals: $57,658,841
FY26 Year-end Estimate: $59,822,181
FY27 Budget: $61,700,600
Increase/Decrease to YE: +$1,878,419 or +3.1%

- **Sales Tax:** The FY27 revenue is projected at approximately $51.6 million, reflecting a $258,000 (0.5%) increase over the FY26 year-end estimates. According to statewide reports from the City's sales tax consultant, while inflation has moderated and interest rates have declined, statewide economic indicators suggest consumers still remain cautious. As a result, taxable sales growth is expected to remain modest in all other categories, with consumer spending largely focused on essential goods and value-oriented purchases. Although fuel prices have continued to trend upward due to external and foreign market factors, the FY27 projections assume moderate additional growth in sales tax revenues due to thresholds within the City's current sales tax agreements and the potential volatility of this sector.

  FY25 Actuals: $49,342,726
  FY26 Year-end Estimate: $51,335,804
  FY27 Budget: $51,594,300
  Increase/Decrease to YE: +$258,496 or +0.5%
- **Fines and Forfeitures:** Fine and forfeitures revenue is projected at approximately $2.9 million in FY27, an increase of about $471,000 (19.4%) over the year-end estimates. This reflects anticipated revenues of approximately $1.0 million from the City's paid parking program in Old Towne, as well as $300,000 from increased collections associated with Transient Occupancy Tax and Business License audit activities.

  FY25 Actuals: $2,636,075
  FY26 Year-end Estimate: $2,426,324
  FY27 Budget: $2,897,600
  Increase/Decrease to YE: +$471,276 or +19.4%

- **Fees for Service:** The city is projecting just under a total of almost $8.0 million in FY27, an increase of just over $300,000 (4.0%), compared to the year-end estimates. These fees are intended to offset the City's operating costs of providing services and have been revised following the user fee study to more appropriately align charges with the cost of service delivery. This estimate considers the updated fees adopted at the January 13th Council meeting, the April 28th Council meeting.

  FY25 Actuals: $6,602,124
  FY26 Year-end Estimate: $7,647,596
  FY27 Budget: $7,953,100
  Increase/Decrease to YE: +$305,504 or +4.0%

- **Internal Service Charges:** Internal Service Charges are projected to be approximately $4.8 million, an decrease of $5.2 million (-52.1%) from the FY26 year-end estimates. The decrease in Internal Service Charges reflects a revised methodology that excludes Internal Service Charges charged to and from the General Fund; as a result, both expenditure and revenue

projections are lower compared to the FY26 Year-End Estimate. This does not reflect any reduction in services but rather an accounting change.

FY25 Actuals: $15,474,265
FY26 Year-end Estimate: $10,077,495
FY27 Budget: $4,830,500
Increase/Decrease to YE: -$5,246,995 or -52.1%

- **Miscellaneous/Other Revenue**: Miscellaneous/other revenue is projected at almost $4.2 million in FY27, an increase of approximately $183,000 (4.6%) compared to year-end estimates. This category includes one-time reimbursements, donations, and other miscellaneous revenues, including approximately $1.0 million in Cal OES reimbursements for fire deployments and $150,000 to offset credit card fee surcharges.

FY25 Actuals: $1,620,906
FY26 Year-end Estimate: $3,995,136
FY27 Budget: $4,177,800
Increase/Decrease to YE: +$182,664 or +4.6%

- **Revenue from Other Agencies:** FY27 revenue in this category is projected at approximately $1.5 million, almost $312,000 (-17.2%) decrease from the FY26 year-end estimates. This category is primarily comprised of revenue received from other government agencies, as well as one-time grants from state funded programs. As is typical, revenue in this category may fluctuate throughout the year as additional grant programs are awarded and recognized.

FY25 Actuals: $2,501,399
FY26 Year-end Estimate: $1,816,924
FY27 Budget: $1,505,100
Increase/Decrease to YE: -$311,824 or -17.2%

- **Transfers In**: Transfers into the General Fund are projected to total $15 million in FY27, a decrease of $500,000 from the FY27 Preliminary Budget, and an increase of over $10.5 million (234.4%) over the FY26 year-end estimates. This amount primarily reflects one-time transfers of available fund balances from the Emergency Medical Transport Fund ($3.5 million), Equipment Replacement Fund ($3 million), and Capital Improvement Program Fund ($8.5 million) to temporarily offset the projected General Fund operating deficit. These transfers are non-recurring in nature and provide temporary budget relief rather than a long-term structural solution.

FY25 Actuals: $3,250,000
FY26 Year-end Estimate: $4,485,252
FY27 Budget: $15,000,000
Increase/Decrease to YE: +$10,514,748 or +234.4%

Provided in Table 2 is a summary of the major General Fund revenues by source type, comparing the changes from the FY26 year-end estimates and FY27 Adopted Budget:

Table 2: General Fund Revenues

Revenue Category	FY25 Actual	FY26 YE Estimate	FY27 Adopted	Variance to FY25 Actual	Variance to FY26 Estimate
Property Tax	$57,658,841	$59,822,181	$61,700,600	7.0%	3.1%
Sales Tax	49,342,726	51,335,804	51,594,300	4.6%	0.5%
Internal Service Charges	15,474,265	10,077,495	4,830,500	-68.8%	-52.1%
Fees for Services	6,602,124	7,647,596	7,953,100	20.5%	4.0%
Licenses and Permits	6,667,071	7,645,141	7,835,100	17.5%	2.5%
TOT	6,150,976	6,100,192	6,198,100	0.8%	1.6%
Miscellaneous Revenue	1,620,906	3,995,136	4,177,800	157.7%	4.6%
Use of Property	3,730,340	3,922,905	3,929,100	5.3%	0.2%
Franchises	2,753,299	3,078,880	3,057,300	11.0%	-0.7%
Fines and Forfeitures	2,636,075	2,426,324	2,897,600	9.9%	19.4%
Revenue from other Agencies	2,501,399	1,816,924	1,505,100	-39.8%	-17.2%
Total Operating Revenues	**155,138,022**	**157,868,578**	**155,678,600**	**0.3%**	**-1.4%**
Transfers-In	3,250,000	4,485,252	15,000,000	361.5%	234.4%
TOTAL REVENUES	**$158,388,022**	**$162,353,830**	**$170,678,600**	**7.8%**	**5.1%**

In summary, FY27 General Fund operating revenues, excluding transfers, are projected at approximately $155.7 million. Revenue projections were developed using FY26 year-end estimates and current trends across the City's major revenue categories, including property tax, sales tax, fees for services, licenses and permits, transient occupancy tax, and other local revenues. While several revenue categories are projected to increase in FY27, total operating revenues are projected to remain relatively consistent with FY25 actual revenues and slightly below FY26 estimated revenues. Including transfers-in of $15.0 million, total FY27 General Fund revenues are projected at approximately $170.7 million.

FY27 General Fund Expenditures

The General Fund operating expenditures, including debt service, for FY27 is almost $160.1 million, a decrease of $1.2 million from the preliminary budget and a decrease of almost $1.6 million (-1%) from the FY26 year-end estimates. The operating expenditure reflects the continued focus on

maintaining service levels while holding costs steady.

Based on City Council direction, the FY27 budget was created through a zero-based budget process. All departments provided documentation and descriptions of all non-personnel expenditure requests. Budget meetings were held between the departments and City Manager and Director of Finance to discuss the requests and necessity of the expenditure.

Provided below are the budget assumptions impacting the FY27 Operating Budget for the General Fund expenditures as presented at the preliminary budget meeting, except for salaries & benefits:

- **Salaries & Benefits:** The FY27 Preliminary Budget for salaries and benefits is $108.6 million, an increase of just over $4.6 million (4.5%) above the FY26 year-end estimates. The increase reflects the revised staffing assumptions as well as the transfer of five firefighter positions previously charged to the EMT Fund (Fund 225) back to the General Fund. As presented during the FY27 Budget Study Session, the FY27 salaries and benefits budget includes annual step increases and a proposed 3% salary adjustment for all City employees, fully funds projected overtime costs based on recent historical trends, and incorporates approved position changes, including the elimination of 43.55 FTEs, maintaining 12 frozen positions, and adding 18.75 FTEs in FY27. Although the budget includes significant position reductions, salaries and benefits continue to increase year-over-year primarily due to negotiated compensation adjustments and the City's transition to fully funding projected overtime costs rather than relying on vacancy savings.

  The City Council expressed concern regarding the absence of vacancy savings in the FY27 budget. In response, staff conducted a review of unspent salary budgets over the last four fiscal years.

  Based on this analysis, staff identified four departments, Community Development, Library, Police, and Public Works, that have consistently carried unspent salary budgets of 3% or more. As a result, staff applied a 3% vacancy savings reduction to the salary budgets of these departments, resulting in a reduction of approximately $1.2 million. The vacancy savings does not reduce authorized positions or FTEs. It is a budgeting assumption based on the expectation that some positions will remain vacant for a portion of the year due to normal turnover, retirements, promotions, recruitment timelines, and onboarding periods.

FY25 Actuals:	$104,364,884
FY26 Year-end Estimate:	$103,947,889
FY27 Budget:	$108,599,700
Increase/Decrease to YE:	+$4,651,811 or +4.5%

- **Professional/Other Services:** The proposed FY27 budget for contractual services is approximately $7.5 million. This reflects a net decrease of over $2.6 million (-25.9%) compared to the year-end estimates. This expenditure category includes $125,000 to support enhancements within the City's Economic Development Division, $250,000 for year-round aquatics services, $498,000 for the Old Towne paid parking program, and $100,000 for on-call building inspection services.

FY25 Actuals:	$6,141,942
FY26 Year-end Estimate:	$10,083,247
FY27 Budget:	$7,473,200

Increase/Decrease to YE: -$2,610,047 or -25.9%

- **Materials and Supplies:** The proposed FY27 budget for materials and supplies is almost $4.7 million and reflects a nominal increase of about $28,000 (0.6%) compared to the year-end estimates.

  FY25 Actuals: $4,851,803
  FY26 Year-end Estimate: $4,702,718
  FY27 Budget: $4,731,000
  Increase/Decrease to YE: +$28,282 or +0.6%

- **Miscellaneous Expenditures:** The FY27 budget for miscellaneous expenditures totals approximately $3.9 million, representing an increase of $676,000 (21.0%) compared to the FY26 year-end estimate. This expenditure category includes costs associated with North SPA services, election services, employee education incentives pursuant to labor agreements, mileage reimbursements, dues and memberships, training and conferences, and other miscellaneous operating expenses. The increase in FY27 is primarily attributable to anticipated election-related costs and increased General Fund contributions for North SPA services.

  FY25 Actuals: $961,597
  FY26 Year-end Estimate: $3,217,645
  FY27 Budget: $3,894,200
  Increase/Decrease to YE: +$676,655 or +21.0%

- **Internal Service Costs/Allocations:** Internal service costs are projected to total approximately $3.7 million, a decrease of approximately $5.1 million (-57.9%) from year-end estimates. Figures have been refined using the Cost Allocation Plan model and FY26 Year End Estimates. The FY27 Budget reflects a revised methodology that excludes Internal Service Charges charged to and from the General Fund; as a result, both expenditure and revenue projections are lower compared to the FY26 Year-End Estimate

  FY25 Actuals: $14,029,588
  FY26 Year-end Estimate: $8,866,258
  FY27 Budget: $3,733,900
  Increase/Decrease to YE: -$5,132,358 or -57.9%

- **Transfers to Internal Service Funds**: The FY27 Budget includes a transfer of approximately $9.5 million to the Employee Accrued Liability Fund, this is an increase of almost $8.1 million (556.5%). The Employee Accrued Liability Fund is estimated to close FY26 with a deficit of approximately $5.6 million. The transfer is necessary to support the projected accrued leave payouts and unfunded liability during the year.

  FY25 Actuals: $487,680
  FY26 Year-end Estimate: $1,455,252
  FY27 Preliminary Budget: $9,554,500
  Increase/Decrease to YE: +$8,099,248 or +556.5%

Table 3: General Fund Expenditures

Expenditure Category	FY25 Actual	FY26 YE Estimate	FY27 Adopted	Variance to FY25 Actual	Variance to FY26 Estimate
Salaries and Benefits	$104,364,884	$103,947,889	$108,599,700	4.1%	4.5%
Repair/Maintenance	6,865,145	9,594,564	10,037,200	46.2%	4.6%
Professional/Other Services	6,141,942	10,083,247	7,473,200	21.7%	-25.9%
Internal Service Charges	14,029,588	8,866,258	3,733,900	-73.4%	-57.9%
Materials and Supplies	4,851,803	4,702,718	4,731,000	-2.5%	0.6%
Utility Charges	3,321,196	3,534,948	3,605,500	8.6%	2.0%
Capital Outlay	1,006,636	146,212	74,500	-92.6%	-49.0%
Miscellaneous	961,597	3,217,645	3,894,200	305.0%	21.0%
Debt Services	17,377,333	17,519,111	17,908,400	3.1%	2.2%
Total Operating Expenditures	**158,920,124**	**161,612,591**	**160,057,600**	**0.7%**	**-1.0%**
Transfers Out	487,680	1,455,252	9,554,500	1859.2%	556.6%
TOTAL EXPENDITURES	**$159,407,804**	**$163,067,843**	**$169,612,100**	**6.4%**	**4.0%**

In summary, FY27 General Fund expenditures, including transfers, are projected at approximately $169.6 million, which is consistent with the FY27 Preliminary Budget presented at the last month, with the exception of incorporating a vacancy rate adjustment within the Salaries and Benefits category. Expenditure projections reflect anticipated personnel costs, operational and maintenance needs, debt service obligations, and planned transfers.

Total FY27 General Fund expenditures represent an increase of approximately $6.5 million, or 4.0%, compared to FY26 estimated expenditures. The majority of this increase is attributable to the planned transfer for employee accrued liabilities.

FY27 General Fund - Fund Balance

Based on the FY26 Year-End Estimates, the FY27 beginning fund balance is projected to be approximately $27.8 million, of which approximately $1.9 million is undesignated fund balance. The FY27 Adopted Budget projects an operating deficit of $4.4 million, reflecting the difference between total revenues of $155.7 million and total expenditures of $160.1 million. However, the General Fund also includes a planned $15.0 million transfer-in and a $9.6 million transfer-out, resulting in a projected net surplus of approximately $1.1 million and an estimated ending fund balance of $28.9 million.

The Fiscal Management Policies adopted by the City Council on August 12, 2025, recommend maintaining a catastrophic reserve equal to 20% of General Fund operating expenditures. While the FY27 Preliminary Budget recommended reducing the reserve to 18% due to projected fiscal challenges, subsequent vacancy rate adjustments within the Salaries and Benefits expenditure category improved the General Fund's projected financial position. As a result, the FY27 Adopted Budget includes a catastrophic reserve at the full 20% policy target, resulting in a reserve balance of approximately $28.4 million.

After accounting for the catastrophic reserve, the General Fund is projected to end FY27 with an undesignated ending fund balance of approximately $476,000. Although the FY27 budget is balanced through transfers and other available resources, the General Fund continues to face a structural operating imbalance, as operating expenditures exceed operating revenues by approximately $4.4 million.

The table below summarizes the FY27 Adopted General Fund budget, estimated ending fund balance, catastrophic reserve, and undesignated ending fund balance.

Table 4: General Fund Balance

	FY26 YE Estimate	FY27 Adopted	Variance to FY26 Estimate
Operating Revenues	$157,868,578	$155,678,600	-1.4%
Total Revenues	**157,868,578**	**155,678,600**	**-1.4%**
Operating Expenditures	144,093,480	142,149,200	-1.3%
Debt Service	17,519,111	17,908,400	2.2%
Total Expenditures	**161,612,591**	**160,057,600**	**-1.0%**
Operating Surplus/Deficit	**-3,744,013**	**-4,379,000**	**17.0%**
Transfers-In	4,485,252	15,000,000	234.4%
Transfers-Out	1,455,252	9,554,500	556.6%
Projected Net Surplus/Deficit	**-714,013**	**1,066,500**	**-249.4%**
Estimated Beginning Fund Balance - 7/1	28,553,772	27,839,759	-2.5%
Estimated Ending Fund Balance - 6/30	27,839,759	28,906,259	3.8%
Catastrophic Reserve	25,936,826	28,429,840	9.6%
Undesignated Ending Fund Balance - 6/30	**$1,902,932**	**$476,419**	**-75.0%**

FY27 Budget for Other Funds

Special Revenue Funds (200 - 400 Series):

There are no changes to the Special Revenue Funds. The FY27 Budget for Special Revenue Funds are used to account for revenues that are legally restricted or committed to expenditures for specific purposes. These funds support a variety of City programs and services that are financed through

dedicated revenue sources such as grants, state and federal funding, development-related fees, public safety revenues, and other restricted resources. Unlike the General Fund, Special Revenue Funds may only be used for their designated purposes and are subject to specific legal, regulatory, or policy requirements governing their use. The City's Special Revenue Funds support programs including transportation improvements, public safety initiatives, community development activities, housing programs, and other operational and capital needs. As external funding sources and economic conditions fluctuate, the City continues to closely monitor revenues and expenditures within these funds to ensure ongoing compliance, maintain service levels, and support long-term program sustainability.

Table 5: Fund Balance - Special Revenue Funds

	EMT Program (225)	**Measure M2 (263)**	**Other Transportation Funds (270-274)**	**Citywide TSIP (287)**
Revenues	$5,353,600	$4,335,500	$7,474,000	$304,000
Transfers-In	-	-	-	-
Total Revenues	**5,353,600**	**4,335,500**	**7,474,000**	**304,000**
Expenditures	5,575,900	4,205,600	7,801,300	1,695,900
Transfers-Out	3,500,000	-	-	-
Total Expenditures	**9,075,900**	**4,205,600**	**7,801,300**	**1,695,900**
Projected Surplus/Deficit	**-3,722,300**	**129,900**	**-327,300**	**-1,391,900**
Estimated Beginning Fund Balance - 7/1/26	4,176,378	6,919,471	6,764,540	3,662,662
Projected Ending Fund Balance - 6/30/27	**$454,078**	**$7,049,371**	**$6,437,240**	**$2,270,762**

Capital Improvement Funds (500 Series):

The only change to the Capital Improvement Funds from the Preliminary Budget is the reduction in transfers to the General Fund. The FY27 Capital Improvement Program totals just over $33.2 million, across 17 different funding sources. In addition, the FY27 Adopted Budget includes an $8.5 million transfer-out from the Capital Improvement Program Fund to the General Fund, which is $500,000 lower than the FY27 Preliminary Budget. Following City Council feedback regarding the inclusion of vacancy savings assumptions in the General Fund budget, staff incorporated a vacancy factor within select department salary budgets, reducing the projected General Fund operating deficit. As a result, less one-time funding was needed from the CIP Fund, allowing the City to preserve an additional $500,000 in capital resources for future infrastructure and capital improvement projects. The

following table reflects fund balances for the major capital funds.

Table 6: Fund Balance - Capital Improvement Funds

	Capital Project Fund (500)	Park Funds (510-12)	Fire Facilities Fund (560)	Police Facilities Fund (570)	Library Facilities Fund (580)
Revenues	$3,585,000	$383,100	$22,800	$21,500	$17,800
Transfers-In	-	-	-	-	-
Total Revenues	**3,585,000**	**383,100**	**22,800**	**21,500**	**17,800**
Expenditures	5,140,400	2,870,000	600,000	615,000	326,900
Transfers-Out	8,500,000	-	-	-	-
Total Expenditures	**13,640,500**	**2,870,000**	**600,000**	**615,000**	**326,900**
Projected Surplus/Deficit	**-10,055,500**	**-2,486,900**	**-577,200**	**-593,500**	**-309,100**
Estimated Beginning Fund Balance - 7/1/26	12,013,635	8,462,380	703,983	724,052	468,497
Projected Ending Fund Balance - 6/30/27	**$1,958,135**	**$5,975,480**	**$126,783**	**$130,552**	**$159,397**

Internal Service Funds (700 Series):

There are no changes to Internal Service Funds for FY27 Budget. Internal Service Funds are used to account for the financing of goods and services provided by one department or agency to other departments or agencies on a cost reimbursement basis. Allocations to the City's Internal Service Funds (ISFs), from the General Fund and other operating funds, including Enterprise Funds and eligible Special Revenue Funds, support operating costs related to accrued liability, workers compensation, and general liability insurance.

Historically, these ISFs were intentionally underfunded to minimize impacts to the General Fund, with the expectation that any year-end surpluses would be used to supplement shortfalls through transfers. However, as the City has continued to face budgetary constraints, fewer surplus funds have been available, resulting in continued underfunding of these ISFs and the deferral of necessary capital replacements and other long-term obligations.

It should also be noted that the ISFs for the City's Information Technology and Fleet divisions were consolidated into the General Fund in FY25. As a result, the associated operational costs associated with those services continue to be reflected comprehensively within the General Fund.

