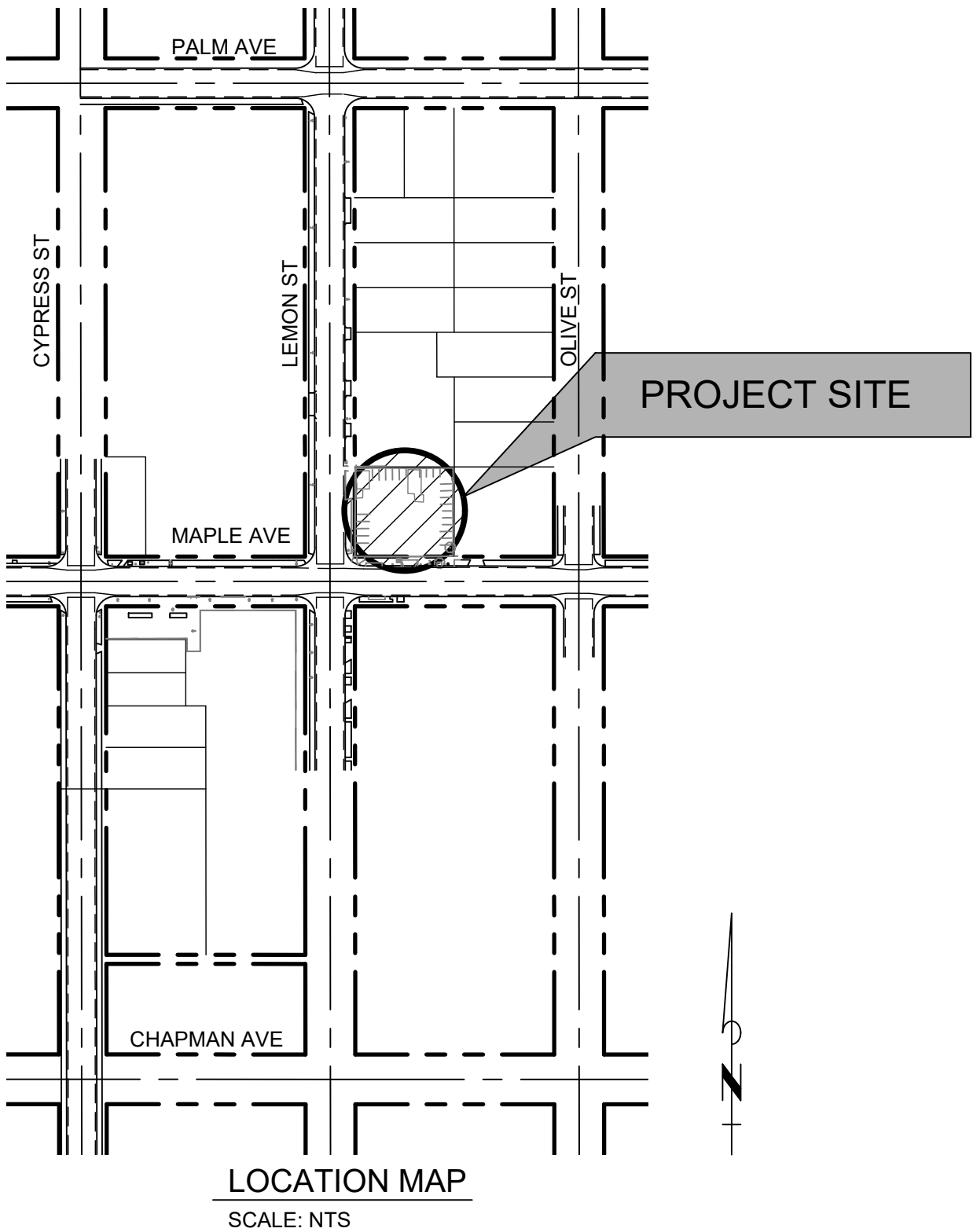
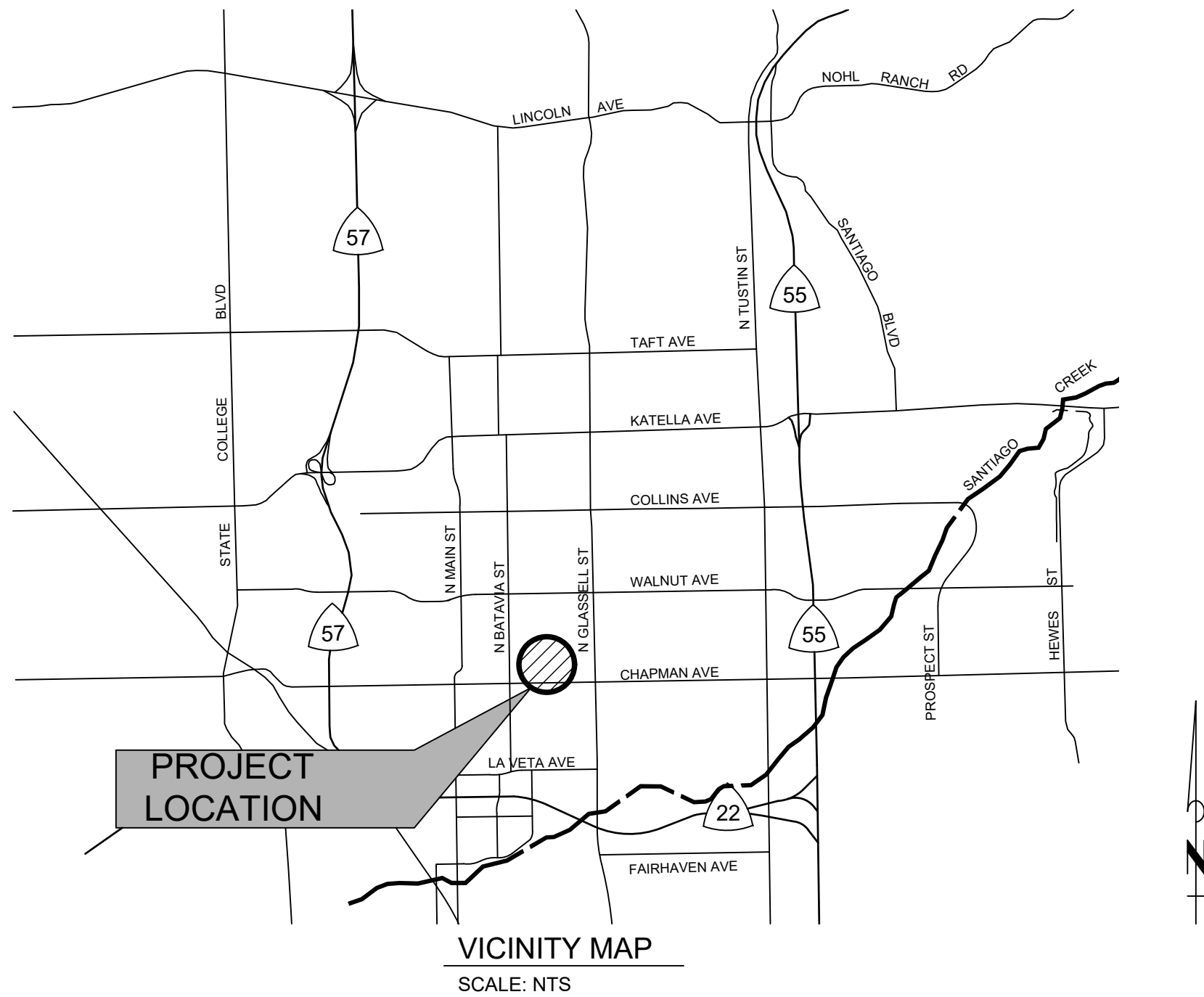