Table 8: Fund Balance - Internal Service Funds

	Equipment Replacement (720)	Worker's Comp (730)	General Liability (731)	Accrued Liability (760)	IT Capital (790)
Revenues	$244,200	$6,239,400	$4,887,600	$3,613,000	$446,800
Transfers-In	-	-	-	9,554,500	-
Total Revenues	**244,200**	**6,239,400**	**4,887,600**	**13,167,500**	**446,800**
Expenditures	2,795,000	5,344,700	6,144,400	10,618,200	1,116,000
Transfers-Out	-	-	-	-	3,000,000
Total Expenditures	**2,795,000**	**5,344,700**	**6,144,400**	**10,618,200**	**4,116,000**
Projected Surplus/Deficit	**-2,550,800**	**894,700**	**-1,256,800**	**2,549,300**	**-$3,669,200**
Estimated Beginning Fund Balance - 7/1/26	3,052,486	-12,755,459	-12,302	-5,606,386	7,181,367
Projected Ending Fund Balance - 6/30/27	**$501,686**	**-$11,860,759**	**-$1,269,102**	**-$3,057,086**	**$3,512,167**

Enterprise Funds (600 Series):

There are no changes to the FY 27 Enterprise Funds Budget. Enterprise Funds are used to account for services provided to the public on a fee-for-service basis, where the costs of operations, capital improvements, and debt obligations are primarily recovered through user charges. The City's Water and Sewer Enterprise Funds support the operation, maintenance, and long-term sustainability of critical utility infrastructure, including water production, distribution, and wastewater collection systems.

In FY27, the City is proposing approximately $6.5 million in water infrastructure improvements to support system reliability, increase groundwater production capacity, and replace aging infrastructure throughout the water system. Additionally, approximately $3.5 million is proposed for sewer system improvements to continue the replacement and rehabilitation of aging sewer pipelines and related infrastructure throughout the City. These investments are intended to address aging infrastructure, reduce ongoing maintenance demands, improve operational efficiency, and ensure the City can continue to meet service and regulatory requirements while maintaining reliable utility services for residents and businesses.

The table below provides a high-level overview of the City's Enterprise funds, reflecting projected revenues, expenditures for operating and capital expenses, and fund balances.

Table 7: Fund Balance - Enterprise Funds

	Water (600)	**Sewer (601)**
Revenues	$45,584,600	$9,486,700
Transfers-In	-	-
Total Revenues	**45,584,600**	**9,486,700**
Proposed Expenditures	49,920,000	9,248,600
Proposed Transfers-Out	-	-
Total Expenditures	**49,920,000**	**9,248,600**
Projected Surplus/Deficit	**-4,335,400**	**238,100**
Estimated Beginning Fund Balance - 7/1/26	6,057,236	4,917,562
Projected Ending Fund Balance - 6/30/27	**$1,721,836**	**$5,155,662**

Appropriations Limit (Gann Limit)

Article XIII B of the California Constitution requires local governments to annually calculate an appropriations limit, commonly referred to as the Gann Limit. The appropriations limit establishes a constitutional cap on the amount of tax proceeds that may be appropriated each fiscal year and is adjusted annually based on the population growth factor and changes in California per capita personal income.

The City calculates its annual appropriations limit using the adjustment factors published by the California Department of Finance. Consistent with State guidance, the City utilizes the greater of the annual population change for the City of Orange or Orange County as the population factor. This factor is multiplied by the California per capita personal income factor to determine the annual adjustment to the City's appropriations limit.

During preparation of the FY27 appropriations limit calculation, staff identified an error in the population growth factor used in the FY21 and FY22 appropriations limit calculations, which resulted in the City's appropriations limits being understated. The prior-year appropriations limits were corrected and used as the basis for calculating the FY27 appropriations limit. The correction did not result in the City exceeding its appropriations limit in any prior fiscal year and has no impact on previously adopted budgets or financial statements.

Based on the adjustment factors published by the California Department of Finance, the City's FY27 appropriations limit is calculated at approximately $268.0 million. Appropriations subject to limitation, which are primarily financed by proceeds of taxes, are estimated at approximately $132.6 million, representing 49.4% of the City's appropriations limit. Accordingly, the City remains well below its constitutional spending limitation for FY27, with available appropriations capacity of approximately

$135.4 million.

Financial Model

The Financial Management Policy requires a long-range financial forecast to accompany budget adoption. The forecast serves as a planning tool to support long-term financial policies, operational decision-making, and fiscal sustainability strategies. It also helps evaluate the effectiveness of current policies and financial strategies while identifying when adjustments may be necessary to address future fiscal challenges. Staff prepared two five-year financial forecasts (FY27 Models) using the FY27 Budget as the baseline. Model 1, a baseline model, were developed using a combination of historical trend analysis, recent actual performance, current economic conditions, inflationary trends, and available market indicators. Historical growth trends over multiple time periods were evaluated to balance recent performance with long-term economic cycles.

To better evaluate long-term pension-related risks and forecast sensitivity, staff developed a second forecasting scenario using modified CalPERS assumptions, Model 2.

FY27 Model 1

Revenue Assumptions

Sales Tax:

While the City's historical five-year average sales tax growth is approximately 0.7%, the forecast assumes gradual growth beginning at 0.7% in FY28 and increasing incrementally to 2.5% by FY32. This approach balances historical performance with long-term inflationary expectations, anticipated economic stabilization, and projected taxable sales activity. The assumption is intended to reflect normalized long-term economic conditions rather than recent post-pandemic volatility.

Property Tax:

Property tax has historically been one of the City's more stable major revenue sources, with historical growth averaging between 4.1% and 5.3% over the past 10 years. The model assumes annual growth of 4.9%, consistent with the City's 10-year historical average.

Transient Occupancy Tax (TOT):

Unlike property tax, TOT revenues are more sensitive to market conditions, tourism activity, and economic fluctuations. Historical growth ranges from approximately 3.7% based on the five-year average to 12.3% using the 10-year average. Given the economic sensitivity of this revenue source, the model utilizes the more conservative five-year average growth assumption of 3.7%.

Fees and Fines:

These revenues have historically demonstrated moderate stability, with growth trends ranging from 3.7% to 6.4%. Considering recent Council-approved fee adjustments and the implementation of new fines, the model assumes annual growth of 4%.

Other Revenues:

This category includes investment earnings, donations, leases, rents, and miscellaneous revenues, which can fluctuate significantly from year to year. Due to the volatility of these revenues, the model assumes a conservative 2% annual increase based on recent historical trends.

Internal Service Revenues:

This category reflects cost allocation charges to Special Revenue and Enterprise Funds. The City's recently updated cost allocation study prepared by Matrix Consulting Group recommends annual CPI -based adjustments and a comprehensive update every five years. Consistent with that recommendation, the model assumes annual growth of 3%.

Actual results may vary depending on broader economic conditions, consumer spending patterns, inflationary trends, and regional economic performance.

Expenditure Assumptions

Salaries and Benefits:

Historical growth averages for salaries and benefits are approximately 3.1% over 10 years and 3.3% over 15 years, which are generally consistent with the current March 2026 CPI-U of 3.3%. More recent three- and five-year averages are significantly lower at approximately 0.7%, reflecting the City's efforts to control personnel costs during periods of structural fiscal imbalance. The model assumes annual growth of 3% to align with long-term inflationary expectations and anticipated labor cost pressures.

Vacancy savings: As mentioned in the FY27 budget assumptions, The FY27 Model has been updated to include a vacancy savings for four departments, Community Development, Library, Police, and Public Works. These departments have consistently carried an average unspent salary budgets of 3% or more over the last four fiscal years. As a result, staff applied a 3% vacancy savings reduction to the salary budgets of these departments, resulting in a reduction of approximately $1.2 million. The vacancy savings does not reduce authorized positions or FTEs. It is a budgeting assumption based on the expectation that some positions will remain vacant for a portion of the year due to normal turnover, retirements, promotions, recruitment timelines, and onboarding periods.

Operating Non-Personnel Expenses:

This category includes contracted services, maintenance, supplies, utilities, and other operating costs. Historical growth has fluctuated significantly due to inflationary pressures and operational needs. Although historical growth rates exceeded inflation in certain years due to one-time operational needs and elevated inflationary pressures, the model assumes a normalized annual increase of 3%, consistent with anticipated CPI trends and ongoing expenditure management efforts.

Internal Service Costs:

Similar to Internal Service Revenues, these costs are based on the City's updated cost allocation study prepared by Matrix Consulting Group. The model assumes annual CPI-based increases of 3%.

Leave Payouts:

Under various Memoranda of Understanding (MOUs), the City is obligated to provide annual payouts for certain accrued leave balances. Annual leave payout obligations are estimated at approximately $6 million. The existing cost allocation model recovers approximately $3 million annually, requiring an estimated additional General Fund contribution of approximately $3 million, which is included in the forecast.

Unfunded Accrued Liability (UAL):

The UAL represents the City's annual required contribution to CalPERS for unfunded pension obligations. One modeled scenario assumes FY26 investment returns of approximately 12%, resulting in projected UAL payments decreasing to approximately $5.2 million in FY28 and no projected payments in subsequent years. While this scenario is mathematically possible under current modeling assumptions, it presents a significant forecasting risk and may not be sustainable over the long term.

Workers' Compensation:

The Workers' Compensation Fund is projected to end FY27 with an estimated fund balance of approximately $12 million. Staff recommends an ongoing annual contribution of $1 million to support long-term fund stability and offset projected operating deficits.

General Liability:

The General Liability Fund is projected to end FY27 with a negative fund balance of approximately $1.3 million and is currently experiencing annual operating deficits of approximately $1.3 million. To stabilize the fund and support ongoing operational needs, the model includes an annual contribution of $1.5 million.

Capital Projects Fund:

The City is required to maintain an annual Maintenance of Effort (MOE) contribution of approximately $4.3 million to remain eligible for Measure M2 grant funding. The model includes an annual contribution of $2 million toward meeting this long-term funding requirement.

Based on these assumptions, Model 1 projects an operating deficit of approximately $16.5 million in FY28, improving to approximately $6.9 million by FY32. As a result, the General Fund balance is projected to decline to approximately $12.4 million in FY28 and be fully depleted by FY30.

While the model incorporates a balanced approach using historical trends, current economic conditions, and inflationary assumptions, it is important to recognize that the assumption of substantially reduced UAL payments beyond FY28 represents a significant forecasting risk. Changes in CalPERS actuarial assumptions, investment performance, or discount rate policies could result in higher future pension costs and further impact the City's long-term financial outlook.

FY27 Model 2

Model 2 reflects a sensitivity scenario in which CalPERS exercises its Funding Risk Mitigation Policy, similar to the 2021 reduction in the discount rate following strong investment performance. All other revenue and expenditure assumptions remained consistent with Model 1.

CalPERS currently maintains a Funding Risk Mitigation Policy that allows for future reductions to the discount rate when investment returns materially exceed assumptions over multiple years. Given recent strong investment performance, there is a reasonable possibility that CalPERS could reduce the discount rate in future valuation cycles. Although strong investment performance may improve funded status, a lower discount rate also increases the present value of future pension obligations, which can increase annual employer contribution requirements.

To evaluate this potential risk, staff prepared a second scenario reducing the CalPERS discount rate assumption from 6.8% to 6.6%. Under this scenario, projected UAL payments nearly doubled to just over $10 million in FY28 and added an additional estimated payment of approximately $6.6 million in

FY29.

Under this alternative scenario, the projected operating deficit increases to approximately $21.3 million in FY28 before improving to approximately $6.9 million by FY32, consistent with Model 1. The General Fund balance is projected to decline to approximately $7.6 million in FY28 and be fully depleted by FY29.

Long-range financial forecasting is inherently sensitive to changes in economic conditions, inflation, labor negotiations, CalPERS actuarial assumptions, investment performance, and future policy decisions. Actual results will vary and should be reevaluated annually as part of the budget development process.

Conclusion

Both forecasting scenarios demonstrate the ongoing structural fiscal challenges facing the City. The forecasts demonstrate that, absent structural changes, expenditure growth is projected to continue outpacing recurring revenue growth over the long term. While economic conditions, investment performance, and inflationary trends may improve certain financial indicators over time, the City continues to face long-term expenditure pressures, particularly related to pension obligations, liability costs, and operational sustainability. As a result, the City will likely need to evaluate a combination of ongoing expenditure reductions, operational and organizational efficiencies, long-term financial planning strategies, and potential revenue enhancements to achieve long-term fiscal sustainability.

Unfunded Requests and Future Considerations

Due to limited ongoing revenues, several priority needs were not included in the FY27 Preliminary Budget and remain subject to future Council consideration if additional recurring resources become available, with priority given to those that support public safety, regulatory compliance, and core service delivery. The following items are identified:

Operating Budget

- Restore negative fund balance in the ISFs.
- Restore public safety positions.
- Address deferred maintenance.
- Expansion of Fire Prevention staffing model to address increased inspection, plan review, and compliance workload.
- Restore community programs and events.
- Implementation of a body-worn camera program for the Code Enforcement Division to enhance transparency, accountability, and staff safety.
- Restoration of the Historic Preservation Planner position to support planning, development review, and preservation efforts.
- Additional administrative support within the City Manager’s Office, City Clerk’s Office, and Finance Department to address increasing operational demands and workload.

Deferred Capital Projects

- Facilities Condition Assessment
- City Hall Roof Replacement
- Fire Station 7 - Roof Replacement

- Fire Station 8 - Exterior Paint and Roof Replacement
- Main Library Gutter Replacement
- Community Services Building Roof Replacement
- City Hall Landscape Renovation
- City Hall - Elastomeric Coating Renewal

Conclusion

The FY27 Operating and Capital Budget reflects the significant fiscal challenges facing the City while prioritizing public safety and maintaining a standard level of service for the residents and businesses of Orange. The budget includes substantial balancing measures, operational adjustments, and the strategic use of available resources to address ongoing structural budget pressures and support core City operations. However, limited financial resources continue to constrain the City's ability to address deferred maintenance, restore service reductions, and meet increasing operational demands and community expectations. While the FY27 Budget provides a responsible financial plan for the coming year, long-term fiscal sustainability will require continued evaluation of expenditures, service levels, organizational efficiencies, and revenue strategies. Tonight, staff is seeking the City Council's adoption of the FY27 Operating and Capital Budget for all funds.

7. ATTACHMENTS

- Attachment 1 Resolution No. 11702
- Attachment 2 Resolution No. 11699
- Attachment 3 Resolution No. 11700
- Attachment 4 Schedule of Changes in Fund Balance
- Attachment 5 Schedule of Revenues and Expenditures
- Attachment 6 Recommended Staffing Changes
- Attachment 7 Schedule of Positions by Department
- Attachment 8 FY27 Budget Reductions and Balancing Measures
- Attachment 9 Five-Year Capital Improvement Plan
- Attachment 10 Fund Description
- Attachment 11 FY27 Financial Model

RESOLUTION NO. 11702

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE ADOPTING SAID CITY'S BUDGET FOR THE FISCAL YEAR 2026-27 AND AUTHORIZING TRANSFER OF FUNDS WITHIN AND BETWEEN APPROPRIATIONS, TRANSFER OF FUNDS BETWEEN FUNDS, AND ADDITIONAL APPROPRIATIONS.

BE IT RESOLVED by the City Council of the City of Orange, California, as follows:

SECTION I. Adoption of Budget

The City of Orange budget for the Fiscal Year 2026-27, as amended by the City Council and on file in the office of the City Clerk, is hereby adopted as the budget for the City of Orange for the Fiscal Year 2026-27. Appropriations for the Annual Budget are set forth in the Schedule of Operating Expenditures by Fund. Appropriations existing as of June 30, 2026, for CIP projects will be carried over to the 2026-27 fiscal year except for those projects which are completed, as determined by the City Manager, before the end of the 2025-26 fiscal year.

SECTION II. Transfer of Funds Within and Between Appropriations

A. The City Manager, or designee, may approve budget transfers within the same fund to meet operational needs. Department Heads may initiate transfers between non-salary object classifications or programs within their departmental appropriations subject to approval by the Finance Director. Transfers affecting salary and benefit appropriations shall require approval of the City Manager or designee.

B. Transfers between different capital projects shall require approval by the City Council.

SECTION III. Transfers of Funds Between Funds

Transfers between funds identified in the adopted budget, including those reflected in the Schedule of Transfers, are authorized and shall be made as operationally necessary. Any transfer of funds between separate funds not specifically authorized by the adopted budget shall require approval by the City Council.

SECTION IV. Additional Appropriations

The budget may be amended to add, change, or delete appropriations only upon approval by the City Council.

ADOPTED this 9th day of June 2026.

Daniel R. Slater, Mayor, City of Orange

ATTEST:

Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the ____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

Pamela Coleman, City Clerk, City of Orange

RESOLUTION NO. 11699

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE ADOPTING THE APPROPRIATIONS LIMIT FOR THE FISCAL YEAR 2026-27.

WHEREAS, the voters of California on November 6, 1979, added Article XIIIB to the State Constitution placing various limitations on the appropriations of the state and local governments; and

WHEREAS, Article XIIIB was amended by Proposition 111 and SB88 to provide for the calculation of the appropriations limit for Fiscal Years beginning with 1990-91 using, at the City's election, the City's own population growth or the population growth of the County, and the growth in California per capita income or the growth in non-residential assessed valuation due to new construction; and

WHEREAS, data necessary to calculate the growth in the non-residential assessed value was not available from the County Assessor and the City may need to adjust the limit on appropriations once the data is available; and

WHEREAS, the information and the elections made as set forth above are necessary for making these adjustments and are attached as Exhibit "A"; and

WHEREAS, the City of Orange, to the best of its knowledge, has complied with all the provisions of Article XIIIB in determining the appropriation limit for Fiscal Year 2026-27.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange that the Appropriations Limit in Fiscal Year 2026-27 shall be $268,231,908 and the City's appropriations subject to limitation are $132,596,864.

ADOPTED this _____ day of _____, 2026.

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE)
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the ____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:
ABSTAIN: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

EXHIBIT "A"

2026-27 APPROPRIATIONS LIMIT UNDER ARTICLE XIIIB

2026-27 APPROPRIATION LIMIT IS CALCULATED AS FOLLOWS:

	21-22	22-23	23-24	24-25	25-26	26-27
POPULATION GROWTH	0.9916	1.0010	1.0066	1.0031	1.0095	0.9963
CHANGE IN PER CAPITA INCOME	1.0573	1.0755	1.0444	1.0362	1.0644	1.0495
TOTAL ADJUSTMENT	1.0484	1.0766	1.0513	1.0394	1.0745	1.0456
LAST YEAR'S LIMIT	194,112,617	203,507,668	219,096,355	230,335,998	239,411,236	257,247,373
CURRENT YEAR'S LIMIT	203,507,668	219,096,355	230,335,998	239,411,236	257,247,373	268,977,853
OTHER ADJUSTMENTS:						
ASSUMED RESPONSIBILITY:						
BOOKING FEES	-	-	-	-	-	-
PROP TAX ADMIN CHG	-	-	-	-	-	-
ADJ. CURRENT YR. LIMIT	203,507,668	219,096,355	230,335,998	239,411,236	257,247,373	268,977,853

The following information was provided by the State Department of Finance in order to calculate the Appropriation Limit for 2026-27:

Fiscal Year	Date	City Population	County Population	City Growth	County Growth	Greater of Population Changes
21-22	01-01-20	139,504	3,180,440			
	01-01-21	137,366	3,153,718	-1.53%	-0.84%	-0.84%
22-23	01-01-21	137,534	3,168,941			
	01-01-22	137,676	3,161,604	0.10%	-0.23%	0.10%
23-24	01-01-22	138,155	3,151,305			
	01-01-23	139,063	3,136,922	0.66%	-0.46%	0.66%
24-25	01-01-23	138,842	3,140,716			
	01-01-24	138,621	3,150,493	-0.16%	0.31%	0.31%
25-26	01-01-24	138,403	3,169,873			
	01-01-25	139,724	3,175,233	0.95%	0.17%	0.95%
26-27	01-01-25	141,825	3,175,332			
	01-01-26	141,063	3,163,509	-0.54%	-0.37%	-0.37%

EXHIBIT "A"

2026-27 APPROPRIATIONS LIMIT UNDER ARTICLE XIIIB (Continued)

Percentage Changes in Per Capita Personal Income:

2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
5.73%	7.55%	4.44%	3.62%	6.44%	4.95%

Per Capita Income Converted to a Ratio:

2021-22	2022-23	2023-24	2023-24	2025-26	2026-27
1.0573	1.0755	1.0444	1.0362	1.0644	1.0495

RESOLUTION NO. 11700

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE AMENDING RESOLUTION NO. 11668 BETWEEN THE CITY OF ORANGE AND THE ORANGE MUNICIPAL EMPLOYEES' ASSOCIATION

WHEREAS, the City of Orange, hereinafter referred to as "City," and the Orange Municipal Employees' Association, hereinafter referred to as "OMEA" has an existing labor contract in effect through June 30, 2027; and

WHEREAS, the Code Compliance Technician classification is being proposed by City staff effective June 28, 2026; and

WHEREAS, the classification of Code Compliance Technician must be established with a commensurate salary range within the OMEA MOU; and

WHEREAS, the new salary range for this classification must be authorized by the City Council and published by the City in order for the salary range to be considered pension-reportable, pursuant to CalPERS law.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange that the attached updated OMEA salary table is amended effective June 28, 2026, with the new classification of Code Compliance Technician incorporated by reference as Appendix A.

ADOPTED this 9th day of June 2026.

Daniel R. Slater, Mayor, City of Orange

ATTEST:

Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the 9th day of June 2026, by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

APPENDIX A
ORANGE MUNICIPAL EMPLOYEES' ASSOCIATION
ANNUAL SALARY RANGES

EFFECTIVE JUNE 28, 2026
3.0% Cost of Living Adjustment

CLASSIFICATION	A/1	B/2	C/3	D/4	E/5	F/6
ACCOUNTANT	$78,350	$82,355	$86,545	$90,957	$95,605	$100,474
ADMINISTRATIVE ASSISTANT	$60,453	$63,543	$66,781	$70,180	$73,764	$77,522
ADMINISTRATIVE SPECIALIST	$59,847	$62,900	$97,014	$69,488	$73,023	$76,756
ASSISTANT ENGINEER	$90,537	$95,172	$100,005	$105,109	$110,474	$116,110
ASSISTANT PLANNER	$73,431	$77,176	$81,119	$85,247	$89,598	$94,171
ASSOCIATE CIVIL ENGINEER	$101,550	$106,741	$112,155	$117,890	$123,909	$130,213
ASSOCIATE ENGINEER	$101,550	$106,741	$112,155	$117,890	$123,909	$130,213
ASSOCIATE PLANNER	$87,435	$91,909	$96,581	$101,513	$106,692	$112,118
BUILDING INSPECTOR	$73,802	$77,559	$81,527	$85,667	$90,043	$94,641
BUSINESS LICENSE INSPECTOR	$69,513	$73,060	$76,780	$80,698	$84,814	$89,140
BUYER	$72,343	$76,039	$79,907	$83,986	$88,275	$92,762
CODE COMPLIANCE OFFICER	$71,626	$75,272	$79,116	$83,146	$87,385	$91,847
CODE COMPLIANCE TECHNICIAN*	$60,453	$63,543	$66,781	$70,180	$73,764	$77,522
COMBINATION BUILDING INSPECTOR	$77,571	$81,527	$85,692	$90,055	$94,653	$99,486
CONSTRUCTION INSPECTOR I	$67,127	$70,551	$74,148	$77,930	$81,910	$86,087
CONSTRUCTION INSPECTOR II	$74,172	$77,955	$81,934	$86,100	$90,500	$95,110
CONTRACT ADMINISTRATOR	$90,537	$95,172	$100,005	$105,109	$110,474	$116,110
ENGINEERING TECHNICIAN I	$63,543	$66,781	$101,092	$73,777	$77,534	$81,489
ENGINEERING TECHNICIAN II	$70,205	$73,789	$77,547	$81,514	$85,655	$90,030
ENVIRONMENTAL COMPLNCE SPECLST	$71,626	$75,272	$79,116	$83,146	$87,385	$91,847
ENVIRONMENTAL SCIENTIST	$101,550	$106,741	$112,155	$117,890	$123,909	$130,213
FINANCE ASSISTANT	$64,507	$67,795	$71,255	$74,889	$78,708	$82,713
FINANCE CLERK	$54,174	$56,930	$59,835	$62,888	$66,101	$69,463
GIS ANALYST	$101,550	$106,741	$112,155	$117,890	$123,909	$130,213
HOUSING SPECIALIST	$71,626	$75,272	$79,116	$83,146	$87,385	$91,847
HUMAN RESOURCES TECHNICIAN	$62,912	$66,126	$69,500	$73,035	$76,768	$80,674
LEAD BUSINESS LICENSE INSPECTR	$73,060	$76,793	$80,711	$84,827	$89,153	$93,701
LEAD FINANCE CLERK	$73,060	$76,793	$80,711	$84,827	$89,153	$93,701
LIBRARIAN I	$65,471	$68,820	$72,318	$76,014	$79,883	$83,961
LIBRARIAN II	$72,343	$76,039	$79,907	$83,986	$88,275	$92,762
LIBRARIAN III	$79,932	$83,999	$88,300	$92,799	$97,520	$102,501
LIBRARY ASSISTANT	$53,630	$56,374	$59,241	$62,270	$65,446	$68,783
LIBRARY CLERK	$42,642	$44,817	$47,092	$49,502	$52,023	$54,668
LIBRARY LITERACY COORDINATOR	$65,471	$68,820	$72,318	$76,014	$79,883	$83,961
LIBRARY PAGE	$36,895	$38,786	$40,751	$42,840	$45,015	$47,314
LIBRARY SUPPORT SERVICES ASST	$53,630	$56,374	$59,241	$62,270	$65,446	$68,783
LIBRARY TECHNOLOGY ASSISTANT	$53,630	$56,374	$59,241	$62,270	$65,446	$68,783

APPENDIX A (CONTINUED)
ORANGE MUNICIPAL EMPLOYEES' ASSOCIATION
ANNUAL SALARY RANGES

CLASSIFICATION	A/1	B/2	C/3	D/4	E/5	F/6
LIBRARY TECHNOLOGY COORDINATOR	$72,343	$76,039	$79,907	$83,986	$88,275	$92,762
LIBRARY TECHNOLOGY SPECIALIST	$65,471	$68,820	$72,318	$76,014	$79,883	$83,961
LIBRARY VOLUNTEER COORDINATOR	$60,453	$63,543	$66,781	$70,180	$73,764	$77,522
OFFICE ASSISTANT	$47,116	$49,514	$52,036	$54,693	$57,474	$60,403
PAYROLL TECHNICIAN	$73,060	$76,793	$80,711	$84,827	$89,153	$93,701
PERMIT TECHNICIAN	$60,453	$63,543	$66,781	$70,180	$73,764	$77,522
PLAN CHECK ENGINEER	$90,537	$95,172	$100,005	$105,109	$110,474	$116,110
PLANNING TECHNICIAN	$63,234	$66,447	$69,846	$73,406	$77,151	$81,082
PROJECT ENGINEER	$95,172	$100,042	$105,122	$110,498	$116,135	$122,043
REC SERVICES COORDINATOR	$65,805	$69,154	$72,689	$76,397	$80,291	$84,382
SENIOR CODE COMPLIANCE OFFICER	$79,141	$83,170	$87,422	$91,872	$96,556	$101,488
SENIOR FINANCE CLERK	$59,847	$62,900	$66,114	$69,488	$73,023	$76,756
SENIOR LIBRARY CLERK	$49,514	$52,048	$54,705	$57,486	$88,226	$63,506
SENIOR OFFICE ASSISTANT	$52,060	$54,705	$57,499	$60,440	$63,506	$66,756
SENIOR PERMIT TECHNICIAN	$66,793	$70,205	$73,777	$77,547	$81,502	$85,655
SR COMBINATION BUILDING INSPCT	$85,717	$90,092	$94,665	$99,498	$104,578	$109,905
SR TRAFFIC SIGNAL TECHNICIAN	$85,717	$90,092	$94,665	$99,498	$104,578	$109,905
STOCK CLERK	$49,279	$51,788	$54,433	$57,202	$60,119	$63,184
TRAFFIC MGMT CENTER TECHNICIAN	$85,717	$90,092	$94,665	$99,498	$104,578	$109,905
TRAFFIC SIGNAL TECHNICIAN I	$63,543	$66,781	$70,192	$73,777	$77,534	$81,489
TRAFFIC SIGNAL TECHNICIAN II	$70,205	$73,789	$77,547	$81,514	$85,655	$90,030
TRANSPORTATION ANALYST	$101,550	$106,741	$112,155	$117,890	$123,909	$130,213
WAREHOUSE/INVENTORY SPECIALIST	$65,805	$69,154	$72,689	$76,397	$80,291	$84,382

**Note: The classification of Code Compliance Technician is established effective June 28, 2026 pursuant to City Council FY27 budget adoption.*

City of Orange

City of Orange
Fiscal Year 2026-2027
Schedule of Changes in Fund Balance

ATTACHMENT 4

Fund No	Funds	Estimated Fund Balance 7/1/2026	Revenues	Transfers In	Total Revenue	Expenditures	Transfers Out	Total Expenditure	Projected Fund Balance 6/30/2027
General Funds									
100	General Fund	27,839,759	155,678,800	15,000,000	170,678,800	160,057,600	9,554,500	169,612,100	28,906,459
105	Reimbursable	1,026,414	0	0	0	0	0	0	1,026,414
	Total General Funds	**28,866,173**	**155,678,800**	**15,000,000**	**170,678,800**	**160,057,600**	**9,554,500**	**169,612,100**	**29,932,873**
Special Revenue Funds									
200	PEG Program	169,501	323,500	0	323,500	254,800	0	254,800	238,201
201	CASP	507,672	80,000	0	80,000	0	0	0	587,672
210	Building Records and Planning Doc.	1,646,587	494,000	0	494,000	1,028,900	0	1,028,900	1,111,687
225	EMT Program	4,176,378	5,353,600	0	5,353,600	5,575,900	3,500,000	9,075,900	454,078
226	Opioid Settlement	163,609	46,200	0	46,200	0	0	0	209,809
231	Affordable Housing	4,936,522	99,500	0	99,500	0	0	0	5,036,022
232	Low/Moderate Income Hsng Asset	28,124,555	475,900	0	475,900	404,400	0	404,400	28,196,055
245	Air Pollution Reduction (AQMD)	371,485	177,400	0	177,400	68,900	0	68,900	479,985
250	O.C.P.T.	245,132	27,200	0	27,200	12,200	0	12,200	260,132
263	Measure M2	6,738,821	4,335,500	0	4,335,500	4,205,600	0	4,205,600	6,868,721
270	Special Gas Tax Maint	1,663,301	3,818,800	0	3,818,800	4,301,300	0	4,301,300	1,180,801
274	RMRA	5,101,239	3,655,200	0	3,655,200	3,500,000	0	3,500,000	5,256,439
287	Citywide TSIP	3,662,662	304,000	0	304,000	1,695,900	0	1,695,900	2,270,762
291	Santiago LMD	1,201,416	992,100	0	992,100	958,300	0	958,300	1,235,216
293	Sycamore Cross LMD	139,079	51,300	0	51,300	54,700	0	54,700	135,679
294	Del Rio LMD	350,929	96,700	0	96,700	84,700	0	84,700	362,929
310	CDBG	594,752	1,164,200	0	1,164,200	1,067,500	0	1,067,500	691,452
316	Federal Rental Rehab	173,210	5,900	0	5,900	0	0	0	179,110
317	HOME Grant	7,061,604	962,400	0	962,400	1,137,500	0	1,137,500	6,886,504
353	Federal Police Grants	-9,575	12,300	0	12,300	1,300	0	1,300	1,425
355	Asset Seizure-Federal	1,736,993	256,200	0	256,200	294,800	0	294,800	1,698,393
358	Asset Seizure-RNSP Federal	258,130	117,600	0	117,600	0	0	0	375,730
359	Asset Seizure-RNSP Treasury	5,872	1,400	0	1,400	200	0	200	7,072
360	Asset Seizure-Treasury	1,114,848	354,200	0	354,200	77,600	0	77,600	1,391,448
399	Other Federal Grants	-4,368	0	0	0	0	0	0	-4,368
400	Proposition 172	1,688,684	1,345,600	0	1,345,600	1,162,600	0	1,162,600	1,871,684
412	SB2 Building Home & Jobs Act	-3,085,946	1,446,200	0	1,446,200	5,800	0	5,800	-1,645,546
420	CA Parklands	146,787	5,000	0	5,000	0	0	0	151,787
450	Traffic Safety Grant	1,034,962	188,200	0	188,200	82,400	0	82,400	1,140,762
454	AB3229-COPS/State	1,057,458	457,400	0	457,400	497,800	0	497,800	1,017,058
456	Asset Seizure-State 85%	177,610	17,600	0	17,600	20,600	0	20,600	174,610
457	Asset Seizure-State 15%	246,021	8,400	0	8,400	200	0	200	254,221
	Total Special Revenue Funds	**71,395,929**	**26,673,500**	**0**	**26,673,500**	**26,493,900**	**3,500,000**	**29,993,900**	**68,075,529**
Capital Project Funds									
500	Capital Projects	12,013,635	3,585,000	0	3,585,000	5,140,500	8,500,000	13,640,500	1,958,135
510	Park Acquisition	7,651,835	220,100	0	220,100	2,370,000	0	2,370,000	5,501,935
511	Park Acq (Quimby)	49,710	18,700	0	18,700	0	0	0	68,410
512	El Modena Park Facilities	760,835	144,300	0	144,300	500,000	0	500,000	405,135
540	Old Town Parking	14,667	5,200	0	5,200	15,500	0	15,500	4,367
550	Reimbursable Capital	-5,393,860	5,300,000	0	5,300,000	7,850,000	0	7,850,000	-7,943,860
551	County Park Grants	2,730	0	0	0	0	0	0	2,730
555	Parking In Lieu	48,245	2,400	0	2,400	0	0	0	50,645
560	Fire Facilities Fees	703,983	22,800	0	22,800	600,000	0	600,000	126,783
570	Police Facilities Fees	724,052	21,500	0	21,500	615,000	0	615,000	130,552
580	Library Facilities Fees	468,497	17,900	0	17,900	326,900	0	326,900	159,497
877	Serrano 91-2	1,948,768	2,177,200	0	2,177,200	8,500	0	8,500	4,117,468
878	Del Rio CFD #06-1	3,535,344	1,642,200	0	1,642,200	10,500	0	10,500	5,167,044
902	Capital Bond Proceeds	1,630,568	1,801,100	0	1,801,100	1,973,200	0	1,973,200	1,458,468
950	City Trf: Tustin Project Taxable	1,173,473	33,100	0	33,100	0	0	0	1,206,573
	Total Capital Project Funds	**25,332,483**	**14,991,500**	**0**	**14,991,500**	**19,410,100**	**8,500,000**	**27,910,100**	**12,413,883**
	TOTAL GOVERNMENTAL FUNDS	**125,594,584**	**197,343,800**	**15,000,000**	**212,343,800**	**205,961,600**	**21,554,500**	**227,516,100**	**110,422,284**
Internal Service Funds									
720	Equipment Replacement	3,052,486	244,200	0	244,200	2,795,000	0	2,795,000	501,686
730	Worker's Compensation	-12,755,459	6,239,400	0	6,239,400	5,344,700	0	5,344,700	-11,860,759
731	Liability	-12,302	4,887,600	0	4,887,600	6,144,400	0	6,144,400	-1,269,102
760	Emp Accrued Liability	-5,606,386	3,613,000	9,554,500	13,167,500	10,618,200	0	10,618,200	-3,057,086
790	Computer Replacement	7,181,367	446,800	0	446,800	1,116,000	3,000,000	4,116,000	3,512,167
	Total Internal Service Funds	**-8,140,294**	**15,431,000**	**9,554,500**	**24,985,500**	**26,018,300**	**3,000,000**	**29,018,300**	**-12,173,094**
Enterprise Funds									
600	Water Fund	6,057,236	45,584,600	0	45,584,600	49,920,000	0	49,920,000	1,721,836
601	Sanitation (Sewer) Fund	4,917,562	9,486,700	0	9,486,700	9,248,600	0	9,248,600	5,155,662
	Total Enterprise Funds	**10,974,798**	**55,071,300**	**0**	**55,071,300**	**59,168,600**	**0**	**59,168,600**	**6,877,498**
	TOTAL OF ALL CITY'S FUNDS	**128,429,088**	**267,846,100**	**24,554,500**	**292,400,600**	**291,148,500**	**24,554,500**	**315,703,000**	**105,126,6[illegible]**

City of Orange
Fiscal Year 2026-2027
Schedule of Expenditures by Fund Type and Category

	Actual 2023-24	Actual 2024-25	Estimate 2025-26	Budget 2026-27
GENERAL FUND				
Salaries and Benefits	101,895,187	104,364,882	103,947,888	108,599,700
Contractual Services	4,384,946	6,141,942	10,083,247	7,473,200
Miscellaneous Expenses	4,115,297	961,597	3,217,645	3,894,200
Materials and Supplies	4,649,079	4,851,803	4,702,718	4,731,000
Repair/Maintenance	7,487,356	6,865,145	9,594,564	10,037,200
Utility Charges	3,006,642	3,321,196	3,534,948	3,605,500
Debt Service	17,385,681	17,377,333	17,519,111	17,908,400
Capital Outlay	192,773	1,006,636	146,212	74,500
Internal Service Costs	8,678,355	14,029,588	8,866,258	3,733,900
Transfers	-	487,680	1,455,252	9,554,500
Reimbursable Expenses	-	1,713,477	1,997,773	-
Total General Fund	***151,795,316***	***161,121,279***	***165,065,616***	***169,612,100***
SPECIAL REVENUE FUNDS				
Salaries and Benefits	5,724,544	5,749,245	5,275,741	6,553,000
Contractual Services	1,411,036	1,854,991	3,326,513	1,392,100
Miscellaneous Expenses	(16,214,721)	2,406,336	3,078,823	890,000
Materials and Supplies	933,497	1,022,682	1,522,065	2,180,600
Repair/Maintenance	1,162,942	998,861	1,453,258	1,256,200
Utility Charges	305,830	297,870	344,138	327,100
Debt Service	648,859	649,024	649,024	4,389,500
Capital Improvements	10,187,477	4,540,597	14,824,387	10,786,500
Internal Service Costs	2,454,510	2,482,822	2,300,044	2,218,900
Transfers	129,049	-	-	-
Total Special Revenue Funds	***6,743,023***	***20,002,428***	***32,773,993***	***29,993,900***
CAPITAL PROJECTS FUNDS				
Salaries and Benefits	80,568	65,157	67,731	-
Contractual Services	132,189	60,773	99,149	19,000
Miscellaneous Expenditures	277,180	274,877	608,454	300,000
Internal Service Costs	-	-	139,725	10,800
Debt Service	5,708,540	3,517,341	-	1,715,100
Repair/Maintenance	8,235	11,314	40,230	80,200
Capital Improvements	11,542,434	7,724,581	17,887,423	17,285,000
Transfers Out	5,810,270	3,000,000	3,000,000	8,500,000
Total Capital Projects Funds	***23,559,416***	***14,654,043***	***21,842,712***	***27,910,100***
INTERNAL SERVICE FUNDS				
Salaries and Benefits	2,016,163	8,992,829	14,173,643	11,120,200
Contractual Services	274,726	196,483	768,094	669,200
Miscellaneous Expenses	7,130,643	11,573,821	9,721,101	10,008,600
Materials and Supplies	65,373	63,803	63,982	82,800
Debt Service	661,821	690,558	-	-
Capital Outlay	3,418,345	3,673,265	7,923,836	3,845,300
Internal Service Costs	350,918	691,823	482,992	290,900
Utility Charges	1,202	1,421	1,196	1,300
Transfers	-	-	930,000	3,000,000
Total Internal Service Funds	***13,919,191***	***25,884,003***	***34,064,844***	***29,018,300***

City of Orange
Fiscal Year 2026-2027
Schedule of Expenditures by Fund Type and Category

	Actual 2023-24	Actual 2024-25	Estimate 2025-26	Budget 2026-27
ENTERPRISE FUNDS				
Salaries and Benefits	10,847,239	10,405,129	8,437,361	10,179,600
Contractual Services	692,714	785,512	791,459	828,500
Miscellaneous Expenses	343,836	5,174,887	1,965,353	219,300
Materials and Supplies	18,549,399	25,207,389	29,765,465	26,136,200
Repair/Maintenance	2,238,864	2,005,507	3,130,763	2,918,900
Utility Charges	3,208,479	3,478,111	3,045,104	4,154,300
Debt Service	644,512	678,382	1,301,891	1,333,400
Capital Improvements	7,093,395	9,743,428	21,106,671	10,220,300
Internal Service Costs	3,681,674	5,896,620	3,667,712	3,178,100
Transfers	-	-	-	-
Total Enterprise Funds	***47,300,112***	***63,374,965***	***73,211,779***	***59,168,600***
GRAND TOTAL	**243,317,058**	**285,036,718**	**326,958,944**	**315,703,000**