WELL NO. 28 EQUIPPING
225 W MAPLE AVE, ORANGE, CA 92866
W-698



BUILDING SPECIFICATIONS:

SCOPE: EQUIPPING OF WELL 28 FOR PUMPING, DISINFECTION AND DISTRIBUTION TO THE POTABLE SYSTEM. INCLUDES FACILITIES TO HOUSE THE CHEMICAL AND ELECTRICAL EQUIPMENT.

BUILDING SQUARE FOOTAGE: 128 SF (CHEMICAL ROOM)
240 SF (ELECTRICAL ROOM)
80 SF (SCE SWITCHBOARD ROOM)

HEIGHT: 16'-0" TOP OF PARAPET WALL
10'-0" TOP OF ROOF

NUMBER OF STORIES: ONE

OCCUPANCY GROUP: F-1 (CHEMICAL ROOM)
F-1 (ELECTRICAL ROOM)
F-1 (SCE SWITCHBOARD ROOM)

TYPE OF CONSTRUCTION: VB

AUTOMATIC SPRINKLER SYSTEM: NO

CALIFORNIA BUILDING CODE 2019
CALIFORNIA MECHANICAL CODE 2019
CALIFORNIA PLUMBING CODE 2019
CALIFORNIA ELECTRICAL CODE 2019
CALIFORNIA FIRE CODE 2019

APN: 039-162-23
ITEMS OF DEFERRED SUBMITTALS: SOUND ENCLOSURE, TANK & EQUIPMENT AND ANCHORAGES

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SUBMITTED BY:

PROJECT MANAGER: THOMAS L. EPPERSON RCE 36399 DATE

REVISIONS		
No.	DATE	DESCRIPTION



TWO WORKING DAYS
BEFORE YOU DIG



www.tetrattech.com
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Irvine, California 92614
Phone: (949) 809-5000 Fax: (949) 809-8010

CITY OF ORANGE
OFFICE OF THE CITY ENGINEER

TITLE SHEET, LOCATION, AND VICINITY MAP
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

G-1

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE PROJECT CONSTRUCTION PLANS AND SPECIFICATIONS, THE LATEST EDITION OF CITY OF ORANGE STANDARD PLANS AND SPECIFICATIONS, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK), AND ALL APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS, ALL TO THE SATISFACTION OF THE CITY OF ORANGE.
2. CONTRACTOR SHALL PREPARE AN EROSION CONTROL PLAN IN CONFORMANCE WITH THE ORANGE COUNTY CONSTRUCTION RUN-OFF GUIDANCE MANUAL PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE CONTROL MEASURES SHALL BE IN PLACE AND MAINTAINED AT THE END OF EACH WORKING DAY BETWEEN OCTOBER 15 AND APRIL 15 AND FOR THE REMAINDER OF THE YEAR WHENEVER THE DAILY RAINFALL PROBABILITY EXCEEDS 40%.
3. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE CITY OF ORANGE N.P.D.E.S. STORM WATER DISCHARGE PERMIT INCLUDING THE MONITORING PROGRAM.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE CITY STANDARDS, CONSTRUCTION MANUAL AND CONSTRUCTION DOCUMENTS ON THE JOB AT ALL TIMES.
5. WORK SHOWN OR INDICATED ON THESE PLANS, OR CALLED FOR IN THE SPECIFICATIONS, BUT NOT INCLUDED AS PAY QUANTITY ITEMS, SHALL BE CONSIDERED INCIDENTAL WORK - COST OF WHICH SHALL BE INCLUDED IN THE CONTRACTOR'S BID FOR PAY QUANTITY ITEMS.
6. ALL EXCESS EXCAVATED SOIL AND MATERIALS SHALL BE REMOVED AND DISPOSED OF IN A PROPER AND LEGAL MANNER BY THE CONTRACTOR. ALL DISTURBED SURFACE AREAS SHALL BE SHAPED TO FACILITATE DRAINAGE AND AVOID PONDING AND SHALL BE RESTORED TO NEAR NATURAL OR PRE-CONSTRUCTION CONDITIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, PAVEMENT, CURBS, TRAFFIC STRIPING AND MARKINGS, TRAFFIC SIGNAL DETECTOR LOOPS, STRUCTURES, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, AS A RESULT OF HIS OPERATIONS, AND WILL BE REQUIRED TO REPAIR OR REPLACE IN KIND TO THE SATISFACTION OF, AND AS DIRECTED BY, THE CITY OF ORANGE OR UTILITY COMPANY.
8. THE WORK SITE AND EXTERIOR STREETS SHALL BE MAINTAINED IN A NEAT, CLEAN, HAZARD FREE, ORDERLY STATE, THROUGHOUT CONSTRUCTION. SITE SHALL BE CLEANED UPON REQUEST OF THE INSPECTOR. THE CONTRACTOR SHALL IMMEDIATELY HAUL AWAY AND DISPOSE OF, OFF THE PROJECT SITE, ALL EXCESS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS. ALL DISPOSALS SHALL BE AT THE CONTRACTOR'S EXPENSE.
9. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS OBTAINED FROM A SEARCH OF EXISTING RECORDS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY RESPECTIVE UTILITIES AND UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA 1(800) 422-4133 TO DETERMINE THE EXACT FIELD LOCATION OF UTILITIES WHICH MAY CONFLICT WITH HIS WORK.
10. ACTUAL FIELD CONDITIONS MAY VARY FROM THOSE SHOWN ON PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ACTUAL ABOVE GROUND AND UNDERGROUND CONDITIONS PRIOR TO START OF CONSTRUCTION.
11. ALL EXISTING IMPROVEMENTS INCLUDING CURB AND GUTTERS, SIDEWALKS, ASPHALT CONCRETE OR P.C.C. PAVING WHICH ARE BEING JOINED OR MATCHED IN CONNECTION WITH THE PROJECT, SHALL BE JOINED, OR MATCHED IN A MANNER SATISFACTORY TO THE CITY, INCLUDING NECESSARY SAWCUTTING, REMOVAL, REPLACEMENT OR CAPPING.
12. THE CONTRACTOR SHALL CONDUCT HIS CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT STORM OR OTHER WATERS MAY PROCEED UNINTERRUPTED ALONG THE STREET OR DRAINAGE COURSES.
13. THE CONTRACTOR SHALL REPAIR AND/OR REMODEL EXISTING IRRIGATION SYSTEMS AS NECESSARY TO FACILITATE CONSTRUCTION TO THE SATISFACTION OF THE CITY.
14. CONSTRUCTION SITES SHALL BE MAINTAINED IN SUCH A CONDITION THAT AN UNANTICIPATED STORM DOES NOT CARRY WASTES OR POLLUTANTS OFF THE SITE.