City of Orange

City of Orange
Fiscal Year 2026-27
Schedule of Position Changes

Current Position	New Position	Department	Fund	FTE	Fiscal Impact	Request
Administrative Assistant		City Clerk	100	-1.00	(92,100)	Eliminate
Assistant City Manager		City Manager	100	-1.00	(340,400)	Eliminate
Management Intern		City Manager	100	-0.50	(22,700)	Eliminate
Executive Assistant		Community Services	100	-1.00	(114,500)	Eliminate
Administrative Specialist		Community Services	100	-1.00	(91,400)	Eliminate
Recreation Services Coordinator		Community Services	100	-1.00	(99,100)	Eliminate
Recreation Services Coordinator		Community Services	100	-1.00	(99,100)	Eliminate
All positions under activities 7014 Aquatic		Community Services	100	-6.50	(318,500)	Eliminate
Rec Services Leader I		Community Services	100	-4.00	(194,100)	Eliminate
Rec Services Leader II		Community Services	100	-3.00	(136,500)	Eliminate
Rec Services Leader III		Community Services	100	-0.50	(12,400)	Eliminate
Rec Services Specialist		Community Services	100	-1.50	(76,500)	Eliminate
Assistant Recreation Coordinator		Community Services	100	-0.75	(72,900)	Eliminate
Budget Manager		Finance	100	-1.00	(166,300)	Eliminate
Finance Supervisor		Finance	100/600	-1.00	(163,100)	Eliminate
Finance Clerk		Finance	100	-1.00	(77,300)	Eliminate
Purchasing Officer		Finance	100	-1.00	(186,400)	Eliminate
Senior Administrative Analyst		Information Technology	100	-1.00	(147,000)	Eliminate
IT Specialist		Information Technology	100	-1.00	(115,400)	Eliminate
Senior Library Manager		Library Services	100	-1.00	(166,500)	Eliminate
Librarian I		Library Services	100	-1.00	(98,700)	Eliminate
Library Pages		Library Services	100	-2.00	(78,400)	Eliminate
	Parking Control Officer I	Police	100	-3.80	(169,600)	Eliminate
Police Record Clerk		Police	100	-1.00	(90,100)	Eliminate
Senior Police Clerk		Police	100	-1.00	(97,700)	Eliminate
Administrative Assistant		Public Works	100/220/600	-1.00	(86,700)	Eliminate
Assistant Public Work Director		Public Works	100/220/600	-1.00	(221,400)	Eliminate
Associate Civil Engineer		Public Works	100	-1.00	(145,700)	Eliminate
Manager Transportation Services/City Traffic Engineer		Public Works	100/270	-1.00	(216,500)	Eliminate
Library Services Director		Library Services	100	-1.00	(244,700)	Eliminate - merged with CS
Historic Preservation Planner		Community Development	100	-1.00	(153,900)	Frozen
Maintenance Worker		Police	100	-1.00	(78,200)	Frozen
Police Sergeant		Police	100	-1.00	(234,800)	Frozen
Police Officer		Police	100	-4.00	(683,200)	Frozen
Police Officer		Police	100	-5.00	(854,000)	Frozen
Human Resources Analyst II	Risk Management Analyst	City Attorney	100	0.00	-	Title change - no fiscal impact

City of Orange

Fiscal Year 2026-27
Schedule of Position Changes

Current Position	New Position	Department	Fund	FTE	Fiscal Impact	Request
Administrative Services Director	Community & Library Services Director	Community Services	100	0.00	-	Title change - no fiscal impact
Permit Technician	Code Compliance Technician	Community Development	100	0.00	-	Title change - no fiscal impact
Deputy City Clerk	Assistant City Clerk Services Director	City Clerk	100	0.00	24,700	Reclass existing position
Recreation Services Supervisor	Deputy City Clerk	City Clerk	100	0.00	24,100	Reclass existing position
Sr Assistant to the City Manager	Deputy City Manager	City Manager	100	0.00	33,800	Reclass existing position
Plan Check Engineer	Sr Plan Check Engineer	Community Development	100	0.00	129,900	Reclass 2 Plan Check Engineer to Senior Plan Check Engineer
Senior Plan Check Engineer	Principal Plan Check Engineer	Community Development	100	0.00	37,200	Reclass Sr Plan Check Engineer to Principal Plan Check Engingeer
Stock Clerk	Finance Clerk	Finance	100	0.00	7,400	Reclass existing position
Accounting Manager	Controller	Finance	100	0.00	15,300	Reclass existing position
Administrative Analyst II	Sr Administrative Analyst	Fire	100	0.00	12,400	Reclass existing position
Librarian III	Librarian II	Library Services	100	0.00	(29,200)	Fill at a lower position
Homeless Outreach Specialist	Crime Prevention Specialist	Police	100	0.00	40,700	Reclass existing position
Public Works Administrator	Senior Administrative Analyst	Public Works	100/220/600	0.00	(163,400)	Reclass existing position 189-001 (benefitted)
Public Works Administrator	Senior Administrative Analyst	Public Works	600	0.00	147,000	Reclass existing position 189-001 (benefitted)
	PT Management Intern	Finance	100	0.75	45,000	New - 2 PT 19-hour non-benefited Management Intern
Ambulance Operator		Fire	225	18.00	810,000	New positions - enhancement to AO program

City of Orange
Fiscal Year 2026-2027
Schedule of Positions

Department	2023A	2024A	2025A	2026A	2027	Change
CITY COUNCIL	7.000	7.000	7.000	7.000	7.000	0.0%
CITY MANAGER	6.625	9.000	8.000	7.000	5.000	-28.6%
CITY ATTORNEY	8.000	8.000	8.000	8.000	7.000	-12.5%
CITY CLERK	5.000	8.000	7.500	7.500	7.500	0.0%
CITY TREASURER	1.000	1.000	1.000	1.000	1.000	0.0%
FINANCE	32.500	32.750	31.250	31.250	28.000	-10.4%
HUMAN RESOURCES	10.000	10.000	10.000	10.000	10.000	0.0%
INFORMATION TECHNOLOGY	8.000	8.000	8.000	8.000	7.000	-12.5%
LIBRARY SERVICES	40.950	40.950	40.525	40.525	32.400	-20.0%
FIRE	141.789	141.789	143.039	142.000	160.000	12.7%
POLICE	270.639	267.789	258.667	255.667	237.867	-7.0%
PUBLIC WORKS	144.950	134.000	133.950	132.950	132.950	0.0%
COMMUNITY DEVELOPMENT	24.000	39.000	39.500	40.500	39.500	-2.5%
COMMUNITY SERVICES	64.550	63.950	62.950	62.950	42.450	-32.6%
TOTAL FTE	**765.003**	**771.228**	**759.381**	**754.342**	**717.667**	**-4.9%**
Total Elected	9.000	9.000	9.000	9.000	9.000	0.0%
Total Revised FTE	**756.003**	**762.228**	**750.381**	**745.342**	**708.667**	**-4.9%**

Table 1: FY 27 General Fund Budget Balancing Measures - Reductions

Measure	Amount Deferred/ Reduced
Eliminating Positions	$4,141,700
Freezing Positions	2,004,100
Total	**$6,145,800**

Table 2: FY 27 General Fund Budget Balancing Measures – Transfers to General Fund

Fund	Transfer to GF
225 EMT Program	$3,500,000
500 Capital Projects	8,500,000
790 IT Capital	3,000,000
Total	**$15,000,000**

Table 3: FY 27 Deferred and/or Discontinued Projects

Project/Effort	Fund	Amount Deferred/ Reduced	Notes
Facilities Condition Assessment	Capital Projects Fund (500)	$100,000	Deferred
City Hall Roof Replacement	Capital Projects Fund (500)	1,350,000	Deferred
Fire Station 7 – Roof Underlayment Replacement	Capital Projects Fund (500)	285,000	Deferred
Fire Station 8 – Exterior Paint and Roof Replacement	Capital Projects Fund (500)	285,000	Deferred
Main Library Gutter Replacement	Capital Projects Fund (500)	200,000	Deferred
Community Services Building Roof Replacement	Capital Projects Fund (500)	350,000	Deferred
City Hall Landscape Renovation	Capital Projects Fund (500)	310,000	Deferred
City Hall – Elastomeric Coating Renewal	Capital Projects Fund (500)	200,000	Deferred
Total Deferred Projects	**$ 3,080,000**		

Fund 210

General Plan Update - Revenues and expenditures related to the management of building records and planning documents are accounted for in this fund.

Source of Revenue:

1. Technology Fee – This fee is charged at 0.13% of valuation of each building project, and a flat rate for each mechanical, electrical, and plumbing building permit. Funds are utilized to cover the cost of software, services, labor, and equipment used for the storage, management, and retrieval of records and information.

2. General Plan Amendment Update Surcharge – The surcharge is assessed at 0.05% of valuation of each building project. Funds are collected to be utilized for updating the general plan.

3. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Funds are required by administrative action to be spent only on management of building records and planning documents.

Fund 263

Renewed Measure M (M2) Traffic Improvement - The receipt and disbursement of funds received pursuant to Renewed Measured M (M2), are accounted for in this fund. Measure M was originally approved by Orange County voters in November 1990. It was a 20-year program (1991-2011) for local transportation improvements funded by a ½ cent sales tax. Voters renewed the ½ cent sales tax in November 2006 for another 30 years (2011-2041). Projects and programs associated with M2 funding include improvements to the Orange County freeway system, streets & road networks throughout the County, additional expansion of the Metrolink system, and the cleanup of roadway storm water runoff.

Source of Revenue:

1. Measure M (M2) Tax – The City receives funding from Orange County Transportation Authority (OCTA). The allocations are distributed by OCTA under a formula that accounts for population, street mileage, and amount of sales tax collected in the City.

2. Other Grant – M2 includes funding to support the growing transportation needs of seniors and persons with disabilities through the Senior Mobility Program (SMP). OCTA distributes funding based on the proportion of 60+ residents in the City relative to total county senior population reported by the U.S. Census Bureau.

3. Rents and Concessions - Rental revenue for the property on 292 N. Main Street. This property was purchased with Measure M funds for future Main Street widening project.

4. Plans and Specification Charges – Charges for bids related to street improvement projects.

5. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Pursuant to the Renewed Measure M Transportation Ordinance No. 3, M2 funds must be used only for transportation purposes and expended within 3 years of receipt. They should not be used to supplant developer funding for transportation projects. M2 interest proceeds must be spent on transportation activities consistent with M2 eligible activities per the M2 Ordinance.

Fund 270

Gas Tax - The receipt and disbursement of gas tax funds used for maintenance and construction of city streets and roads are accounted for in these funds.

Source of Revenue:

1. State Gas Tax – Gas tax revenue from the State apportioned based on population according to Street and Highway Code Section 2103, 2105, 2106, 2107, and 2107.5. The City also receives loan repayments from the state for previous borrowing from public transportation funds. This funding is allocated on a per capita basis over three fiscal years: 17-18, 18-19, and 19-20.

2. Rents and Concessions - Rental revenue for the three properties on La Veta Avenue that were purchased with gas tax funds.

3. Expense Reimbursements – Reimbursements for damage to City property.

4. Interest on Investments – Interest earnings are allocated monthly based on cash balance of these funds at the end of the month.

Restrictions on Revenue – Use of gas tax revenues is restricted by Article XIX of the California State Constitution and by Streets and Highways Code Section 2101. Funds must be expended for the research, planning, construction, improvement, maintenance, and operation of local public streets, highways, and exclusive public mass transit guideways.

Fund 274

Road Maintenance Rehabilitation Account (RMRA) – Road Repair and Accountability Act of 2017 (Senate Bill 1) authorizes the State to allocate gas tax funds under Street and Highway Code Section 2031 through the Road Maintenance and Rehabilitation Account (RMRA). The receipt and disbursement of funds from the RMRA and used for maintenance and construction of city streets and roads are accounted for in this fund.

Source of Revenue:

1. State Gas Tax – SB1 increases per gallon fuel excise tax, diesel fuel sales tax, and vehicle registration fee. The State apportions gas tax revenue to the City based on population.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Use of gas tax revenues is restricted by Streets and Highways Code Section 2030 for road maintenance, rehabilitation, and critical safety needs on both the state highway and local streets and road system. The City is required to sustain a maintenance of effort (MOE) for the receipt of RMRA funds by spending at least the average of FY 09-10 through FY 11-12 general fund expenditures for street, road, and highway purposes.

Fund 287

Transportation System Improvement Program (TSIP) - Development impact fees collected for improving the transportation system are accounted for in these funds. A separate fund has been established for each specific geographic area for which the fees are collected and used for the transportation system.

Source of Revenue:

1. TSIP Fees – Fees are collected at building permit issuance according to the fee rates for projects, facilities or uses identified for specific TSIP areas.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of these funds at the end of the month.

Restrictions on Revenue – Development impact fees are governed by the Mitigation Fee Act (Government Code Section 66000 et. seq.) for development related capital facilities. Fee revenues can be expended only for transportation improvements in the specific areas from which the fees are collected. Pursuant to Government Code Sections 66001 (d) and (e), all unexpended or uncommitted fees which have been on deposit over five years are subject to refunds to the current owners of the development projects for which the fees were paid.

Fund 310

Community Development Block Grant (CDBG - Grant funds are awarded by the U.S. Department of Housing and Urban Development (HUD) to assist cities and counties in developing programs and projects which benefit low and moderate income residents. The receipt and disbursement of funds for the CDBG. programs are accounted for in these funds.

Source of Revenue:

1. Federal HUD Grants – The City receives CDBG funds from HUD, which determines the amount of each grant by using a formula based on community need, including the extent of poverty, population, housing overcrowding, age of housing, and population growth lag in relationship to other metropolitan areas.

2. Principal Repayments/Principal & Revenue Abatements – Deferred loan repayments received from residents in the City to pay off their loans on housing funded by the CDBG. program.

3. Interest on Deferred Loans – Interests received from the deferred loans noted above.

4. Interest on Investments – Interest earnings are allocated monthly based on cash balance of these funds at the end of the month.

Restrictions on Revenue – Funds can only be disbursed to provide programs and projects for low and moderate income Orange residents. Timely expenditure requirement of grant funds is governed by the Code of Federal Regulations (CFR) Title 24, Section 570.902. The amount of undisbursed grant funds on hand cannot be more than 1.5 times the annual allocation for the current program year at 60 days prior to the end of the program year. HUD can withhold future grants until the unexpended funds are reduced to the required level.

Fund 454

Grants received from the federal and state governments and disbursement of the funding for law enforcement purposes are accounted for in these funds.

Source of Revenue:

1. State Grants – The City receives the Citizens Option for Public Safety/Supplemental Law Enforcement Services Account (COPS/SLESA) funding allocated from the county based on population.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Pursuant to Government Code Section 30062, funds from the COPS program must be expended exclusively to support front line law enforcement services.

Fund 500

Capital Projects - Capital projects funded with General Fund revenues and a loan to Special Revenue Fund for a capital project are accounted for in this fund.

Source of Revenue:

1. General Fund contributions, as authorized by City Council.
2. Interfund Loans – Interest received from a loan to Fund 120 Proposition 172 for the purchase of 800 MHz radio system.

Restrictions on Revenue – Funds are required by administrative action to be spent only on major capital projects other than those financed by Internal Service, Proprietary or Redevelopment (Successor) Funds.

Fund 510

Park Acquisition & Development - Park development fees collected to fund the acquisition, construction, and renovation of park facilities are accounted for in these funds.

Source of Revenue:

1. Park Acquisition Fees – The City is divided into two districts, using Newport Avenue as the east/west dividing line. Fees are collected at the issuance of building permits to finance the cost of park facilities and improvements for new residential development.

   Park acquisition (infill) fees in fund 510 apply to newly created housing units that are not a part of a new subdivision.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of these funds at the end of the month.

Restrictions on Revenue – Park fees in fund 510 are governed by the Mitigation Fee Act (Government Code Section 66000 et. seq.) to fund the need for additional park development based on the impact of the development. The unexpended or uncommitted fees over five years after they were deposited in fund 510 need to be refunded to the current owners of the

development projects for which the fees were paid according to Government Code Sections 66001 (d) and (e).

Fund 512

El Modena Park Facility – Rental fees collected from the El Modena cell towers are used to fund the development and improvement of City park and recreational facilities.

Source of Revenue:

1. Cell Phone Tower Rent Revenue – Lease revenue for the cell towers located in the park.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Funds are required by administrative action to be disbursed only on the development and improvement of park and recreational facilities in the City.

Fund 550

Reimbursable Capital Projects - Projects for which the City is the lead agency and for which funding is provided by a grant or through another agency are accounted for in this fund.

Source of Revenue:

1. Grants – Grant funding received from Federal, County, State or other public agencies.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Funds are restricted to be expended only on the reimbursable capital projects and are required to stay in compliance with the requirements per the grant/contract agreements.

Fund 560

Fire Facility Fees – Development impact fees collected for the purpose of constructing or improving fire facilities are accounted for in this fund.

Source of Revenue:

1. Fire Facilities and Equipment Fees – Fees are paid at the issuance of building permits to fund the fire facility needs created by new development based on types of land use.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – The funds can be used only for the purpose of acquiring, developing, maintaining and improving the fire protection services, compliant with the Government Code Sections 66000 through 66009 of the Mitigation Fee Act. Fees collected are restricted to be spent or committed within 5 years, or be subject to reimbursement pursuant to Government Code Sections 66001 (d) and (e).

Fund 570

Police Facility Fees - Development impact fees collected for the purpose of constructing or improving police facilities are accounted for in this fund.

Source of Revenue:

1. Police Facility Fees – Fees are collected at building permit issuance for the construction and improvement of police facilities attributable to new residential and non-residential development projects.

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – The funds are restricted by Section 66000 et seq. of the Government Code (the Mitigation Act) to be disbursed only on new Police facilities or expansion of current facilities to serve new development. Fees collected are required to be spent or committed within 5 years, or be subject to reimbursement pursuant to Government Code Sections 66001 (d) and (e).

Fund 580

Library Facility Fees – Development impact fees collected for the purpose of constructing or improving library facilities are accounted for in this fund.

Source of Revenue:

1. Library Impact Fees – Fees are collected at the issuance of building permits for the need of new library facilities and other capital acquisition costs required by new residential development projects only. Fees are calculated based on density classification (dwelling units/gross acre).

2. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue – Impact fee revenue must be spent on new library facilities or expansion of current facilities for new residential development in accordance with the Mitigation Fee Act (commencing with Section 66000 of the Government Code). All unexpended or uncommitted fees which have been on deposit over five years are subject to refunds to the current owners of the development projects for which the fees were paid.

Fund 600

Water Utility Operations – Revenues and expenses related to the operation and improvements of the water utility operation are accounted for in this fund.

Source of Revenue:

1. Water Services – Water consumption charge and service capacity charge are collected from customers.

2. Elevation Pumping Charge – This fee is charged to the residents living in higher elevations to recover a portion of the cost of pumping water to elevated zones.

3. Water Fire Service Charge – Customers with a private fire service connection are charged for water system fire flow capacity and maintenance.

4. Water Sales – Agricultural, Construction, and Materials
   – Revenue received for water consumption from nurseries (agricultural), construction water usage, and materials used for new service installations.

5. Water Frontage Charges – Fees are collected for water main connections.

6. Water Connection Fees – This fee is charged for water connection in new development.

7. Development Related Services – Revenue received related to project review, plan check and/or inspection of a developing/redeveloping property on water services requested by a customer.

8. Establishment Fee – This fee is assessed for initiating water services.

9. Plan Check Fees – Plan check and inspection fees for small scale projects.

10. Rental of Construction Meters – Rental revenue for construction meters.

11. Other Water Fees – Fees are charged to recover labor and material costs for new service installations.

12. Water Delinquent Penalty – Penalty charge on unpaid balance for services rendered.

13. Water Penalties – Penalty fee for water reconnection.

14. Cell Phone Tower Rent – Lease revenue for a portion of water facility property to allow a telecommunication company to gain access to a wireless facility.

15. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

16. Other Revenue – Includes expense reimbursements, damage to City property, and bids from contractors.

Restrictions on Revenue – Revenues generated in the Water fund are to be used to fund the maintenance and operation of the City's water system as governed by Proposition 218.

Fund 601

Sewer - Sewer development fees collected to fund the construction of sewer mains needed as a result of new development are accounted for in this fund.

Source of Revenue:

1. Sewer Capital – Sewer infrastructure fees are collected to fund sewer replacement and rehabilitation through City identified capital projects that are necessary to replace and upgrade the sewer system.

2. Frontage Charges – Charges for sewer connection at the frontage of new developments.

3. Interest on Investments – Interest earnings are allocated monthly based on cash balance of this fund at the end of the month.

Restrictions on Revenue - Proposition 218 in the California Constitution Article 13D states that revenues derived by the charge cannot be used for any other purpose other than that for which the charge was imposed for sewer capital. Other funds are restricted by administrative action to be utilized only for sewer construction.

Fund 790

Computer Replacement - Purchases of computer equipment are accounted for in this fund.

Source of revenue:

1. Charges to Budgeted Funds - An allocation is made to all non-general fund programs.

Transfers from the general fund to the internal service funds are made to fund the operations when appropriate.

Restrictions on Revenue - Revenues in the internal service funds are restricted by administrative action to cover only expenditures for these funds.

Fund 954

City Transfer of Bond Funds from Former Redevelopment Agency – The proceeds from the issuance of tax-exempt bonds or notes pledged by tax increment revenues of the combined project area are accounted for in these funds.

Source of revenue:

1. Interest on Investments – Interest earnings are allocated monthly based on the remaining cash balance of these funds at the end of the month.

Restrictions on Revenue – Funds can be utilized only for capital expenditures restricted to “public purpose” activities as defined by California Redevelopment Law.

CITY OF ORANGE **MODEL 1**

FISCAL YEAR 2026-2027 FINANCIAL MODEL (FY27 MODEL)

REVENUES, EXPENDITURES & NET OPERATING RESULTS

		2026E	2027B	2028F	2029F	2030F	2031F	2032F
REVENUES & SOURCES								
	01 - SALES TAX	51,335,804	51,594,300	51,955,500	52,475,100	53,262,200	54,327,400	55,685,600
	GROWTH RATE	*4.0%*	*0.5%*	*0.7%*	*1.0%*	*1.5%*	*2.0%*	*2.5%*
	02 - PROPERTY TAX	59,822,181	61,700,800	64,724,100	67,895,600	71,222,500	74,712,400	78,373,300
	GROWTH RATE	*3.8%*	*3.1%*	*4.9%*	*4.9%*	*4.9%*	*4.9%*	*4.9%*
	03 - TRANSIENT OCCUPANCY TAX	6,100,192	6,198,100	6,427,400	6,665,200	6,911,800	7,167,500	7,432,700
	GROWTH RATE	*-0.8%*	*1.6%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*
	04 - FEES & FINES	15,292,737	15,788,200	16,419,700	17,076,500	17,759,600	18,470,000	19,208,800
	GROWTH RATE	*15.2%*	*3.2%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
	05 - OTHER REVENUES	15,240,169	15,566,900	15,872,200	16,183,500	16,500,900	16,824,600	17,154,600
	GROWTH RATE	*15.1%*	*2.1%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
	06 - INTER-FUND REVENUE	10,077,495	4,830,500	4,975,400	5,124,700	5,278,400	5,436,800	5,599,900
	GROWTH RATE	*-34.9%*	*-52.1%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
	TOTAL REVENUES	**157,868,578**	**155,678,800**	**160,374,300**	**165,420,600**	**170,935,400**	**176,938,700**	**183,454,900**
	% ANNUAL CHANGE	*1.8%*	*-1.4%*	*3.0%*	*3.1%*	*3.3%*	*3.5%*	*3.7%*
EXPENDITURES & USES								
	01 - SALARIES	76,448,957	78,722,600	81,084,300	83,516,800	86,022,300	88,603,000	91,261,100
	GROWTH RATE	*-0.2%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
	02 - BENEFITS	27,498,932	29,877,200	30,773,500	31,696,700	32,647,600	33,627,000	34,635,800
	GROWTH RATE	*-0.8%*	*8.6%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
	03 - OPERATING EXPENSE	31,279,334	29,815,600	30,710,100	31,631,400	32,580,300	33,557,700	34,564,400
	GROWTH RATE	*35.1%*	*-4.7%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
	04 - INTERNAL SERVICE COSTS	8,866,258	3,733,900	3,845,900	3,961,300	4,080,100	4,202,500	4,328,600
	GROWTH RATE	*-36.8%*	*-57.9%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
	05 - DEBT SERVICES	17,519,111	17,908,400	17,908,400	17,908,400	17,908,400	17,908,400	17,908,400
	GROWTH RATE	*0.8%*	*2.2%*					
	TOTAL EXPENDITURES, BY ACCOUNT GROUP	**161,612,592**	**160,057,700**	**164,322,200**	**168,714,600**	**173,238,700**	**177,898,600**	**182,698,300**
	% ANNUAL CHANGE	*1.7%*	*-1.0%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*
NET OVER/(UNDER) BEFORE TRANSFERS		**(3,744,014)**	**(4,378,900)**	**(3,947,900)**	**(3,294,000)**	**(2,303,300)**	**(959,900)**	**756,600**
	% ANNUAL REVENUES & SOURCES	*-2.4%*	*-2.8%*	*-2.5%*	*-2.0%*	*-1.3%*	*-0.5%*	*0.4%*
	01-TRANSFERS-IN	4,485,252	15,000,000	-	-	-	-	-
	02-TRANSFERS-OUT LEAVE PAYOUTS	1,455,252	2,755,100	2,837,800	2,922,900	3,010,600	3,100,900	3,193,900
	03-TRANSFERS-OUT UAL	-	6,799,400	5,185,300	-	-	-	-
	04-TRANSFERS-OUT WORKER'S COMP	-	-	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000

CITY OF ORANGE **MODEL 1**

FISCAL YEAR 2026-2027 FINANCIAL MODEL (FY27 MODEL)

REVENUES, EXPENDITURES & NET OPERATING RESULTS

		2026E	2027B	2028F	2029F	2030F	2031F	2032F
	05-TRANSFERS-OUT GENERAL LIABILITIES	-	-	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
	08-TRANSFERS-OUT CIP	-	-	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
NET OVER/(UNDER) AFTER TRANSFERS		**(714,014)**	**1,066,600**	**(16,471,000)**	**(10,716,900)**	**(9,813,900)**	**(8,560,800)**	**(6,937,300)**
FUND BALANCE-BEGINNING		**28,553,771**	**27,839,757**	**28,906,357**	**12,435,357**	**1,718,457**	**(8,095,443)**	**(16,656,243)**
FUND BALANCE-END		**27,839,757**	**28,906,357**	**12,435,357**	**1,718,457**	**(8,095,443)**	**(16,656,243)**	**(23,593,543)**
	RESERVED (GF ONLY)	25,936,827	28,429,860	12,435,357	-	-	-	-
	UNRESERVED (GF ONLY)	1,902,930	476,497	-	-	-	-	-

CITY OF ORANGE **MODEL 2**

FISCAL YEAR 2026-2027 FINANCIAL MODEL (FY27 MODEL)

REVENUES, EXPENDITURES & NET OPERATING RESULTS

	2026E	2027B	2028F	2029F	2030F	2031F	2032F
REVENUES & SOURCES							
01 - SALES TAX	51,335,804	51,594,300	51,955,500	52,475,100	53,262,200	54,327,400	55,685,600
GROWTH RATE	*4.0%*	*0.5%*	*0.7%*	*1.0%*	*1.5%*	*2.0%*	*2.5%*
02 - PROPERTY TAX	59,822,181	61,700,800	64,724,100	67,895,600	71,222,500	74,712,400	78,373,300
GROWTH RATE	*3.8%*	*3.1%*	*4.9%*	*4.9%*	*4.9%*	*4.9%*	*4.9%*
03 - TRANSIENT OCCUPANCY TAX	6,100,192	6,198,100	6,427,400	6,665,200	6,911,800	7,167,500	7,432,700
GROWTH RATE	*-0.8%*	*1.6%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*	*3.7%*
04 - FEES & FINES	15,292,737	15,788,200	16,419,700	17,076,500	17,759,600	18,470,000	19,208,800
GROWTH RATE	*15.2%*	*3.2%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*	*4.0%*
05 - OTHER REVENUES	15,240,169	15,566,900	15,872,200	16,183,500	16,500,900	16,824,600	17,154,600
GROWTH RATE	*15.1%*	*2.1%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
06 - INTER-FUND REVENUE	10,077,495	4,830,500	4,975,400	5,124,700	5,278,400	5,436,800	5,599,900
GROWTH RATE	*-34.9%*	*-52.1%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
TOTAL REVENUES	**157,868,578**	**155,678,800**	**160,374,300**	**165,420,600**	**170,935,400**	**176,938,700**	**183,454,900**
% ANNUAL CHANGE	*1.8%*	*-1.4%*	*3.0%*	*3.1%*	*3.3%*	*3.5%*	*3.7%*
EXPENDITURES & USES							
01 - SALARIES	76,448,957	78,722,600	81,084,300	83,516,800	86,022,300	88,603,000	91,261,100
GROWTH RATE	*-0.2%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
02 - BENEFITS	27,498,932	29,877,200	30,773,500	31,696,700	32,647,600	33,627,000	34,635,800
GROWTH RATE	*-0.8%*	*8.6%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
03 - OPERATING EXPENSE	31,279,334	29,815,600	30,710,100	31,631,400	32,580,300	33,557,700	34,564,400
GROWTH RATE	*35.1%*	*-4.7%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
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GROWTH RATE	*-36.8%*	*-57.9%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*	*3.0%*
05 - DEBT SERVICES	17,519,111	17,908,400	17,908,400	17,908,400	17,908,400	17,908,400	17,908,400
GROWTH RATE	*0.8%*	*2.2%*					
TOTAL EXPENDITURES, BY ACCOUNT GROUP	**161,612,592**	**160,057,700**	**164,322,200**	**168,714,600**	**173,238,700**	**177,898,600**	**182,698,300**
% ANNUAL CHANGE	*1.7%*	*-1.0%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*
NET OVER/(UNDER) BEFORE TRANSFERS	**(3,744,014)**	**(4,378,900)**	**(3,947,900)**	**(3,294,000)**	**(2,303,300)**	**(959,900)**	**756,600**
% ANNUAL REVENUES & SOURCES	*-2.4%*	*-2.8%*	*-2.5%*	*-2.0%*	*-1.3%*	*-0.5%*	*0.4%*
01-TRANSFERS-IN	4,485,252	15,000,000	-	-	-	-	-
02-TRANSFERS-OUT LEAVE PAYOUTS	1,455,252	2,755,100	2,837,800	2,922,900	3,010,600	3,100,900	3,193,900
03-TRANSFERS-OUT UAL	-	6,799,400	10,054,400	6,558,800	-	-	-

CITY OF ORANGE **MODEL 2**

FISCAL YEAR 2026-2027 FINANCIAL MODEL (FY27 MODEL)

REVENUES, EXPENDITURES & NET OPERATING RESULTS

	2026E	2027B	2028F	2029F	2030F	2031F	2032F
04-TRANSFERS-OUT WORKER'S COMP	-	-	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
05-TRANSFERS-OUT GENERAL LIABILITIES	-	-	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
08-TRANSFERS-OUT CIP	-	-	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
NET OVER/(UNDER) AFTER TRANSFERS	**(714,014)**	**1,066,600**	**(21,340,100)**	**(17,275,700)**	**(9,813,900)**	**(8,560,800)**	**(6,937,300)**
FUND BALANCE-BEGINNING	**28,553,771**	**27,839,757**	**28,906,357**	**7,566,257**	**(9,709,443)**	**(19,523,343)**	**(28,084,143)**
FUND BALANCE-END	**27,839,757**	**28,906,357**	**7,566,257**	**(9,709,443)**	**(19,523,343)**	**(28,084,143)**	**(35,021,443)**
RESERVED (GF ONLY)	25,936,827	28,429,860	7,566,257	-	-	-	-
UNRESERVED (GF ONLY)	1,902,930	476,497	-	-	-	-	-

Agenda Item

Orange City Council

Item #: 9.2. 6/9/2026 **File #:** 26-0352

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Russell Bunim, Community Development Director**

1. SUBJECT

Resolutions declaring certain real properties of the City of Orange and formerly the Successor Agency to the Orange Redevelopment Agency as Surplus Land and Exempt Surplus Land pursuant to the California Surplus Land Act (Government Code Sections 54220 et seq.)

2. SUMMARY

Resolution Nos. 11697 and 11698 declare certain real properties of the City of Orange and formerly the Successor Agency to the former Orange Redevelopment Agency as Surplus Land and Exempt Surplus Land pursuant to the California Surplus Land Act (Government Code Section 54220 et seq.). The properties are located on the 100 Block of South Grand Street, 300 Block of East Almond Avenue, 100 Block of North Cypress Street, and 200 Block of East Chapman Avenue in the Old Towne Historic District. The subject properties are developed with surface parking, residential structures, offices, and a former Fire Station building.

3. RECOMMENDED ACTION

1. Adopt Resolution No. 11697. A Resolution of the City Council of the City of Orange declaring certain real properties to be exempt surplus land pursuant to the Small Parcel Exemption of the Surplus Land Act (Government Code Section 54221(f)(1)(B)), making findings in support thereof, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.

2. Adopt Resolution No. 11698. A Resolution of the City Council of the City of Orange declaring certain real properties to be surplus land pursuant to the Surplus Land Act (Government Code Section 54221(b)), making findings in support thereof, directing staff to comply with the notice and negotiation requirements of the Surplus Land Act, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.

3. Authorize the City Manager, or designee, to take all actions necessary to effectuate the disposition of the subject properties consistent with the resolutions, the Surplus Land Act and HCD Guidelines, the Long Range Property Management Plan and Dissolution Act (to the extent applicable), and other applicable law, including transmitting all required findings, notices, and documentation to the California Department of Housing and Community Development through the Surplus Land Portal.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability.

6. DISCUSSION AND BACKGROUND

In 2011 and 2012, the Legislature enacted Assembly Bill X1 26 (Chapter 5, Statutes of 2011), as amended by Assembly Bill 1484 (Chapter 26, Statutes of 2012) and Senate Bill 107 (Chapter 325, Statutes of 2015) (collectively, the "Dissolution Act"), which dissolved the State's redevelopment agencies. The City Council of the City of Orange, acting as the governing body of the Successor Agency to the former Orange Redevelopment Agency ("Successor Agency" or "ORSA"), assumed responsibility for winding down the affairs of the former Orange Redevelopment Agency.

Pursuant to Health and Safety Code Section 34191.5, the Successor Agency prepared, and on December 7, 2015 the Oversight Board approved, a Long Range Property Management Plan ("LRPMP"), which addresses the disposition and use of the real properties of the former Redevelopment Agency. The Department of Finance approved the LRPMP by determination letter dated December 22, 2015. The LRPMP identifies properties retained for governmental use, properties to be transferred for future development, properties to be sold, and properties retained to fulfill enforceable obligations.

Several of the subject parcels are identified in the LRPMP and have been transferred to the City for disposition consistent with the redevelopment plans, implementation plans, and community plans adopted for the Project Areas; the remaining parcels are held by the City in fee simple and are not subject to the LRPMP, as reflected in the matrix below. For the parcels as to which the governmental purpose for which they were acquired or held has been fulfilled, completed, or is no longer applicable, the City may pursue new strategic land use decisions following the surplus declaration, subject in each case to compliance with the applicable requirements of the Surplus Land Act.

Surplus Land Act Framework

Assembly Bill 1486 (Chapter 664, Statutes of 2019), and subsequent amendments through Senate Bill 747 (Chapter 786, Statutes of 2023) and Assembly Bill 480 (Chapter 787, Statutes of 2023), substantially amended the California Surplus Land Act (Government Code Sections 54220 through 54234) (the "SLA"). The SLA governs the process by which a local agency disposes of land it owns in fee simple and that is no longer necessary for the agency's use.

Government Code Section 54221(b)(1) requires the local agency's governing body to take formal action at a regular public meeting declaring that the land is either "surplus land" or "exempt surplus land," as supported by written findings, before the agency may dispose of the land.

Government Code Section 54221(f)(1) sets forth the categories of property that qualify as "exempt surplus land." Subparagraph (B) of that paragraph (the "Small Parcel Exemption") exempts surplus land that is less than one-half acre in area and is not contiguous to land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes.

When property qualifies as exempt surplus land, the noticing and good-faith negotiation requirements of Government Code Section 54222 generally do not apply (Government Code Section 54222.3), although the local agency must provide written findings to the Department of Housing and Community Development ("HCD") through the Surplus Land Portal demonstrating that the exemption

applies. As an important exception, Government Code Section 54221(f)(2) provides that, notwithstanding an otherwise-available exemption, land that is listed on (or determined eligible for listing on) the National Register of Historic Places, located in the coastal zone, adjacent to a historical unit of the State Parks System, or within the Lake Tahoe region is not relieved of the requirement to issue a notice of availability for open-space purposes under Section 54222(b). Accordingly, the Old Towne-contributing parcels in this report (Assets 1, 4, and 5) remain subject to that open-space noticing requirement even though they otherwise qualify under the small parcel exemption.

Fulfillment of Governmental Use

Those subject parcels that were acquired by the former Orange Redevelopment Agency were acquired to assemble sites for, or in furtherance of, the redevelopment objectives of the Southwest Project Area, including the elimination of blight, the assembly of developable sites, and right-of-way and infrastructure improvements. With the completion of those underlying public improvements, the dissolution of the former Redevelopment Agency, and the approval of the LRPMP, the original governmental purpose for which each such parcel was acquired has been fulfilled or is no longer applicable. Except as otherwise noted in this report for parcels presently in active governmental use or occupied by residential tenants (which the City will address through the full Surplus Land Act process before any disposition), the parcels are not being used, and are not planned to be used pursuant to any written plan adopted by the City Council, for utility sites, watershed property, conservation, demonstration or educational purposes related to greenhouse gas emissions, buffer sites near sensitive governmental uses, or any other use that would constitute an “agency’s use” under Government Code Section 54221(c).

Subject Properties

Based upon the LRPMP and the revised SLA definitions, staff has identified the eleven parcels listed in the table below, together with the Surplus Land Act treatment applicable to each. The surplus declaration provides the City with the necessary legal framework to actively pursue the highest and best use of these City-owned assets. Assets 1-5 are recommended for declaration as Exempt Surplus Land (under the small parcel exemption, and, for the Old Towne-contributing parcels, subject to the historic noticing requirement), and Assets 6-11 are recommended for declaration as Surplus Land subject to full compliance with the Surplus Land Act:

Asset #	Property Address / Description	Assessor Parcel No.	Approx. Size (sq. ft.)	Constraints	Surplus Land Act Requirements
1	307 E Chapman Avenue (Royer Mansion)	039-253-23	18,312.46 SF	Historic Property Contributing to District (LRPMP Govt Use)	SLA Exempt (Historic Property Requirements)
2	318 E Almond Ave.	390-393-12	5,999.71 SF	Existing Surface Parking Lot (Non LRPMP Site)	SLA Exempt (Small Lot Exemption)
3	326 E Almond Ave.	390-393-11	6,000.27 SF	Existing Surface Parking Lot (Non LRPMP Site)	SLA Exempt (Small Lot Exemption)

4	177 N Cypress St.	039-172-03	4,646.29 SF	Historic Property Contributing to District (Non LRPMP Site)	SLA Exempt (Historic Property Requirements)
5	171 N Cypress St.	039-172-04	7,260.10 SF	Historic Property Contributing to District	SLA Exempt (Historic Property Requirements)
6	124-142 S Grand St.	390-382-07	7,841 SF	6 Existing Extremely Low-Income Tenants (LRPMP Govt. Use)	Full SLA Compliance Req.
7	148 S Grand St.	390-382-08	7,841.32 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
8	154 S Grand St.	390-382-09	7,841.31 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
9	230 E Chapman	390-382-05	16,123.72 SF	Existing Governmental Use Facility (Non LRPMP Site)	Full SLA Compliance Req.
10	S. Grand St.	390-382-14	15,013.97 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
11	176 S Grand St.	390-382-11	33,668.32 SF	Existing Former Govt. Use Facility (Non LRPMP Site)	Full SLA Compliance Req.

Findings Supporting the Small Parcel Exemption

With respect to each parcel recommended for declaration as Exempt Surplus Land under the Small Parcel Exemption (Assets 1-5), staff has determined, and recommends that the City Council find:

- Each parcel is less than one-half acre (21,780 square feet) in area;
- No parcel is contiguous to land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes;
- Each parcel, if identified in the LRPMP, has had the governmental use for which it was originally acquired fulfilled or is no longer applicable;
- Each parcel is not necessary for the City's use as that term is defined in Government Code Section 54221(c), and is not held by the City for the purpose of exchange; and
- Disposition of each parcel as Exempt Surplus Land is consistent with the LRPMP and with the Citywide Strategic Plan.

Royer Mansion (307 East Chapman Avenue)

The Royer Mansion (307 E. Chapman Avenue) was acquired by the former Orange Redevelopment Agency in 2006 for governmental purposes consistent with the adopted Redevelopment Plan and California Community Redevelopment Law, including the long-range planning and consideration of future civic center and public library facilities, and ultimately assessing the alleviation of environmental deficiencies within the Project Area. The City's reservation of this strategically located parcel adjacent to the Civic Center has met this goal. The Property has been continuously held in public ownership since acquisition and has been administered in furtherance of those purposes. The finding is that the governmental purposes for which the Property was acquired has been fulfilled. The parcel is a contributor to the Old Towne Orange Historic District, listed on the National Register of Historic Places on July 11, 1997 (NRHP Ref. No. 97000617).

The Property otherwise qualifies for the Small Parcel Exemption set forth in Government Code Section 54221(f)(1)(B). However, because the Property is a contributing resource within the Old Towne Orange National Register Historic District, Government Code Section 54221(f)(2) requires compliance with the open-space Notice of Availability provisions of Government Code Section 54222 (b) notwithstanding the otherwise applicable exemption. Accordingly, staff recommends that the resolution acknowledge the historic status of the Property and direct staff to complete the required open-space noticing process prior to disposition.

Prior to disposition, the City must (1) issue an NOA for open-space purposes to the park and recreation departments of the City of Orange and the County of Orange, any regional park authority with jurisdiction in the area, and the California Natural Resources Agency, holding the land available for a minimum 60-day response period; (2) submit the declaration and supporting documentation to the California Department of Housing and Community Development through the Surplus Land Portal for its review (HCD has up to 30 days to act before the City may proceed); and (3) complete appropriate review under CEQA, recognizing that any subsequent conveyance or physical alteration constitutes a project with potential impacts on a historical resource under Public Resources Code § 21084.1 and CEQA Guidelines § 15064.5.

Small Surface Parking Lot (318-326 E Almond Ave)

The small surface parcels at 318 and 326 East Almond Avenue comprise the south side of Almond Avenue mid-block between South Center Street and South Grand Street and are located approximately one block south of the Orange Civic Center. The assembled site is improved as a small surface parking lot with asphalt paving, striped stalls including ADA-accessible space(s), wheel stops, drainage improvements, perimeter lighting, signage, and street frontage. Although the site is presently used for public parking, that incidental parking use does not constitute a retained "agency's use" under Government Code Section 54221(c), and the site is no longer necessary for the City's use; the City does not intend to retain it for parking pursuant to any adopted written plan.