SUCH "DISCHARGES" OF MATERIAL OTHER THAN STORM WATER ARE ALLOWED ONLY WHEN NECESSARY FOR PERFORMANCE AND COMPLETION OF CONSTRUCTION PRACTICES AND WHERE THEY DO NOT: CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY WATER QUALITY STANDARD; CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; OR CONTAIN A HAZARDOUS SUBSTANCE IN A QUANTITY REPORTABLE UNDER FEDERAL REGULATIONS 40 CFR PARTS 117 AND 302.

MATERIALS WHICH MAY HAVE EFFECTS OF POLLUTION INCLUDE BUT ARE NOT LIMITED TO: SOLID OR LIQUID CHEMICAL SPILLS; WASTES FROM PAINTS, STAINS, SEALANTS, GLUES, LIMES, PESTICIDES, HERBICIDES, WOOD PRESERVATIVES AND SOLVENTS; ASBESTOS FIBERS, PAINT FLAKES OR STUCCO FRAGMENTS; FUELS, OILS, LUBRICANTS, AND HYDRAULIC, RADIATOR OR BATTERY FLUIDS; FERTILIZERS, VEHICLE/EQUIPMENT WASH WATER AND CONCRETE WASH WATER; CONCRETE DETERGENT OR FLOATABLE WASTES; WASTES FROM ANY ENGINE/EQUIPMENT STEAM CLEANING OR CHEMICAL DEGREASING, AND SUPER CHLORINATED POTABLE WATER LINE FLUSHINGS.

DURING CONSTRUCTION, DISPOSAL OF SUCH MATERIALS SHOULD OCCUR IN A SPECIFIED AND CONTROLLED TEMPORARY AREA ON SITE PHYSICALLY SEPARATED FROM POTENTIAL STORM WATER RUN-OFF, WITH ULTIMATE DISPOSAL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS.

15. CONTRACTOR TO POTHOLE EXISTING WATER MAINS AND UTILITIES TO VERIFY LOCATION, SIZE AND TYPE PRIOR TO SUBMITTING LINE LAY DRAWINGS TO CONFIRM ALL UTILITIES AND ALIGNMENT/GRADE FOR NEW PIPELINE CONSTRUCTION AND CONNECTIONS.
16. THE WALL AND FACE OF ALL EXCAVATIONS GREATER THAN (5) FEET IN DEPTH SHALL BE EFFECTIVELY GUARDED BY A SHORING SYSTEM: SLOPING OF THE GROUND OR OTHER EQUIVALENT MEANS. TRENCHES OR EXCAVATIONS LESS THAN FIVE (5) FEET IN DEPTH SHALL ALSO BE GUARDED WHEN EXAMINATION INDICATES THAT HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED.
17. THE CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM EXCAVATION OR TRENCH WORK AS DESCRIBED IN NO. 16 ABOVE FROM CAL-OSHA. EXCAVATION PERMIT BECOMES VALID ONCE ALL REQUIREMENTS PURSUANT TO CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTION 341 ARE PERFORMED.
18. ALL APPROACHES TO PRIVATE DRIVEWAYS, DRIVEWAYS AND INTERSECTING STREETS SHALL BE KEPT OPEN TO TRAFFIC AT ALL TIMES. CONTRACTOR SHALL INFORM ALL PROPERTY OWNERS OR BUSINESSES A MINIMUM OF 48 HOURS PRIOR TO PERFORMING ANY CONSTRUCTION WHICH WILL IMPEDE THE NORMAL ACCESS THROUGH THEIR DRIVEWAYS.
19. ALL CONCRETE CROSS GUTTERS (SPANDRELS), SIDEWALKS, CURBS OR CURB & GUTTER TO BE REMOVED AND REPLACED SHALL BE SAWCUT TO THE NEAREST TRANSVERSE SCORE MARK OR ADJUSTABLE CONTROL JOINT OR WEAKENED PLANE JOINT AND REPLACED IN CONFORMANCE WITH THE CITY OF ORANGE. ALL EXPOSED CONCRETE SURFACES SHALL CONFORM IN GRADE, COLOR AND FINISH TO ALL ADJOINING CROSS GUTTERS (SPANDRELS), SIDEWALKS, CURBS OR CURB & GUTTER.
20. ALL P.C.C. AND A.C. PAVEMENT REMOVALS SHALL BE OUTLINED TO NECESSARY WORKING LIMITS AND SAWCUT PRIOR TO THE REMOVAL. ALL DEBRIS CREATED BY THE REMOVAL OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AWAY FROM THE JOB SITE IN A MANNER AND AT A LOCATION ACCEPTABLE TO ALL CONTROLLING AGENCIES.

21. PUBLIC AND PRIVATE UTILITIES AND THE ACCOMPANYING SUBSTRUCTURES SHOWN ON THESE PLANS ARE FROM AVAILABLE PUBLIC DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING SUCH UTILITIES AND SUBSTRUCTURES AS SHOWN WITHIN THE CONSTRUCTION LIMITS. DAMAGE TO SUCH RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
22. NORMAL CITY WORKING HOURS ARE 7:00A.M. TO 4:00P.M. MONDAY THRU THURSDAY AND ALTERNATE FRIDAYS, EXCLUDING CITY-OBSERVED HOLIDAYS. THE CONTRACTOR MAY WORK MONDAY THROUGH FRIDAY. THE CONTRACTOR'S ACTIVITIES SHALL BE CONFINED TO THE HOURS BETWEEN 7:00A.M. AND 4:00P.M. THE WATER DIVISION INSPECTOR SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY WORK.
23. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS REPRESENTING THE BEST INFORMATION CURRENTLY AVAILABLE, BUT WITHOUT GUARANTEE OF ACCURACY. THE CONTRACTOR & SUBCONTRACTOR SHALL CAREFULLY EXAMINE THE SITE, COMPARE THE CONSTRUCTION DOCUMENTS WITH THE EXISTING CONDITIONS, BE RESPONSIBLE FOR THE ACCURACY OF ALL DIMENSIONS AND THOROUGHLY FAMILIARIZE HIMSELF/HERSELF WITH THE SCOPE OF WORK. BY THE ACT OF SUBMITTING A BID THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH AN EXAMINATION, HAVE ACCEPTED THE CONDITIONS & TO HAVE INCLUDED ALL RELATED SITE/BUILDING(S) CONDITION COST IN HIS/HER BID.
24. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE(S) DURING CONSTRUCTION.
25. DELIVERY OF MATERIALS TO THE SITE & REMOVAL OF WASTE FROM THE SITE SHALL BE COORDINATED WITH THE CITY OF ORANGE WATER DIVISION FOR AN ACCEPTABLE ACCESS ROUTE & SCHEDULE. USE OF THE AREA OUTSIDE OF THE APPROVED WORK AREA SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES WITHOUT CLEARANCE FROM THE CITY.