North Cypress Homes (171 & 177 N Cypress Street)

The subject properties at 171 and 177 N. Cypress Street are two adjacent City-owned single-family residences located in the heart of Old Towne Orange, both constructed in 1917 during the city's early citrus-era buildout. The property at 171 N. Cypress Street is a 938-square-foot, two-bedroom dwelling on a 7,260-square-foot lot (APN 039-172-04), while the adjoining 177 N. Cypress Street is an 802-square-foot, two-bedroom residence on a 4,646-square-foot lot (APN 039-172-03). Given their 1917 construction date and intact early-20th-century character, both structures are contributing

resources subject to the City's Historic Preservation Design Standards for Old Towne, including the requirement for a Certificate of Appropriateness for any exterior alteration, relocation, or demolition. As contributing resources within the Old Towne Orange National Register Historic District, the properties qualify as Exempt Surplus Land under the small parcel exemption but remain subject to the historic open-space noticing requirement of Government Code Sections 54221(f)(2) and 54222 (b), and would be subject to the same open-space notice and 60-day availability period described above for the Royer Mansion.

Grand Street Block & E Chapman Site (120-176 Grand St & 230 E Chapman)

The Grand Street properties (Sites 6-11) comprise six City- and Successor Agency-held parcels located along South Grand Street and East Chapman Avenue, reflecting a range of existing uses: an LRPMP-designated governmental-use residential parcel at 124-142 S. Grand Street (APN 390-382-07) occupied by six existing extremely low-income tenants; three surface parking lots at 148 S. Grand Street (390-382-08), 154 S. Grand Street (390-382-09), and S. Grand Street (390-382-14); an existing governmental-use facility at 230 E. Chapman (390-382-05); and a former governmental-use facility at 176 S. Grand Street (390-382-11). Except for the LRPMP-designated parcel, these are non-LRPMP sites. None of the six parcels contains a historic building or a contributing structure within the Old Towne Orange National Register Historic District, and accordingly none is subject to the historic-resource review (CEQA historical-resource analysis or Certificate of Appropriateness) that would otherwise attach to a contributing structure; however, this does not exempt the parcels from the Surplus Land Act, which applies regardless of historic status.

The City intends to pursue full compliance with the Surplus Land Act (Government Code § 54220-54234) and HCD's Updated SLA Guidelines for all six parcels. Following a Council declaration of each parcel as surplus and not necessary for the City's use, the City will issue Notices of Availability to HCD via the Surplus Land Portal and to all statutorily required entities, observe the 60-day interest period and, if a qualifying letter of interest is received, conduct good-faith negotiations for the minimum 90-day period, and report all notices, negotiations, and any affordability restrictions to HCD for review prior to agreeing to disposition terms - with special attention to the tenant-protection and LRPMP considerations applicable to the occupied parcel at 124-142 S. Grand Street.

Next Steps

Following adoption of the proposed resolutions, staff will:

- Transmit the written findings and supporting documentation declaring which parcel to be Exempt and Non-Exempt Surplus Land to the California Department of Housing and Community Development for the file in accordance with HCD’s Surplus Land Act Guidelines;
- Pursue appraisals and title reports to be commissioned for each parcel;
- Initiate competitive disposition and or lease activities consistent with applicable law, including the marketing and sale or lease of parcels; and
- Return to the City Council for approval of any lease, purchase and or sale agreement(s) prior to conveyance in conformance with applicable laws and HCD standards.

Should a property be subject to net proceeds disbursement (upon findings from title reports and transfer history), at the time of disposition, within 30 days of the sale, the City will remit qualifying net

unrestricted proceeds to the Orange County Auditor-Controller for distribution to the affected taxing entities in accordance with the LRPMP and Health and Safety Code Section 34191.5(c)(2)(B).

Environmental Review

The declaration of the subject parcels as Exempt Surplus Land and as Surplus Land is not a “project” within the meaning of the California Environmental Quality Act (“CEQA”) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. Section 15000 et seq.) because each declaration is an administrative action that will not result in any direct or reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Sections 15060(c)(2)-15060(c)(3), 15378). Any subsequent disposition or development of an individual parcel will be evaluated under CEQA at the appropriate time, including, for the Old Towne-contributing parcels, an analysis of effects on historical resources under CEQA Guidelines Section 15064.5. [

7. ATTACHMENTS

- Attachment 1 Resolution No.11697
- Attachment 2 Resolution No. 11698
- Attachment 3 Property Location Map
- Attachment 4 Excerpts of Long-Range Property Management Plan

Agenda Item

Orange City Council

Item #: 9.2. 6/9/2026 **File #:** 26-0352

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Russell Bunim, Community Development Director**

1. SUBJECT

Resolutions declaring certain real properties of the City of Orange and formerly the Successor Agency to the Orange Redevelopment Agency as Surplus Land and Exempt Surplus Land pursuant to the California Surplus Land Act (Government Code Sections 54220 et seq.)

2. SUMMARY

Resolution Nos. 11697 and 11698 declare certain real properties of the City of Orange and formerly the Successor Agency to the former Orange Redevelopment Agency as Surplus Land and Exempt Surplus Land pursuant to the California Surplus Land Act (Government Code Section 54220 et seq.). The properties are located on the 100 Block of South Grand Street, 300 Block of East Almond Avenue, 100 Block of North Cypress Street, and 200 Block of East Chapman Avenue in the Old Towne Historic District. The subject properties are developed with surface parking, residential structures, offices, and a former Fire Station building.

3. RECOMMENDED ACTION

1. Adopt Resolution No. 11697. A Resolution of the City Council of the City of Orange declaring certain real properties to be exempt surplus land pursuant to the Small Parcel Exemption of the Surplus Land Act (Government Code Section 54221(f)(1)(B)), making findings in support thereof, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.

2. Adopt Resolution No. 11698. A Resolution of the City Council of the City of Orange declaring certain real properties to be surplus land pursuant to the Surplus Land Act (Government Code Section 54221(b)), making findings in support thereof, directing staff to comply with the notice and negotiation requirements of the Surplus Land Act, and authorizing the City Manager to take all actions necessary to effect the disposition of such properties.

3. Authorize the City Manager, or designee, to take all actions necessary to effectuate the disposition of the subject properties consistent with the resolutions, the Surplus Land Act and HCD Guidelines, the Long Range Property Management Plan and Dissolution Act (to the extent applicable), and other applicable law, including transmitting all required findings, notices, and documentation to the California Department of Housing and Community Development through the Surplus Land Portal.

4. FISCAL IMPACT

None.

5. STRATEGIC PLAN GOALS

Goal 2: Enhance Economic Development and Achieve Fiscal Sustainability.

6. DISCUSSION AND BACKGROUND

In 2011 and 2012, the Legislature enacted Assembly Bill X1 26 (Chapter 5, Statutes of 2011), as amended by Assembly Bill 1484 (Chapter 26, Statutes of 2012) and Senate Bill 107 (Chapter 325, Statutes of 2015) (collectively, the "Dissolution Act"), which dissolved the State's redevelopment agencies. The City Council of the City of Orange, acting as the governing body of the Successor Agency to the former Orange Redevelopment Agency ("Successor Agency" or "ORSA"), assumed responsibility for winding down the affairs of the former Orange Redevelopment Agency.

Pursuant to Health and Safety Code Section 34191.5, the Successor Agency prepared, and on December 7, 2015 the Oversight Board approved, a Long Range Property Management Plan ("LRPMP"), which addresses the disposition and use of the real properties of the former Redevelopment Agency. The Department of Finance approved the LRPMP by determination letter dated December 22, 2015. The LRPMP identifies properties retained for governmental use, properties to be transferred for future development, properties to be sold, and properties retained to fulfill enforceable obligations.

Several of the subject parcels are identified in the LRPMP and have been transferred to the City for disposition consistent with the redevelopment plans, implementation plans, and community plans adopted for the Project Areas; the remaining parcels are held by the City in fee simple and are not subject to the LRPMP, as reflected in the matrix below. For the parcels as to which the governmental purpose for which they were acquired or held has been fulfilled, completed, or is no longer applicable, the City may pursue new strategic land use decisions following the surplus declaration, subject in each case to compliance with the applicable requirements of the Surplus Land Act.

Surplus Land Act Framework

Assembly Bill 1486 (Chapter 664, Statutes of 2019), and subsequent amendments through Senate Bill 747 (Chapter 786, Statutes of 2023) and Assembly Bill 480 (Chapter 787, Statutes of 2023), substantially amended the California Surplus Land Act (Government Code Sections 54220 through 54234) (the "SLA"). The SLA governs the process by which a local agency disposes of land it owns in fee simple and that is no longer necessary for the agency's use.

Government Code Section 54221(b)(1) requires the local agency's governing body to take formal action at a regular public meeting declaring that the land is either "surplus land" or "exempt surplus land," as supported by written findings, before the agency may dispose of the land.

Government Code Section 54221(f)(1) sets forth the categories of property that qualify as "exempt surplus land." Subparagraph (B) of that paragraph (the "Small Parcel Exemption") exempts surplus land that is less than one-half acre in area and is not contiguous to land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes.

When property qualifies as exempt surplus land, the noticing and good-faith negotiation requirements of Government Code Section 54222 generally do not apply (Government Code Section 54222.3), although the local agency must provide written findings to the Department of Housing and Community Development ("HCD") through the Surplus Land Portal demonstrating that the exemption

applies. As an important exception, Government Code Section 54221(f)(2) provides that, notwithstanding an otherwise-available exemption, land that is listed on (or determined eligible for listing on) the National Register of Historic Places, located in the coastal zone, adjacent to a historical unit of the State Parks System, or within the Lake Tahoe region is not relieved of the requirement to issue a notice of availability for open-space purposes under Section 54222(b). Accordingly, the Old Towne-contributing parcels in this report (Assets 1, 4, and 5) remain subject to that open-space noticing requirement even though they otherwise qualify under the small parcel exemption.

Fulfillment of Governmental Use

Those subject parcels that were acquired by the former Orange Redevelopment Agency were acquired to assemble sites for, or in furtherance of, the redevelopment objectives of the Southwest Project Area, including the elimination of blight, the assembly of developable sites, and right-of-way and infrastructure improvements. With the completion of those underlying public improvements, the dissolution of the former Redevelopment Agency, and the approval of the LRPMP, the original governmental purpose for which each such parcel was acquired has been fulfilled or is no longer applicable. Except as otherwise noted in this report for parcels presently in active governmental use or occupied by residential tenants (which the City will address through the full Surplus Land Act process before any disposition), the parcels are not being used, and are not planned to be used pursuant to any written plan adopted by the City Council, for utility sites, watershed property, conservation, demonstration or educational purposes related to greenhouse gas emissions, buffer sites near sensitive governmental uses, or any other use that would constitute an “agency’s use” under Government Code Section 54221(c).

Subject Properties

Based upon the LRPMP and the revised SLA definitions, staff has identified the eleven parcels listed in the table below, together with the Surplus Land Act treatment applicable to each. The surplus declaration provides the City with the necessary legal framework to actively pursue the highest and best use of these City-owned assets. Assets 1-5 are recommended for declaration as Exempt Surplus Land (under the small parcel exemption, and, for the Old Towne-contributing parcels, subject to the historic noticing requirement), and Assets 6-11 are recommended for declaration as Surplus Land subject to full compliance with the Surplus Land Act:

Asset #	Property Address / Description	Assessor Parcel No.	Approx. Size (sq. ft.)	Constraints	Surplus Land Act Requirements
1	307 E Chapman Avenue (Royer Mansion)	039-253-23	18,312.46 SF	Historic Property Contributing to District (LRPMP Govt Use)	SLA Exempt (Historic Property Requirements)
2	318 E Almond Ave.	390-393-12	5,999.71 SF	Existing Surface Parking Lot (Non LRPMP Site)	SLA Exempt (Small Lot Exemption)
3	326 E Almond Ave.	390-393-11	6,000.27 SF	Existing Surface Parking Lot (Non LRPMP Site)	SLA Exempt (Small Lot Exemption)

4	177 N Cypress St.	039-172-03	4,646.29 SF	Historic Property Contributing to District (Non LRPMP Site)	SLA Exempt (Historic Property Requirements)
5	171 N Cypress St.	039-172-04	7,260.10 SF	Historic Property Contributing to District	SLA Exempt (Historic Property Requirements)
6	124-142 S Grand St.	390-382-07	7,841 SF	6 Existing Extremely Low-Income Tenants (LRPMP Govt. Use)	Full SLA Compliance Req.
7	148 S Grand St.	390-382-08	7,841.32 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
8	154 S Grand St.	390-382-09	7,841.31 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
9	230 E Chapman	390-382-05	16,123.72 SF	Existing Governmental Use Facility (Non LRPMP Site)	Full SLA Compliance Req.
10	S. Grand St.	390-382-14	15,013.97 SF	Existing Surface Parking Lot (Non LRPMP Site)	Full SLA Compliance Req.
11	176 S Grand St.	390-382-11	33,668.32 SF	Existing Former Govt. Use Facility (Non LRPMP Site)	Full SLA Compliance Req.

Findings Supporting the Small Parcel Exemption

With respect to each parcel recommended for declaration as Exempt Surplus Land under the Small Parcel Exemption (Assets 1-5), staff has determined, and recommends that the City Council find:

- Each parcel is less than one-half acre (21,780 square feet) in area;
- No parcel is contiguous to land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes;
- Each parcel, if identified in the LRPMP, has had the governmental use for which it was originally acquired fulfilled or is no longer applicable;
- Each parcel is not necessary for the City's use as that term is defined in Government Code Section 54221(c), and is not held by the City for the purpose of exchange; and
- Disposition of each parcel as Exempt Surplus Land is consistent with the LRPMP and with the Citywide Strategic Plan.

Royer Mansion (307 East Chapman Avenue)

The Royer Mansion (307 E. Chapman Avenue) was acquired by the former Orange Redevelopment Agency in 2006 for governmental purposes consistent with the adopted Redevelopment Plan and California Community Redevelopment Law, including the long-range planning and consideration of future civic center and public library facilities, and ultimately assessing the alleviation of environmental deficiencies within the Project Area. The City's reservation of this strategically located parcel adjacent to the Civic Center has met this goal. The Property has been continuously held in public ownership since acquisition and has been administered in furtherance of those purposes. The finding is that the governmental purposes for which the Property was acquired has been fulfilled. The parcel is a contributor to the Old Towne Orange Historic District, listed on the National Register of Historic Places on July 11, 1997 (NRHP Ref. No. 97000617).

The Property otherwise qualifies for the Small Parcel Exemption set forth in Government Code Section 54221(f)(1)(B). However, because the Property is a contributing resource within the Old Towne Orange National Register Historic District, Government Code Section 54221(f)(2) requires compliance with the open-space Notice of Availability provisions of Government Code Section 54222 (b) notwithstanding the otherwise applicable exemption. Accordingly, staff recommends that the resolution acknowledge the historic status of the Property and direct staff to complete the required open-space noticing process prior to disposition.

Prior to disposition, the City must (1) issue an NOA for open-space purposes to the park and recreation departments of the City of Orange and the County of Orange, any regional park authority with jurisdiction in the area, and the California Natural Resources Agency, holding the land available for a minimum 60-day response period; (2) submit the declaration and supporting documentation to the California Department of Housing and Community Development through the Surplus Land Portal for its review (HCD has up to 30 days to act before the City may proceed); and (3) complete appropriate review under CEQA, recognizing that any subsequent conveyance or physical alteration constitutes a project with potential impacts on a historical resource under Public Resources Code § 21084.1 and CEQA Guidelines § 15064.5.

Small Surface Parking Lot (318-326 E Almond Ave)

The small surface parcels at 318 and 326 East Almond Avenue comprise the south side of Almond Avenue mid-block between South Center Street and South Grand Street and are located approximately one block south of the Orange Civic Center. The assembled site is improved as a small surface parking lot with asphalt paving, striped stalls including ADA-accessible space(s), wheel stops, drainage improvements, perimeter lighting, signage, and street frontage. Although the site is presently used for public parking, that incidental parking use does not constitute a retained "agency's use" under Government Code Section 54221(c), and the site is no longer necessary for the City's use; the City does not intend to retain it for parking pursuant to any adopted written plan.

North Cypress Homes (171 & 177 N Cypress Street)

The subject properties at 171 and 177 N. Cypress Street are two adjacent City-owned single-family residences located in the heart of Old Towne Orange, both constructed in 1917 during the city's early citrus-era buildout. The property at 171 N. Cypress Street is a 938-square-foot, two-bedroom dwelling on a 7,260-square-foot lot (APN 039-172-04), while the adjoining 177 N. Cypress Street is an 802-square-foot, two-bedroom residence on a 4,646-square-foot lot (APN 039-172-03). Given their 1917 construction date and intact early-20th-century character, both structures are contributing

resources subject to the City's Historic Preservation Design Standards for Old Towne, including the requirement for a Certificate of Appropriateness for any exterior alteration, relocation, or demolition. As contributing resources within the Old Towne Orange National Register Historic District, the properties qualify as Exempt Surplus Land under the small parcel exemption but remain subject to the historic open-space noticing requirement of Government Code Sections 54221(f)(2) and 54222 (b), and would be subject to the same open-space notice and 60-day availability period described above for the Royer Mansion.

Grand Street Block & E Chapman Site (120-176 Grand St & 230 E Chapman)

The Grand Street properties (Sites 6-11) comprise six City- and Successor Agency-held parcels located along South Grand Street and East Chapman Avenue, reflecting a range of existing uses: an LRPMP-designated governmental-use residential parcel at 124-142 S. Grand Street (APN 390-382-07) occupied by six existing extremely low-income tenants; three surface parking lots at 148 S. Grand Street (390-382-08), 154 S. Grand Street (390-382-09), and S. Grand Street (390-382-14); an existing governmental-use facility at 230 E. Chapman (390-382-05); and a former governmental-use facility at 176 S. Grand Street (390-382-11). Except for the LRPMP-designated parcel, these are non-LRPMP sites. None of the six parcels contains a historic building or a contributing structure within the Old Towne Orange National Register Historic District, and accordingly none is subject to the historic-resource review (CEQA historical-resource analysis or Certificate of Appropriateness) that would otherwise attach to a contributing structure; however, this does not exempt the parcels from the Surplus Land Act, which applies regardless of historic status.

The City intends to pursue full compliance with the Surplus Land Act (Government Code § 54220-54234) and HCD's Updated SLA Guidelines for all six parcels. Following a Council declaration of each parcel as surplus and not necessary for the City's use, the City will issue Notices of Availability to HCD via the Surplus Land Portal and to all statutorily required entities, observe the 60-day interest period and, if a qualifying letter of interest is received, conduct good-faith negotiations for the minimum 90-day period, and report all notices, negotiations, and any affordability restrictions to HCD for review prior to agreeing to disposition terms - with special attention to the tenant-protection and LRPMP considerations applicable to the occupied parcel at 124-142 S. Grand Street.

Next Steps

Following adoption of the proposed resolutions, staff will:

- Transmit the written findings and supporting documentation declaring which parcel to be Exempt and Non-Exempt Surplus Land to the California Department of Housing and Community Development for the file in accordance with HCD’s Surplus Land Act Guidelines;
- Pursue appraisals and title reports to be commissioned for each parcel;
- Initiate competitive disposition and or lease activities consistent with applicable law, including the marketing and sale or lease of parcels; and
- Return to the City Council for approval of any lease, purchase and or sale agreement(s) prior to conveyance in conformance with applicable laws and HCD standards.

Should a property be subject to net proceeds disbursement (upon findings from title reports and transfer history), at the time of disposition, within 30 days of the sale, the City will remit qualifying net

unrestricted proceeds to the Orange County Auditor-Controller for distribution to the affected taxing entities in accordance with the LRPMP and Health and Safety Code Section 34191.5(c)(2)(B).

Environmental Review

The declaration of the subject parcels as Exempt Surplus Land and as Surplus Land is not a “project” within the meaning of the California Environmental Quality Act (“CEQA”) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. Section 15000 et seq.) because each declaration is an administrative action that will not result in any direct or reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Sections 15060(c)(2)-15060(c)(3), 15378). Any subsequent disposition or development of an individual parcel will be evaluated under CEQA at the appropriate time, including, for the Old Towne-contributing parcels, an analysis of effects on historical resources under CEQA Guidelines Section 15064.5. [

7. ATTACHMENTS

- Attachment 1 Resolution No.11697
- Attachment 2 Resolution No. 11698
- Attachment 3 Property Location Map
- Attachment 4 Excerpts of Long-Range Property Management Plan

RESOLUTION NO. 11697

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE, CALIFORNIA, DECLARING CERTAIN REAL PROPERTIES TO BE EXEMPT SURPLUS LAND PURSUANT TO THE SMALL PARCEL EXEMPTION OF THE SURPLUS LAND ACT (GOVERNMENT CODE SECTION 54221(f)(1)(B)), MAKING FINDINGS IN SUPPORT THEREOF, AND AUTHORIZING THE CITY MANAGER TO TAKE ALL ACTIONS NECESSARY TO EFFECT THE DISPOSITION OF SUCH PROPERTIES

WHEREAS, the City of Orange ("City") is a municipal corporation duly organized and existing under the laws of the State of California; and

WHEREAS, the City Council of the City of Orange ("City Council"), acting as the governing body of the Successor Agency to the former Orange Redevelopment Agency ("Successor Agency"), is responsible for winding down the affairs of the former Orange Redevelopment Agency in accordance with Parts 1.8 and 1.85 of Division 24 of the California Health and Safety Code (collectively, the "Dissolution Act"); and

WHEREAS, pursuant to Health and Safety Code Section 34191.5, the Successor Agency prepared a Long Range Property Management Plan ("LRPMP") addressing the disposition and use of the real properties of the former Orange Redevelopment Agency, which LRPMP was approved by the Oversight Board on December 7, 2015 and approved by the California Department of Finance by determination letter dated December 22, 2015; and

WHEREAS, the LRPMP identifies certain real properties to be transferred to the City for disposition consistent with the redevelopment plans, implementation plans, and community plans adopted for the Project Areas of the former Orange Redevelopment Agency; and

WHEREAS, the California Surplus Land Act, Government Code Sections 54220 through 54234 (the "Surplus Land Act" or "SLA"), governs the disposition of land owned in fee simple by a local agency that is no longer necessary for the agency's use; and

WHEREAS, Government Code Section 54221(b)(1) provides that, before a local agency may take any action to dispose of land owned in fee simple, the agency's governing body must take formal action in a regular public meeting declaring the land to be either "surplus land" or "exempt surplus land," as supported by written findings; and

WHEREAS, Government Code Section 54221(f)(1)(B) provides that surplus land that is less than one-half acre in area and is not contiguous to land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes is "exempt surplus land" (the "Small Parcel Exemption"); and

WHEREAS, the properties identified in Exhibit A attached hereto and incorporated herein by this reference (collectively, the "Subject Properties") are real properties identified in the LRPMP and held in fee simple by the City; and

WHEREAS, each of the Subject Properties is less than one-half acre in area, is not contiguous to any land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes, and therefore satisfies the criteria of the Small Parcel Exemption set forth in Government Code Section 54221(f)(1)(B); and

WHEREAS, even if the subject properties located at 171 N. Cypress Street (APN 039-172-04), 177 N. Cypress Street, and the Royer Mansion at 307 E. Chapman Avenue (APN 039-253-23), Orange, California, would otherwise qualify for an exemption from the standard Surplus Land Act process under Government Code section 54221, subdivision (f)(1), including the exemption for parcels less than one-half acre, the City Council finds that, notwithstanding paragraph (1) of subdivision (f) and pursuant to Government Code section 54221, subdivision (f)(2)(C), each of the subject properties is a contributing resource to the Old Towne Orange Historic District and is therefore listed on or eligible for listing on the National Register of Historic Places (NRHP Reference No. 97000617), such that the properties do not qualify as exempt surplus land for purposes of the open-space noticing requirement, and the City must, before disposing of the properties, send a written notice of availability for open-space purposes to the entities described in Government Code section 54222, subdivision (b) — namely the park and recreation departments of the City and the County of Orange, any regional park authority having jurisdiction within the area, and the California Natural Resources Agency — and hold the properties available for not less than sixty (60) days following that notice, in addition to submitting this declaration to the California Department of Housing and Community Development through the Surplus Land Portal for review; and

WHEREAS, any of the Subject Properties acquired by the former Orange Redevelopment Agency in furtherance of the goals and objectives of the redevelopment plans for the Northwest Project Area and the Southwest Project Area of the former Orange Redevelopment Agency, including the elimination of blight, site assembly, and supporting public improvements, and the governmental purpose for which each Subject Property was acquired has been fulfilled, completed, or is no longer applicable; and

WHEREAS, none of the Subject Properties is being used, or is planned to be used pursuant to a written plan adopted by the City Council, for any of the purposes constituting "agency's use" under Government Code Section 54221(c), including without limitation utility sites, watershed property, land used for conservation purposes, land used for demonstration, exhibition, or educational purposes related to greenhouse gas emissions, or buffer sites near sensitive governmental uses such as wastewater treatment plants; and

WHEREAS, declaration of the Subject Properties as Exempt Surplus Land is consistent with the LRPMP, the Dissolution Act, the Surplus Land Act, and the City's Strategic Plan; and

WHEREAS, the City Council finds that the adoption of this Resolution is not a "project" within the meaning of the California Environmental Quality Act ("CEQA") (Public Resources

Code Section 21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. Section 15000 et seq.) because the declaration is an administrative action that will not result in any direct or reasonably foreseeable indirect physical change in the environment, and is therefore exempt under State CEQA Guidelines Sections 15060(c)(2), 15060(c)(3), and 15378(b); any subsequent disposition or development of an individual Subject Property will be evaluated under CEQA at the appropriate time.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange as follows:

1. That the foregoing Recitals are true and correct and are incorporated herein by this reference as the findings of the City Council in support of this Resolution.

2. That the City Council hereby finds and determines that each of the Subject Properties identified in Exhibit A satisfies the criteria for "exempt surplus land" set forth in Government Code Section 54221(f)(1)(B), in that each Subject Property:

(a) is less than one-half acre (21,780 square feet) in area; and

(b) is not contiguous to any land owned by a state or local agency that is used for open-space or low- and moderate-income housing purposes.

3. That the City Council hereby further finds and determines that the original governmental use for which each Subject Property was acquired by the former Orange Redevelopment Agency has been fulfilled, completed, or is no longer applicable; that none of the Subject Properties is being used, or is planned to be used pursuant to a written plan adopted by the City Council, for any purpose constituting an "agency's use" as defined in Government Code Section 54221(c); and that none of the Subject Properties is being retained for the sole purpose of investment or generation of revenue.

4. Each Subject Property identified in Exhibit A is hereby declared to be "exempt surplus land" pursuant to Government Code Section 54221(f)(1)(B). Pursuant to Government Code Section 54222.3, the notice and good-faith negotiation requirements of Government Code Section 54222 shall not apply to the disposition of the Subject Properties.

5. The City Manager, or the City Manager's designee, is hereby authorized and directed to take any and all actions necessary or appropriate to effectuate the purpose and intent of this Resolution, including without limitation: (a) transmitting written findings and supporting documentation regarding the Exempt Surplus Land declaration to the California Department of Housing and Community Development in accordance with the Surplus Land Act Guidelines; (b) commissioning appraisals of the Subject Properties; (c) initiating disposition activities for the Subject Properties consistent with the LRPMP, the Dissolution Act, the Surplus Land Act, and other applicable law; and (d) executing such documents and instruments as may be necessary or convenient to carry out this Resolution, subject to such approvals of the City Council as may be required by law.

6. Net unrestricted proceeds from the disposition of any qualified subject properties that are former redevelopment agency sites shall be remitted to the Orange County Auditor-Controller for distribution to the affected taxing entities in accordance with the LRPMP and Health and Safety Code Section 34191.5(c)(2)(B), based on chain of title findings from a formal title report, provided that the City's allocable share of such proceeds shall be deposited in the General Fund (100).

7. This Resolution shall take effect immediately upon its adoption.

ADOPTED this _____ day of _____, 2026

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the _____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

EXHIBIT A

SUBJECT PROPERTIES

Property Address / Description	Assessor Parcel No.	Approx. Size (sq. ft.)	Constraints
307 E Chapman Avenue (Royer Mansion)	039-253-23	18,312.46 SF	Historic Property Contributing to District (LRPMP Govt Use)
318 E Almond Ave.	390-393-12	5,999.71 SF	Existing Surface Parking Lot (Non LRPMP Site)
326 E Almond Ave.	390-393-11	6,000.27 SF	Existing Surface Parking Lot (Non LRPMP Site)
177 N Cypress St.	039-172-03	4,646.29 SF	Historic Property Contributing to District (Non LRPMP Site)
171 N Cypress St.	039-172-04	7,260.10 SF	Historic Property Contributing to District

RESOLUTION NO. 11698

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE, DECLARING CERTAIN REAL PROPERTIES TO BE SURPLUS LAND PURSUANT TO THE SURPLUS LAND ACT (GOVERNMENT CODE SECTION 54221(b)), MAKING FINDINGS IN SUPPORT THEREOF, DIRECTING STAFF TO COMPLY WITH THE NOTICE AND NEGOTIATION REQUIREMENTS OF THE SURPLUS LAND ACT, AND AUTHORIZING THE CITY MANAGER TO TAKE ALL ACTIONS NECESSARY TO EFFECT THE DISPOSITION OF SUCH PROPERTIES

WHEREAS, the City of Orange ("City") is a municipal corporation duly organized and existing under the laws of the State of California, and holds in fee simple the real properties identified in Exhibit A attached hereto and incorporated herein by this reference (collectively, the "Subject Properties"); and

WHEREAS, to the extent any Subject Property constitutes an asset of the former Orange Redevelopment Agency addressed in the Long Range Property Management Plan ("LRPMP") approved by the Oversight Board and the California Department of Finance, the disposition of such property shall be undertaken consistent with the LRPMP and Parts 1.8 and 1.85 of Division 24 of the California Health and Safety Code (the "Dissolution Act"); and

WHEREAS, the California Surplus Land Act, Government Code Sections 54220 through 54234 (the "Surplus Land Act" or "SLA"), governs the disposition of land owned in fee simple by a local agency that is no longer necessary for the agency's use; and

WHEREAS, Government Code Section 54221(b)(1) provides that, before a local agency may take any action to dispose of land owned in fee simple, the agency's governing body must take formal action in a regular public meeting declaring the land to be either "surplus land" or "exempt surplus land," as supported by written findings; and

WHEREAS, the City Council has determined that the original governmental purpose for which each Subject Property was acquired or held has been fulfilled, completed, or is no longer applicable, that none of the Subject Properties is being used, or is planned to be used pursuant to a written plan adopted by the City Council, for any purpose constituting an "agency's use" as defined in Government Code Section 54221(c), and that the Subject Properties are no longer necessary for the City's use; and

WHEREAS, the City Council has further determined that the Subject Properties do not satisfy the criteria for any exemption set forth in Government Code Section 54221(f)(1), including without limitation the small-parcel exemption under Section 54221(f)(1)(B), because, among other reasons, certain of the Subject Properties exceed one-half acre in area, certain of the Subject

Properties are contiguous to land owned by the City and used for low- and moderate-income housing or open-space purposes, and certain of the Subject Properties are presently or were formerly improved with governmental use facilities or occupied by residential tenants; and

WHEREAS, the Subject Properties therefore constitute "surplus land" within the meaning of Government Code Section 54221(b) and must be disposed of in compliance with the full notice and good-faith negotiation requirements of the Surplus Land Act; and

WHEREAS, the property located at 124-142 S Grand Street (APN 390-382-07) is presently occupied by six (6) extremely-low-income residential tenants, and the City intends that any disposition of that property be undertaken in a manner consistent with applicable tenant protection, notice, and relocation requirements, and in furtherance of the Surplus Land Act's priority for the development and preservation of affordable housing; and

WHEREAS, pursuant to Government Code Section 54222, before disposing of the Subject Properties or participating in negotiations to dispose of the Subject Properties, the City must send a written notice of availability to all entities entitled to such notice, including any local public entity within whose jurisdiction the Subject Properties are located and any housing sponsor that has notified the California Department of Housing and Community Development ("HCD") of its interest in surplus land for the purpose of developing low- and moderate-income housing, and, as applicable, to the park and recreation departments of the City and the County of Orange, any regional park authority having jurisdiction in the area, and the California Natural Resources Agency for open-space purposes; and

WHEREAS, following the notice of availability, the Surplus Land Act requires that the Subject Properties remain available for a period of not less than sixty (60) days for entities to express interest, that the City engage in good-faith negotiations for a period of not less than ninety (90) days with any entity that expresses interest, and that, if the City and such entity are unable to agree on price and terms for a housing development that includes at least twenty-five percent (25%) affordable units, the City record a deed restriction requiring that, in the event ten (10) or more residential units are developed on the property, not less than fifteen percent (15%) of those units be made available at affordable housing cost; and

WHEREAS, the City must submit a description of the notices of availability sent, a summary of negotiations conducted, and a copy of any restrictions to be recorded against the Subject Properties to HCD for review through the Surplus Land Portal prior to agreeing to terms for disposition, all in accordance with the SLA and the Updated Surplus Land Act Guidelines published by HCD on August 1, 2024; and

WHEREAS, the City Council finds that the adoption of this Resolution is not a "project" within the meaning of the California Environmental Quality Act ("CEQA") (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 Cal. Code Regs. Section 15000 et seq.) because the declaration is an administrative action that will not result in any direct or reasonably foreseeable indirect physical change in the environment, and is therefore exempt under State CEQA Guidelines Sections 15060(c)(2), 15060(c)(3), and 15378(b); any subsequent disposition or development of an individual Subject Property will be evaluated under CEQA at the appropriate time.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Orange as follows:

1. That the foregoing Recitals are true and correct and are incorporated herein by this reference as the findings of the City Council in support of this Resolution.

2. That the City Council hereby finds and determines that the original governmental use for which each Subject Property identified in Exhibit A was acquired or held has been fulfilled, completed, or is no longer applicable; that none of the Subject Properties is being used, or is planned to be used pursuant to a written plan adopted by the City Council, for any purpose constituting an "agency's use" as defined in Government Code Section 54221(c); that none of the Subject Properties is being retained for the sole purpose of investment or generation of revenue; and that each Subject Property is no longer necessary for the City's use.

3. That the City Council hereby further finds and determines that none of the Subject Properties qualifies as "exempt surplus land" under Government Code Section 54221(f)(1), and each Subject Property identified in Exhibit A is hereby declared to be "surplus land" pursuant to Government Code Section 54221(b), subject to the full notice and good-faith negotiation requirements of the Surplus Land Act.

4. Staff is hereby directed to comply with all applicable requirements of the Surplus Land Act prior to the disposition of any Subject Property, including without limitation: (a) sending a written notice of availability to all entities entitled to notice under Government Code Section 54222, including local public entities and housing sponsors registered with HCD, and, as applicable, to the park and recreation departments of the City and the County of Orange, any regional park authority having jurisdiction in the area, and the California Natural Resources Agency; (b) holding each Subject Property available for not less than sixty (60) days following the notice of availability; (c) engaging in good-faith negotiations for not less than ninety (90) days with any entity that expresses interest; (d) recording the affordable-housing deed restriction described in the Recitals if and as required where the City and an interested entity are unable to agree on price and terms; and (e) submitting a description of the notices of availability, a summary of negotiations, and any restrictions to be recorded to HCD for review through the Surplus Land Portal prior to agreeing to terms for disposition.

5. With respect to the property located at 124-142 S Grand Street (APN 390-382-07), staff is further directed to undertake any disposition in compliance with all applicable federal, state, and local tenant protection, notice, and relocation requirements, to coordinate with the existing residential tenants to minimize displacement to the extent feasible, and to prioritize the preservation and development of affordable housing consistent with the purposes of the Surplus Land Act.

6. The City Manager, or the City Manager's designee, is hereby authorized and directed to take any and all actions necessary or appropriate to effectuate the purpose and intent of this Resolution, including without limitation: (a) issuing the notices of availability and transmitting all required documentation to HCD in accordance with the Surplus Land Act and the Surplus Land Act Guidelines; (b) commissioning appraisals of the Subject Properties; (c) initiating and

conducting disposition and negotiation activities consistent with the Surplus Land Act, the LRPMP and Dissolution Act (to the extent applicable), and other applicable law; and (d) executing such documents and instruments as may be necessary or convenient to carry out this Resolution, subject to such approvals of the City Council as may be required by law.

7. To the extent any Subject Property is a former Orange Redevelopment Agency site, net unrestricted proceeds from the disposition of such property shall be remitted to the Orange County Auditor-Controller for distribution to the affected taxing entities in accordance with the LRPMP and Health and Safety Code Section 34191.5(c)(2)(B), based on chain of title findings from a formal title report, provided that the City's allocable share of such proceeds shall be deposited in the General Fund (100).

8. This Resolution shall take effect immediately upon its adoption.

ADOPTED this _____ day of _____, 2026

_____
Daniel R. Slater, Mayor, City of Orange

ATTEST:

_____
Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

_____
Nathalie Adourian, City Attorney, City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the _____ day of _____, 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange

EXHIBIT A

SUBJECT PROPERTIES

All Subject Properties listed below are declared "surplus land" under Government Code Section 54221(b) and are subject to full compliance with the Surplus Land Act.

Property Address / Description	Assessor Parcel No.	Approx. Size (sq. ft.)	Constraints
124-142 S Grand St.	390-382-07	7,841 SF	6 Existing Extremely Low-Income Tenants (LRPMP Govt. Use)
148 S Grand St.	390-382-08	7,841.32 SF	Existing Surface Parking Lot (Non LRPMP Site)
154 S Grand St.	390-382-09	7,841.31 SF	Existing Surface Parking Lot (Non LRPMP Site)
230 E Chapman	390-382-05	16,123.72 SF	Existing Governmental Use Facility (Non LRPMP Site)
S. Grand St.	390-382-14	15,013.97 SF	Existing Surface Parking Lot (Non LRPMP Site)
176 S Grand St.	390-382-11	33,668.32 SF	Existing Former Govt. Use Facility (Non LRPMP Site)

Surplus Land Map

Properties Subject to Declaration

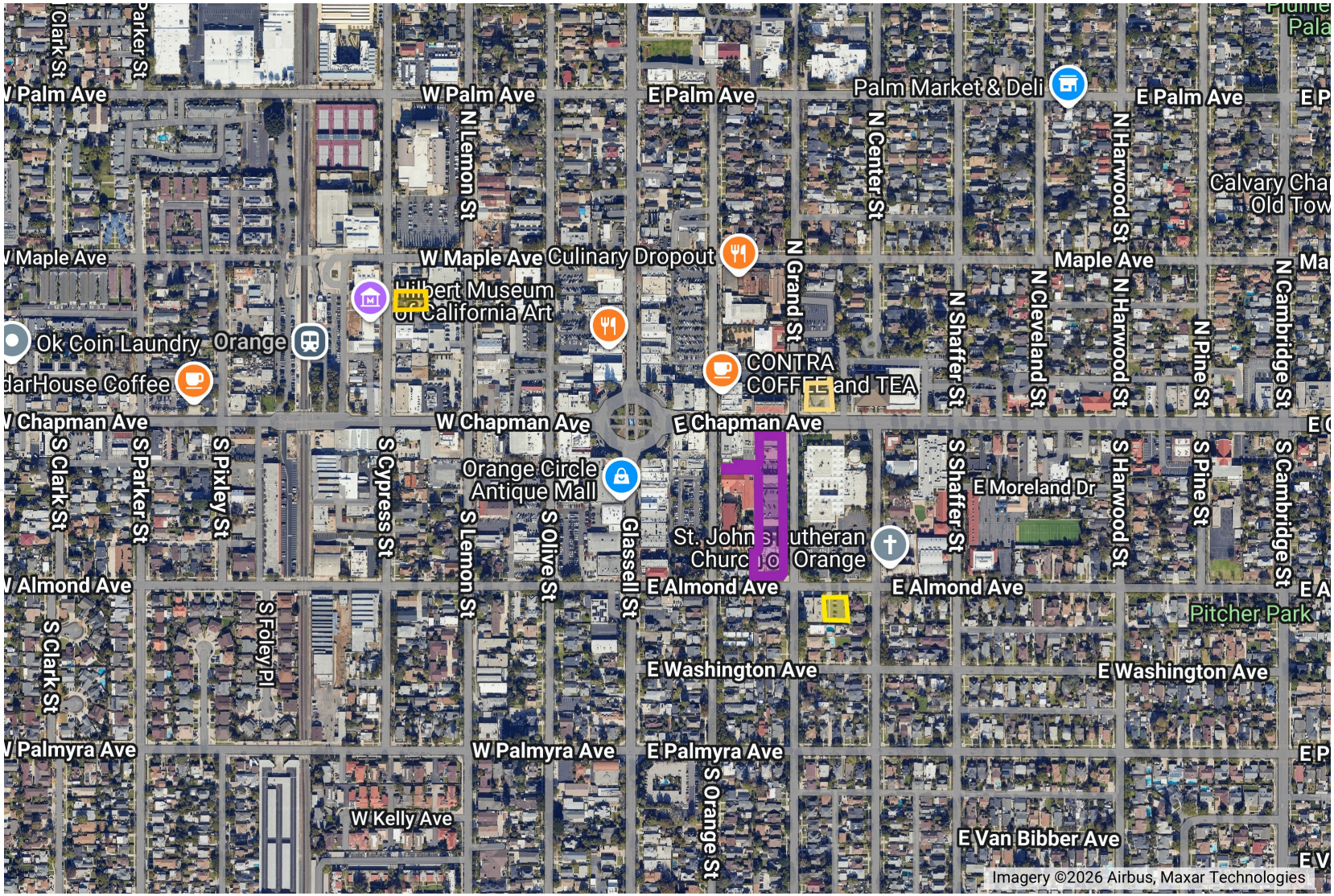
Grand Street - Subject to SLA

Royer Mansion - SLA Exempt (Historic NOA Required)

Almond Parking Lots (SLA Exempt)

Cypress Street Homes (SLA Exempt) Historic

Surplus Sites For Declaration - 06/02/26



Property No. 9 – 307 E. Chapman Avenue located at the northeast corner of E. Chapman Ave. & Grand St.