ORANGE WATER NOTES:

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE CITY OF ORANGE WATER DIVISION STANDARD PLANS AND SPECIFICATIONS AND SHALL ALSO BE DONE TO THE SATISFACTION OF THE CITY PUBLIC WORKS INSPECTOR.
2. CITY OF ORANGE WATER DIVISION STANDARD PLANS AND SPECIFICATIONS ARE AVAILABLE AT THE CITY OF ORANGE WATER DIVISION, 189 S. WATER STREET, ORANGE, CA 92866 AND FROM THE CITY'S WEBSITE.
3. AN EIGHT (8) FOOT MINIMUM CLEARANCE IS REQUIRED BETWEEN CITY WATER MAINS AND SIGNS, TREES, OR OTHER SUBSTANTIAL SHRUBS, BUSHES, OR PLANTS.
4. PERMANENT SIGNS, AWNINGS, SURFACE WATER QUALITY FEATURES SUCH AS BUT NOT LIMITED TO INFILTRATION PLANTERS, BASINS, PERVIOUS PAVEMENT, OR OTHER STRUCTURES SHALL NOT BE PERMITTED TO BE INSTALLED OVER CITY WATER MAINS, LATERALS, SERVICES, METERS, AND FIRE HYDRANTS.
5. WATER DIVISION AND THE CITY PUBLIC WORKS INSPECTOR SHALL BE NOTIFIED OF ANY AND ALL WATER SYSTEM CONSTRUCTION 24 HOURS PRIOR TO BEGINNING CONSTRUCTION AT (714) 744-5526.
6. SPECIAL SCHEDULING OUTSIDE OF NORMAL WORKING HOURS MAY BE REQUIRED FOR TEMPORARY SERVICE INTERRUPTIONS AND A MINIMUM OF THREE (3) WORKING DAY ADVANCE NOTICE BY THE CONTRACTOR TO THE ORANGE WATER INSPECTOR IS REQUIRED FOR SYSTEM SHUT-DOWNS.
7. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF WATER MAINS AND OTHER UTILITIES PRIOR TO CONSTRUCTION.
8. INSTALLATION OF SEWER MAINS AND STORM DRAINS IN THE VICINITY OF NEW AND/OR EXISTING WATER MAINS SHALL BE DONE IN ACCORDANCE WITH THE WATER DIVISION STANDARD PLANS AND IN ACCORDANCE WITH THE CALIFORNIA STATE HEALTH DEPARTMENT REQUIREMENTS FOR MATERIALS AND HORIZONTAL AND VERTICAL SEPARATION. THE MOST RESTRICTIVE CITY/STATE REQUIREMENTS SHALL TAKE PRECEDENCE.
9. A SIX (6) FOOT MINIMUM HORIZONTAL CLEARANCE AND A ONE (1) FOOT MINIMUM VERTICAL CLEARANCE IS REQUIRED BETWEEN THE CITY WATER MAINS, LATERALS, SERVICES, METERS, AND FIRE HYDRANTS, AND ALL OTHER UTILITIES, EXCEPT FOR SEWER MAINS AND STORM DRAINS.
10. ALL MATERIALS SHALL BE NEW AND FREE OF DEFECTS.
11. WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA STANDARD C-600 "FOR INSTALLATION OF DUCTILE IRON WATER MAINS AND THEIR APPURTENANCES", LATEST REVISION, AND THE WATER DIVISION STANDARD PLANS AND SPECIFICATIONS.
12. ALL FITTINGS SHALL BE INSTALLED WITH THRUST BLOCKS AND MEGA-LUG RETAINING GLANDS OR APPROVED EQUAL.
13. ALL DUCTILE IRON PIPE, FITTINGS, VALVES, COPPER SERVICE LATERALS, AND APPURTENANCES SHALL BE WRAPPED WITH POLYETHYLENE PER AWWA STANDARD C-105 "DUCTILE IRON PIPING FOR WATER", LATEST REVISION. POLYWRAP MATERIAL SHALL BE CLEAR 8 MIL POLYETHYLENE FLAT TUBING WITH DIMENSIONS APPROPRIATE FOR THE SIZE OF PIPE.
14. WATER MAINLINES, FITTINGS AND APPURTENANCES SHALL BE INSTALLED THREE AND ONE-HALF (3.5) FEET BELOW FINISHED SURFACE TYPICALLY (NOT SUBGRADE) UNLESS INDICATED OTHERWISE ON THE APPROVED PLANS.
15. PUBLIC WATER VALVES SHALL BE OPERATED BY CITY STAFF ONLY.
16. INSTALLATIONS FOUND TO BE IN NON-COMPLIANCE WITH THESE GENERAL WATER CONSTRUCTION NOTES AND/OR THE WATER DIVISION STANDARD PLANS AND SPECIFICATIONS SHALL BE REMOVED AND RE-INSTALLED PER THE CITY PUBLIC WORKS INSPECTOR'S APPROVAL PRIOR TO FINAL JOB APPROVAL AT THE CONTRACTOR'S EXPENSE.
17. CONNECTIONS TO EXISTING CITY WATER MAINS SHALL BE MADE ONLY AFTER SUCCESSFUL PRESSURE TEST AND DISINFECTION HAS BEEN COMPLETED.
18. FINAL INSPECTION SHALL BE MADE AFTER COMPLETE INSTALLATION OF THE WATER SYSTEM AND APPURTENANCES, SUCCESSFUL PRESSURE TEST, DISINFECTION, RAISING TO GRADE OF ALL ON-SITE AND OFF-SITE VALVE BOXES, ADJUSTMENT TO GRADE OF ALL METER BOXES, AND INSTALLATION OF FIRE HYDRANT SUPPORT COLLARS.
19. THE WATER DIVISION WILL PERFORM THE INITIAL BACTERIOLOGICAL ANALYSIS. SUBSEQUENT TESTING IS SUBJECT TO APPLICABLE FEE.