Description of the property and environmental setting:

A. ***Acquisition Information*** - Acquired October 24, 2006. The value of the property at the time of purchase was $2,400,000.

B. ***Purpose of Acquisition*** – The property was acquired for governmental use as part of long-range planning for future Civic Center and library uses. There is a historic mansion and carriage house that are contributing structures to the Old Towne Historic District. The existing structure is currently used as an office building. Based upon the Five-Year Implementation Plan, the property is one of five future community facilities sites within the Orange Civic Center. The site is anticipated to alleviate certain environmental deficiencies and to serve as a location for the development of public services and public facilities.

C. ***Parcel data –*** The property address is 307 E. Chapman Avenue, Orange, CA. The assessor's parcel number is 039-253-23. The lot size is 18,261 square feet or 0.42 acres and currently houses a single 7,500 square foot office building. Current zoning is designated as Old Town Mixed Use-15.

D. ***Current Value*** - Estimate of the current value of the parcel is Zero. The site requires maintenance and upkeep but does not generate revenue and thus operates at a negative value.

E. ***Revenue Generated by the Property*** - Annual lease revenue generated from this site is approximately $90,000. The annual property maintenance is listed as Item 110 in ROPS 14-15B. The lease revenue is reported on the Cash Balance Form every six months as part of the ROPS process.

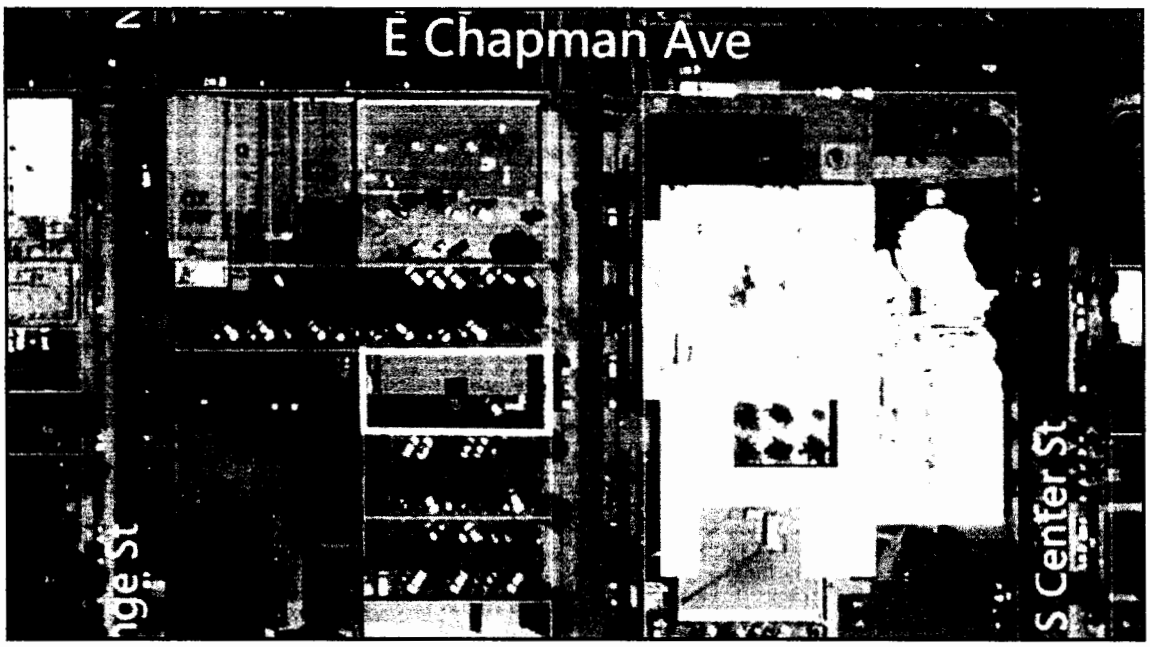
F. ***Environmental Contamination or Remediation*** - There is no known history of environmental contamination or remediation efforts at this site.

G. ***Description of the property's potential for transit-oriented development and the advancement of the planning objectives*** – There is no potential for transit-oriented development identified in relationship to this site. The site does meet the goals and objectives of the former redevelopment plan including the Five-Year Implementation Plan (both of which were consistent with the City of Orange Comprehensive General Plan) through the stimulation of construction, financing of public facilities, elimination of physical and economic blight, elimination of environmental deficiencies, land assembly and reconstruction/rehabilitation efforts.

H. ***History of previous development proposals and activity*** - There is no history of previous development proposals or activity for this site other than as a part of long-range planning for future Civic Center expansion to the main Library.

I. ***Use/Disposition of Property***
The Successor Agency intends to transfer the Property to the City of Orange to be dedicated for Governmental Use, specifically for future development of civic center facilities including future library facilities. This project has been fully described in the Orange Redevelopment Agency Five-Year Implementation Plan to support Roadway and Infrastructure Improvement Program. The property is vacant and was acquired for redevelopment purposes to provide for future public improvements. The Orange Merged and Amended Redevelopment Plan further described redevelopment purposes for proposed public infrastructure projects to include future civic center expansion and future library facilities.

Property No. 10 – 124-142 S. Grand Street between Almond Ave. and Chapman Ave.



Description of the property and environmental setting:

A. ***Acquisition Information*** - Acquired September 10, 2007. The value of the property at the time of purchase was $1,460,000.

B. ***Purpose of Acquisition*** - The property was acquired for governmental use as a site for future civic center expansion. The property was purchased to alleviate certain environmental deficiencies, and to develop public services and facilities. The acquisitions would allow for greater flexibility in planning for future land uses in and around Civic Center area. The site is improved with a two-story ten-unit apartment complex originally constructed in 1958. This acquisition resulted in the City owning the entire west side of Grand Street between Chapman and Almond Avenues, near the Civic Center areas.

C. ***Parcel data*** – The property address is 124-142 S. Grand Street, Orange, CA. The assessor's parcel number is 390-382-07. The lot size is 7,841 square feet or 0.18 acres. The current zoning designation is Office Professional (OP).

D. ***Current Value*** - Estimate of the current value of the parcel is Zero. The site requires monthly maintenance.

E. ***Revenue Generated by the Property*** – Annual lease revenues generated from this site is approximately $70,000. The lease revenue is report on the Cash Balance Form every six months as part of the ROPS process.

F. ***Environmental Contamination or Remediation*** - A Phase I Environmental Assessment was to be completed by Converse Consultants before escrow closing in 2007. No additional information was identified.

G. ***Description of the property's potential for transit-oriented development and the advancement of the planning objectives*** – There is no potential for transit-oriented development identified in relationship to this site. The site does meet the goals and objectives of the former redevelopment plan including the five-year implementation (both of which were consistent with the City of Orange Comprehensive General

Plan) through the stimulation of construction, financing of public facilities, elimination of physical and economic blight, elimination of environmental deficiencies, land assembly and reconstruction/rehabilitation efforts.

H. ***History of previous development proposals and activity*** - There is no history of previous development proposals or activity for this site other than as a site for future civic center expansion.

I. ***Use/Disposition of Property***
The Successor Agency intends to transfer the Property to the City of Orange to be dedicated for Governmental Use, specifically for future public parking and future civic center purposes. This project has been fully described in the Orange Redevelopment Agency Five-Year Implementation Plan to support Public Parking Lot Development in Old Towne. Upon funding availability, the property would be developed to support future civic center expansion and future public parking facilities. The original Southwest Redevelopment Plan and the Orange Merged and Amended Redevelopment Plan further described redevelopment purposes to include funding for various on-site parking improvements, including parking structures and future civic center expansion.

Agenda Item

Orange City Council

Item #: 9.3. 6/9/2026 **File #:** 26-0341

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk Services Director**

1. SUBJECT

Brown Act Updates (SB 707) Presentation

2. SUMMARY

Senate Bill 707 updates teleconferencing and accessibility requirements under the Brown Act, including new provisions related to remote participation and public access to meetings. By July 1, 2026, legislative bodies must adopt policies addressing technology disruptions and defining reasonable efforts for outreach to encourage public participation, particularly among underrepresented and non-English speaking communities.

This item includes a presentation summarizing these updates and a proposed resolution determining reasonable efforts to encourage public participation.

3. RECOMMENDED ACTION

1. Receive and file presentation.
2. Determine “reasonable efforts” for outreach to encourage participation in City Council meetings under Government Code § 54953.4.
3. Consider adoption of Resolution No. 11703. A Resolution of the City Council determining reasonable efforts to encourage public participation in City Council meetings pursuant to Government Code § 54953.4.

4. FISCAL IMPACT

Implementation of SB 707 will result in both one-time and ongoing costs to support public meeting accessibility and remote participation requirements. Anticipated expenses include annual subscriptions for audio conferencing services, installation of public meeting posting boards, and procurement and installation of audiovisual equipment upgrades for the City Council Chamber. Funding for these costs will be identified through the City’s budget process.

5. STRATEGIC PLAN GOALS

Goal 3: Enhance Public Communication Strategy and Quality of Life

6. DISCUSSION AND BACKGROUND

Background

The Ralph M. Brown Act (Government Code § 54950 et seq.) establishes requirements for open meetings of local legislative bodies. SB 707 updates provisions related to teleconferencing, including

requirements for remote participation, accessibility, and procedures for addressing disruptions to meeting access for City Council meetings.

The City Council is an “eligible legislative body” as defined in SB 707. Although the various standing boards, commissions, and committees of the City are each a “legislative body” that is subject to the Brown Act, the new requirements that apply specifically to an “eligible legislative body” do not apply to the City’s various committees.

Among other requirements, SB 707 requires the City Council to adopt a technology disruption policy, which Council adopted on May 26, 2026; and to determine what constitutes reasonable efforts for outreach to encourage public participation in City Council meetings, particularly among underrepresented and non-English speaking communities. These policies must be adopted by July 1, 2026.

Reasonable Efforts for Outreach

Government Code § 54953.4 requires the City Council to determine and adopt what constitutes “reasonable efforts” to encourage participation in City Council meetings, particularly among underrepresented communities and non-English speaking communities.

The proposed resolution provides a proposed plan and framework for implementing such reasonable efforts to encourage public participation including:

- Bilingual (English/Spanish) social media posts announcing upcoming meetings and direct links to agendas
- Posting bilingual agendas at ALL libraries (currently the agenda is only posted at Main Library)
- Include upcoming meeting dates and information, such as where to view agendas and how to subscribe to receive agenda notifications in the quarterly Our Orange digital publication
- Bilingual utility bill inserts
- Emailing agenda information directly to the El Modena Resource Center, Friendly Center, and the Hub OC

The statute provides the City Council with broad discretion in defining these reasonable efforts and clarifies that failure to provide notice to any specific group does not create a basis for legal action. The proposed policy is intended to provide flexibility while supporting expanded public awareness and participation.

Public Remote Participation

Effective July 1, 2026, eligible legislative bodies are required to provide members of the public with the ability to attend open and public meetings through either a two-way telephonic service or a two-way audiovisual platform. The legislation further requires that remote attendees be afforded the same opportunity to provide public comment as in-person attendees, including equivalent time limits. If a two-way audiovisual platform is utilized, a telephone call-in option must also be provided, and any available automatic captioning features must be activated. These requirements are intended to enhance public participation and accessibility while maintaining compliance with the Brown Act’s open meeting provisions.

Teleconferencing Options

SB 707 establishes comprehensive statutory requirements governing remote participation in meetings subject to the Brown Act held by eligible legislative bodies. In addition to retaining the traditional teleconferencing provisions, the legislation expressly authorizes teleconferencing as a reasonable accommodation under the Americans with Disabilities Act (ADA) and permits a limited number of instances of remote participation based on “just cause.”

Remote participation as an ADA accommodation must be provided when the applicable legal requirements are met and is not subject to any annual usage limitation. Whereas, participation based on “just cause” is limited to no more than five times per calendar year, subject to the statutory provisions governing the number of regular meetings held each month.

For purposes of the statute, “just cause” includes circumstances such as childcare or caregiving responsibilities; a contagious illness; a physical or mental condition that prevents in-person attendance; travel while conducting official City business; the need to care for an immunocompromised family member; a personal or family medical emergency; and military service obligations.

City Council Direction on Meeting Procedures

While SB 707 establishes baseline requirements, the City Council retains discretion over certain meeting procedures. The Council may provide direction to staff regarding meeting operations and related procedural matters, provided such direction is consistent with applicable law.

7. ATTACHMENTS

- Resolution No. 11703

Agenda Item

Orange City Council

Item #: 9.3. 6/9/2026 **File #:** 26-0341

TO: **Honorable Mayor and Members of the City Council**

THRU: **Jarad Hildenbrand, City Manager**

FROM: **Pamela Coleman, City Clerk Services Director**

1. SUBJECT

Brown Act Updates (SB 707) Presentation

2. SUMMARY

Senate Bill 707 updates teleconferencing and accessibility requirements under the Brown Act, including new provisions related to remote participation and public access to meetings. By July 1, 2026, legislative bodies must adopt policies addressing technology disruptions and defining reasonable efforts for outreach to encourage public participation, particularly among underrepresented and non-English speaking communities.

This item includes a presentation summarizing these updates and a proposed resolution determining reasonable efforts to encourage public participation.

3. RECOMMENDED ACTION

1. Receive and file presentation.
2. Determine “reasonable efforts” for outreach to encourage participation in City Council meetings under Government Code § 54953.4.
3. Consider adoption of Resolution No. 11703. A Resolution of the City Council determining reasonable efforts to encourage public participation in City Council meetings pursuant to Government Code § 54953.4.

4. FISCAL IMPACT

Implementation of SB 707 will result in both one-time and ongoing costs to support public meeting accessibility and remote participation requirements. Anticipated expenses include annual subscriptions for audio conferencing services, installation of public meeting posting boards, and procurement and installation of audiovisual equipment upgrades for the City Council Chamber. Funding for these costs will be identified through the City’s budget process.

5. STRATEGIC PLAN GOALS

Goal 3: Enhance Public Communication Strategy and Quality of Life

6. DISCUSSION AND BACKGROUND

Background

The Ralph M. Brown Act (Government Code § 54950 et seq.) establishes requirements for open meetings of local legislative bodies. SB 707 updates provisions related to teleconferencing, including

requirements for remote participation, accessibility, and procedures for addressing disruptions to meeting access for City Council meetings.

The City Council is an “eligible legislative body” as defined in SB 707. Although the various standing boards, commissions, and committees of the City are each a “legislative body” that is subject to the Brown Act, the new requirements that apply specifically to an “eligible legislative body” do not apply to the City’s various committees.

Among other requirements, SB 707 requires the City Council to adopt a technology disruption policy, which Council adopted on May 26, 2026; and to determine what constitutes reasonable efforts for outreach to encourage public participation in City Council meetings, particularly among underrepresented and non-English speaking communities. These policies must be adopted by July 1, 2026.

Reasonable Efforts for Outreach

Government Code § 54953.4 requires the City Council to determine and adopt what constitutes “reasonable efforts” to encourage participation in City Council meetings, particularly among underrepresented communities and non-English speaking communities.

The proposed resolution provides a proposed plan and framework for implementing such reasonable efforts to encourage public participation including:

- Bilingual (English/Spanish) social media posts announcing upcoming meetings and direct links to agendas
- Posting bilingual agendas at ALL libraries (currently the agenda is only posted at Main Library)
- Include upcoming meeting dates and information, such as where to view agendas and how to subscribe to receive agenda notifications in the quarterly Our Orange digital publication
- Bilingual utility bill inserts
- Emailing agenda information directly to the El Modena Resource Center, Friendly Center, and the Hub OC

The statute provides the City Council with broad discretion in defining these reasonable efforts and clarifies that failure to provide notice to any specific group does not create a basis for legal action. The proposed policy is intended to provide flexibility while supporting expanded public awareness and participation.

Public Remote Participation

Effective July 1, 2026, eligible legislative bodies are required to provide members of the public with the ability to attend open and public meetings through either a two-way telephonic service or a two-way audiovisual platform. The legislation further requires that remote attendees be afforded the same opportunity to provide public comment as in-person attendees, including equivalent time limits. If a two-way audiovisual platform is utilized, a telephone call-in option must also be provided, and any available automatic captioning features must be activated. These requirements are intended to enhance public participation and accessibility while maintaining compliance with the Brown Act’s open meeting provisions.

Teleconferencing Options

SB 707 establishes comprehensive statutory requirements governing remote participation in meetings subject to the Brown Act held by eligible legislative bodies. In addition to retaining the traditional teleconferencing provisions, the legislation expressly authorizes teleconferencing as a reasonable accommodation under the Americans with Disabilities Act (ADA) and permits a limited number of instances of remote participation based on “just cause.”

Remote participation as an ADA accommodation must be provided when the applicable legal requirements are met and is not subject to any annual usage limitation. Whereas, participation based on “just cause” is limited to no more than five times per calendar year, subject to the statutory provisions governing the number of regular meetings held each month.

For purposes of the statute, “just cause” includes circumstances such as childcare or caregiving responsibilities; a contagious illness; a physical or mental condition that prevents in-person attendance; travel while conducting official City business; the need to care for an immunocompromised family member; a personal or family medical emergency; and military service obligations.

City Council Direction on Meeting Procedures

While SB 707 establishes baseline requirements, the City Council retains discretion over certain meeting procedures. The Council may provide direction to staff regarding meeting operations and related procedural matters, provided such direction is consistent with applicable law.

7. ATTACHMENTS

- Resolution No. 11703

RESOLUTION NO. 11703

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ORANGE DETERMINING REASONABLE EFFORTS TO ENCOURAGE PUBLIC PARTICIPATION IN CITY COUNCIL MEETINGS PURSUANT TO GOVERNMENT CODE § 54953.4

WHEREAS, the Ralph M. Brown Act (Government Code § 54950 et seq.) establishes requirements for open and public meetings of local legislative bodies; and

WHEREAS, Senate Bill 707 (2025) amended the Brown Act to include additional requirements to encourage participation in public meetings, particularly among underrepresented communities and non-English-speaking communities; and

WHEREAS, Government Code § 54953.4(b)(3)(C) requires the City of Orange to determine and make reasonable efforts to invite groups that do not traditionally participate in public meetings to attend those meetings; and

WHEREAS, such reasonable efforts may include outreach to media organizations serving the jurisdiction, including those serving non-English-speaking communities, as well as civic, neighborhood, community-based, civil rights, and good government organizations; and

WHEREAS, Government Code § 54953.4(b)(3)(C)(ii) provides legislative bodies with broad discretion in determining appropriate reasonable efforts and clarifies that no action shall arise from failing to provide notice to any specific group; and

WHEREAS, the City of Orange is committed to promoting transparency, accessibility, and broad public participation in its public meetings; and

WHEREAS, the City of Orange currently uses a variety of communication methods to inform the public of meetings and opportunities to participate; and

WHEREAS, the activity is not a "Project" as defined under Section 15378 of the California Environmental Quality Act (CEQA) State Guidelines; therefore, pursuant to State Guidelines Section 15060(c)(3), no environmental review is required.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Orange that it determines the following to constitute reasonable efforts to encourage participation in City Council meetings pursuant to Government Code § 54953.4(b)(3)(C):

1. Media Outreach. Proactively include media organizations serving the City of Orange, including non-English-language newspapers and publications, in the distribution of City Council meeting agendas, notices, or other meeting-related information, as appropriate.

2. Electronic Access and Agenda Subscriptions. Maintain opportunities for members of the public to subscribe to receive City Council agendas and related materials through the City's website, and include instructions for accessing and subscribing to such materials on the City's website.

3. Multilingual Communication. Use multilingual communication methods, including translated agendas and multilingual social media posts (currently in Spanish), to increase awareness of meetings and participation opportunities, with additional languages incorporated as appropriate.

4. Community and Organizational Outreach. Provide meeting information through existing communication channels and partnerships with community-based organizations, neighborhood groups, civic or community organizations, including those serving non-English-speaking communities, as opportunities arise and are consistent with available resources.

5. Flexible and Evolving Methods. Use additional reasonable methods of outreach as appropriate, including, but not limited to, the City's website, email notifications, partnerships with community organizations, and other communication platforms that may develop over time.

BE IT FURTHER RESOLVED that these efforts are intended to provide a flexible framework for outreach and shall be implemented consistent with available resources and evolving communication practices.

ADOPTED this 9th day of June 2026.

Daniel R. Slater, Mayor, City of Orange

ATTEST:

Pamela Coleman, City Clerk, City of Orange

APPROVED AS TO FORM:

Nathalie Adourian, City Attorney,
City of Orange

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss.
CITY OF ORANGE)

I, PAMELA COLEMAN, City Clerk of the City of Orange, California, do hereby certify that the foregoing Resolution was duly and regularly adopted by the City Council of the City of Orange at a regular meeting thereof held on the 3rd day of June 2026 by the following vote:

AYES: COUNCILMEMBERS:
NOES: COUNCILMEMBERS:
ABSENT: COUNCILMEMBERS:

_____
Pamela Coleman, City Clerk, City of Orange