ABBREVIATIONS:

∠	ANGLE	L	LENGTH
AB	ASPHALT BASE	LF	LINEAL FEET
ABAN, ABND		LN	LANE
OR ABAND		LT	LEFT
AC	ABANDONED UTILITY	MAT'L	MATERIAL
AFF	ASPHALT CONCRETE	MAX	MAXIMUM
ALT	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
ANCH	ALTERNATIVE	MH	MANHOLE
APWA	ANCHOR	MIN	MINIMUM
ASTM	AMERICAN PUBLIC WORKS ASSOCIATION	MIP	MALE IRON PIPE
AWWA	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MJ	MECHANICAL JOINT
AV OR AVE	AMERICAN WATER WORKS ASSOCIATION	MTS	MANUAL TRANSFER SWITCH
BC	AVENUE	N	NORTH
BFV	BEGINNING OF CURVE	NLY	NORTHERLY
BLVD	BUTTERFLY VALVE	NO	NUMBER
BM	BOULEVARD	NTS	NOT TO SCALE
CAL-OSHA	BENCHMARK	OC	ON CENTER
	CALIF. DEPT. OF INDUSTRIAL RELATIONS	OCPF&RD	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
CATV	DIV. OF OCCUPATIONAL SAFETY AND HEALTH		OUTSIDE DIAMETER
CB	CABLE TELEVISION	OD	OVERHEAD
CIP	CATCH BASIN	OH	POINT OF COMPOUND CURVATURE
CFM	CAST IRON PIPE	PCC	PLAIN END
℄	CUBIC FEET PER MINUTE	PL	PLACE
CL	CENTERLINE	PLC	PROGRAMMABLE LOGIC CONTROLLERS
CML	CLASS	PROP	PROPOSED
CLR	CEMENT MORTAR LINED	PRV	PRESSURE REDUCING VALVE
CML&C	CLEARANCE	PSI	POUNDS PER SQUARE INCH
CP	CEMENT MORTAR LINED & COATED	PT	POINT
CONC	CATHODIC PROTECTION	PVC	POLYVINYL CHLORIDE
CONT	CONCRETE	R	RADIUS LENGTH
CSG	CONTINUOUS	RD	ROAD
D	CASING	RET	RETAINING
DIA OR Ø	DEGREES	REQ'D	REQUIRED
DI	DIAMETER	RPM	REVOLUTIONS PER MINUTE
DIP	DUCTILE IRON	ROW OR R/W	RIGHT OF WAY
DR	DUCTILE IRON PIPE	RT	RIGHT
DWG	DRIVE	RW	RECLAIMED WATER (LINE)
E	DRAWING	S	SANITARY SEWER OR SLOPE OR SOUTH OR SIGN
EC	ELECTRICAL LINE OR EAST	SCE	SOUTHERN CALIFORNIA EDISON
EL	END OF CURVE	SCH	SCHEDULE
ELEC	ELECTRICAL	SD	STORM DRAIN (LINE)
ELEV	ELEVATION	SDMH	STORM DRAIN MANHOLE
EQ	EQUAL	SHT	SHEET
EW	EACH WAY	SL	STREET LIGHT
EXIST	EXISTING	SMC	SOLID STATE MOTOR CONTROLLER
FF	EXISTING FLOOR	SPECS	SPECIFICATIONS
FIP	FEMALE IRON PIPE THREAD	SS	STAINLESS STEEL
FH OR F/H	FIRE HYDRANT	ST	STREET
FL	FLOW LINE	STA	STATION
FLG	FLANGED	STD	STANDARD
FO	FIBER OPTIC (LINE)	STL	STEEL
FOT	FLAT ON TOP	SWR	SEWER
FM	FORCE MAIN	T	TANGENT LENGTH
FWY	FREEWAY	T OR TELE	TELEPHONE
FS	FINISHED SURFACE	TB	TOP OF BERM, THRUST BLOCK
FT	FEET	TC	TOP OF CURB
G	GAS (LINE)	TDH	TOTAL DYNAMIC HEAD
GA	GAUGE	THK	THICK
GALV	GALVANIZED	TP	TOP OF CONCRETE PAD
GB	GRADE BREAK	TYP	TYPICAL
GE	GROOVED END	UB	UTILITY BOX
GPM	GALLON PER MINUTE	V	VALVE OR VOLTS
GCB	GENERATOR CONNECTION BOX	W	WATER (LINE) OR WEST OR WIDTH
H	HEIGHT	W/	WITH
HP	HORSE POWER	WS	WATER SURFACE
HORIZ	HORIZONTAL	WT	WEIGHT
INV	INVERT	WTR	WATER
INSUL	INSULATING	WWM	WELDED WIRE MESH

L	LENGTH
LF	LINEAL FEET
LN	LANE
LT	LEFT
MAT'L	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MIP	MALE IRON PIPE
MJ	MECHANICAL JOINT
MTS	MANUAL TRANSFER SWITCH
N	NORTH
NLY	NORTHERLY
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OCPF&RD	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
OD	OVERHEAD
OH	POINT OF COMPOUND CURVATURE
PCC	PLAIN END
PL	PLACE
PLC	PROGRAMMABLE LOGIC CONTROLLERS
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PT	POINT
PVC	POLYVINYL CHLORIDE
R	RADIUS LENGTH
RD	ROAD
RET	RETAINING
REQ'D	REQUIRED
RPM	REVOLUTIONS PER MINUTE
ROW OR R/W	RIGHT OF WAY
RT	RIGHT
RW	RECLAIMED WATER (LINE)
S	SANITARY SEWER OR SLOPE OR SOUTH OR SIGN
SCE	SOUTHERN CALIFORNIA EDISON
SCH	SCHEDULE
SD	STORM DRAIN (LINE)
SDMH	STORM DRAIN MANHOLE
SHT	SHEET
SL	STREET LIGHT
SMC	SOLID STATE MOTOR CONTROLLER
SPECS	SPECIFICATIONS
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
SWR	SEWER
T	TANGENT LENGTH
T OR TELE	TELEPHONE
TB	TOP OF BERM, THRUST BLOCK
TC	TOP OF CURB
TDH	TOTAL DYNAMIC HEAD
THK	THICK
TP	TOP OF CONCRETE PAD
TYP	TYPICAL
UB	UTILITY BOX
V	VALVE OR VOLTS
W	WATER (LINE) OR WEST OR WIDTH
W/	WITH
WS	WATER SURFACE
WT	WEIGHT
WTR	WATER
WWM	WELDED WIRE MESH

LEGEND:

	CENTERLINE
	RIGHT-OF-WAY
	CONCRETE CURB
	CURB & GUTTER
	DOMESTIC WATER
	RECLAIMED WATER
	SEWER
	STORM DRAIN
	TELEPHONE CABLE OR CONDUIT
	ELECTRICAL DUCT
	OVERHEAD ELECTRICAL
	GAS
	CATV
	FIBER OPTIC CABLE
	RETAINING WALL
	FENCE
	TO BE REMOVED
	PROPOSED LINE
	EDGE OF EXISTING PAVEMENT
	EASEMENT LINE
	CONCRETE ENCASED PIPE
	PLUG AND THRUST BLOCK
	CURVE DESIGNATION
	VALVE
	FIRE HYDRANT
	POWER POLE
	SEWER MANHOLE
	TELEPHONE MANHOLE
	ELECTRICAL MANHOLE
	TREE
	CORROSION PROTECTION TEST STATION

UTILITY AND AGENCY INDEX:

AGENCY	CONTACT	TELEPHONE
AT&T DISTRIBUTION	SUSAN BLACKBURN	(714) 507-3526
CABLE COM	JESUS AYALA	(714) 448-9121
LEVEL 3 COMMUNICATIONS	CALEB KING	(918) 547-0007
MCI (VERIZON BUSINESS)	INVESTIGATIONS@VERIZON.COM	-
CROWN CASTLE	NICK BELINSKY	(724) 416-2449
SOCAL GAS DISTRIBUTION	ADALBERTO RODRIGUEZ	(714) 634-5069
SOCAL GAS TRANSMISSION	MIKE CAMPISI	(213) 231-6081
SCE DISTRICT	KIM GURULE	(714) 796-9932
CHARTER	DAVE DOLNEY	(714) 903-8446

BASIS OF BEARING

THE BASIS OF BEARING FOR THIS SURVEY IS THE CENTERLINE OF MAPLE AVE BEING N89°59'42"W AS SHOWN ON RECORD OF SURVEY NO. 83-1123, BOOK 104, PAGE 37-39, RECORDED IN THE COUNTY OF ORANGE.

BOUNDARY NOTE

APNS: 039-162-23

BENCHMARK

ORANGE COUNTY PUBLIC WORKS SA-281-75

FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "SA-281-75", SET IN THE SOUTHWEST CORNER OF A 4 FT. BY 15 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED IN THE NORTHEASTERLY CORNER OF THE INTERSECTION OF BATAVIA STREET AND CHAPMAN AVENUE, 66 FT. EASTERLY OF THE CENTERLINE OF BATAVIA AND 32.5 FT. NORTHERLY OF THE CENTERLINE OF CHAPMAN. MONUMENT IS SET LEVEL WITH THE SIDEWALK.

ELEV = 171.689 NAVD 1988

DATES OF SURVEY

JULY 15, 2019

REVISIONS		
No.	DATE	DESCRIPTION



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Phone: (949) 809-5000 Fax: (949) 809-8010

CITY OF ORANGE
OFFICE OF THE CITY ENGINEER

GENERAL NOTES, ABBREVIATIONS, SYMBOLS




225 W MAPLE AVE, ORANGE CA 92866

SCALE:	HORIZ. AS NOTED VERT. AS NOTED	G-2	SHEET OF SHEETS
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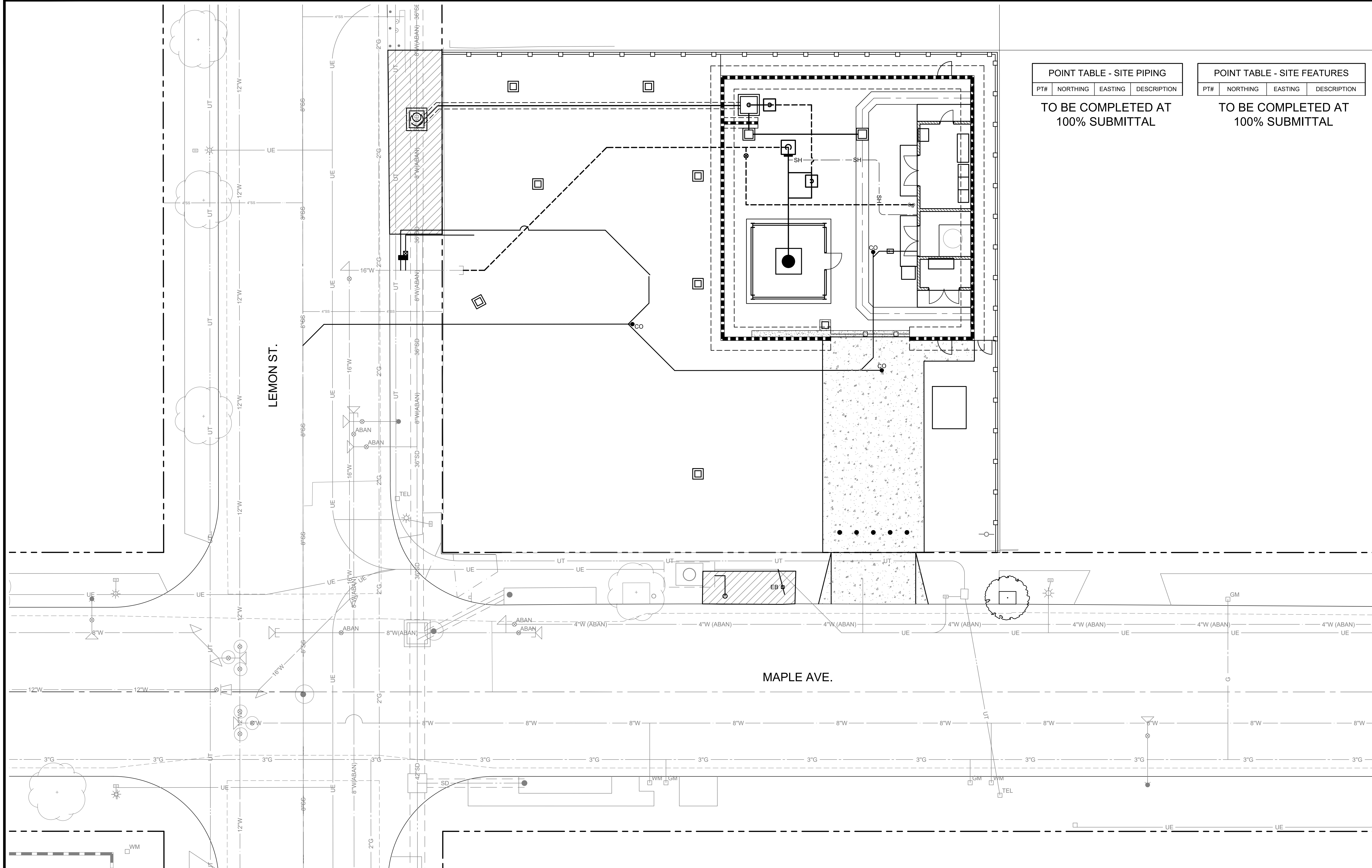
CITY OF ORANGE PUBLIC WORKS STANDARD DRAWINGS	
NUMBER	TITLE
115	COMMERCIAL DRIVEWAY APRON
117	STANDARD CURB AND GUTTER FOR PUBLIC AND PRIVATE STREET
118	SIDEWALK AND PARKWAY DETAILS
125	STREET REPAIR STANDARD FOR UTILITY CUTS
127	STANDARD CONCRETE GUTTER FOR ON-SITE PARKING LOTS
128	STANDARD CURB AND GUTTER FOR ON-SITE PARKING LOTS
206	SEWER LATERAL
207	LATERAL CONNECTIONS TYPE A AND TYPE B
208	SEWER CLEAN OUT
313	JUNCTION STRUCTURE TYPE 1
320	CONCRETE COLLAR (FOR PIPES 12" THRU 66" DIAMETER)
407	STANDARD MANHOLE FRAMES AND COVERS
408	PRECAST REINFORCED CONCRETE MANHOLE
L-16	CITY TREE STANDARD FORM PLANTING DETAIL

CITY OF ORANGE WATER STANDARDS	
NUMBER	TITLE
OWD-101	VALVE BOX SP
OWD-108	VALVE INSTALLATION
OWD-109	THRUST BLOCK DETAIL
OWD-110	TYPICAL TRENCH SECTION
OWD-201	SERVICE TAP INSTALLATION (COPPER TUBING)
OWD-203	1" SERVICE INSTALLATION (COPPER TUBING)
OWD-205	2" SERVICE INSTALLATION (COPPER TUBING)
OWD-306	TYPICAL 2" AND SMALLER BACKFLOW PREVENTION DEVICE

AMERICAN PUBLIC WORK ASSOCIATION	
NUMBER	TITLE
601-4	REINFORCED CONCRETE BLOCK WALL

			<p align="center">CALL BEFORE YOU DIG</p>  <p align="center">DIALERT</p>		<p align="center">CALL:</p>  <p align="center">811</p>		 <p>TETRA TECH</p>		<p align="center">CITY OF ORANGE</p> <p align="center">OFFICE OF THE CITY ENGINEER</p>		
No.	DATE	DESCRIPTION					<p align="center">www.tetrattech.com</p> <p align="center">17885 VonKarman Ave, Ste 500 Irvine, California 92614 Phone: (949) 809-5000 Fax: (949) 809-8010</p>		<p align="center">CONSTRUCTION NOTES</p> <p align="center">225 W MAPLE AVE, ORANGE CA 92866</p>		
			<p align="center">TWO WORKING DAYS BEFORE YOU DIG</p>						<p>SCALE: HORIZ. AS NOTED VERT. AS NOTED</p>	<p>G-3</p>	<p>SHEET OF SHEETS</p>

12/14/2020 8:53:46 AM - O:\PROJECTS\IRVINE\09394200-09394-1900\1\CAD\SH\FILES\G-4_HORIZONTAL CONTROL PLAN.DWG - CABANERO, ERIN



POINT TABLE - SITE PIPING

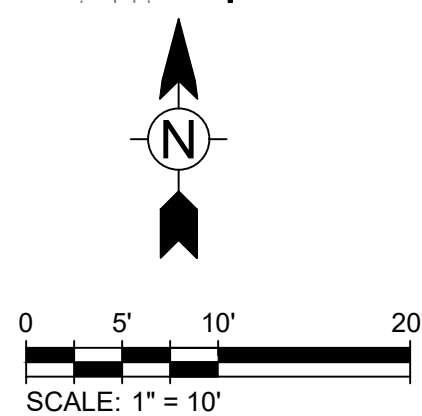
PT#	NORTHING	EASTING	DESCRIPTION
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TO BE COMPLETED AT
100% SUBMITTAL

POINT TABLE - SITE FEATURES

PT#	NORTHING	EASTING	DESCRIPTION
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TO BE COMPLETED AT
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HORIZONTAL CONTROL PLAN
225 W MAPLE AVE, ORANGE CA 92866

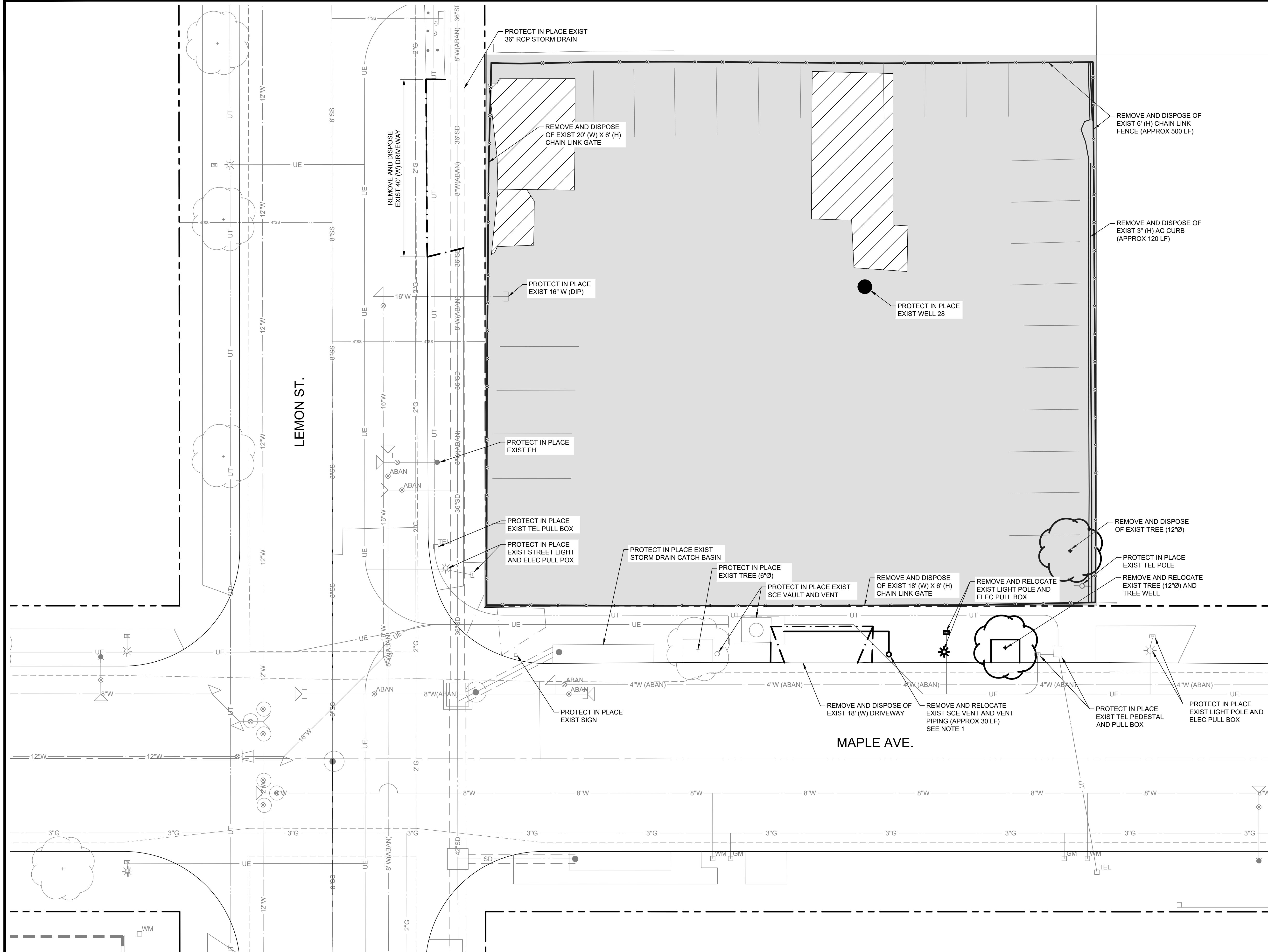
SCALE: HORIZ. AS NOTED
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G-4

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

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LEGEND

REMOVE AND DISPOSE OF EXIST CONCRETE PAVEMENT, THICKNESS UNKNOWN - ASSUME 6" THK (NO BASE) (APPROX 1,200 SF)

REMOVE AND DISPOSE OF EXIST AC PAVEMENT, THICKNESS VARIES - ASSUME 7" THK (NO BASE) (APPROX 14,500 SF)

NOTES:

1. CONTRACTOR SHALL COORDINATE RELOCATION OF VAULT VENT WITH SCE.

REVISIONS		
No.	DATE	DESCRIPTION

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DIGALERT

CALL: **811**

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DEMOLITION SITE PLAN
225 W MAPLE AVE, ORANGE CA 92866

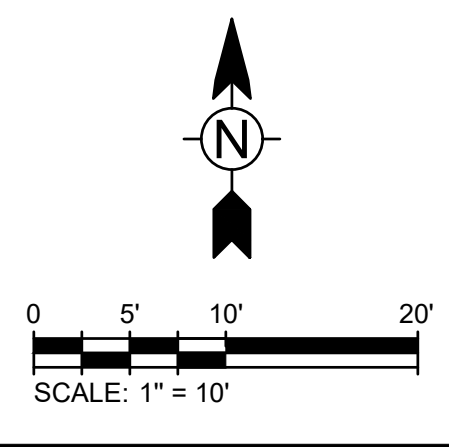
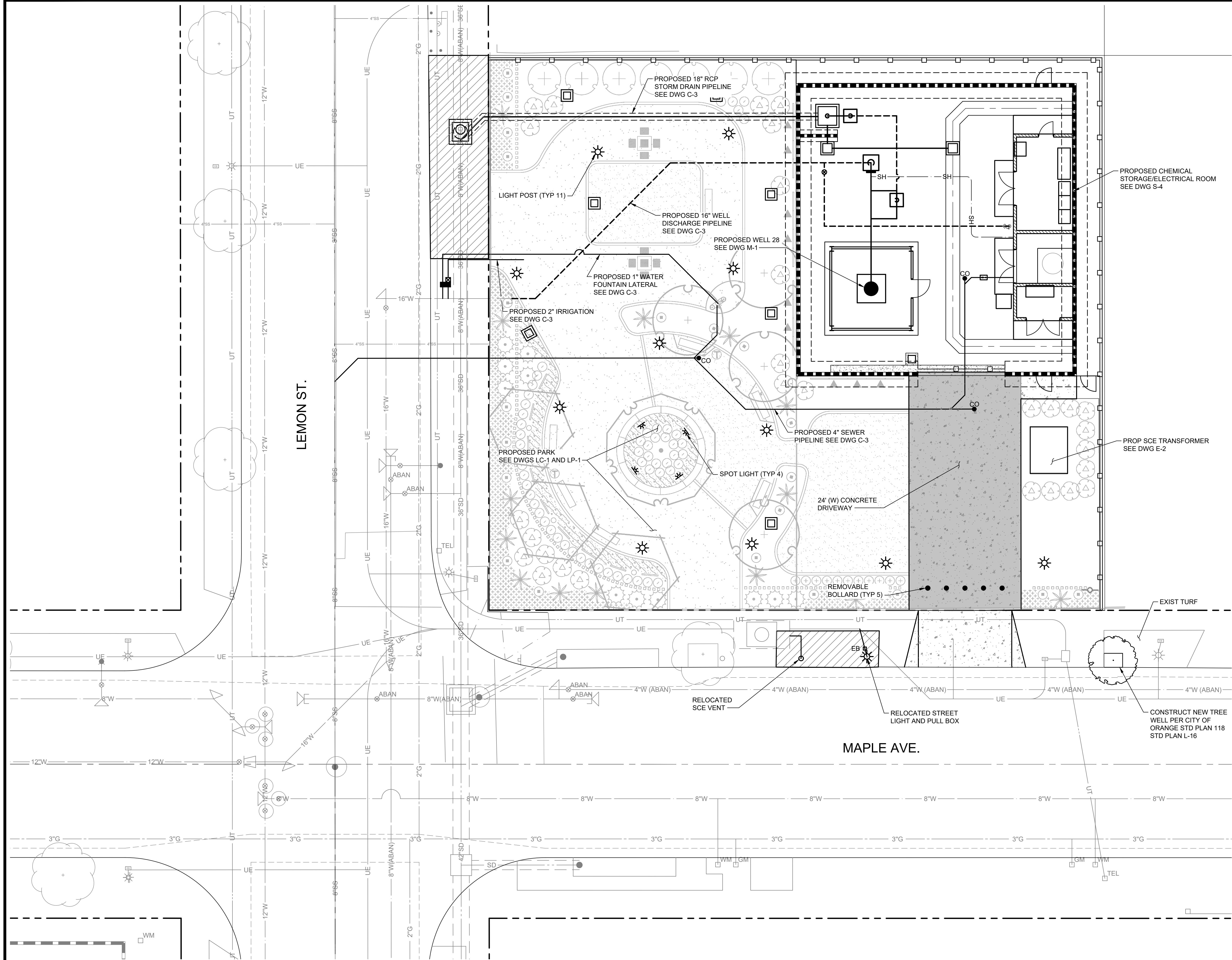
SCALE: HORIZ. AS NOTED
VERT. AS NOTED

C-1

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

12/14/2020 8:56:59 AM - O:\PROJECTS\IRVINE\09394200-09394-1500\1\CAD\SH\FILES\C-2 SITE PLAN.DWG - CABANERO, ERIN



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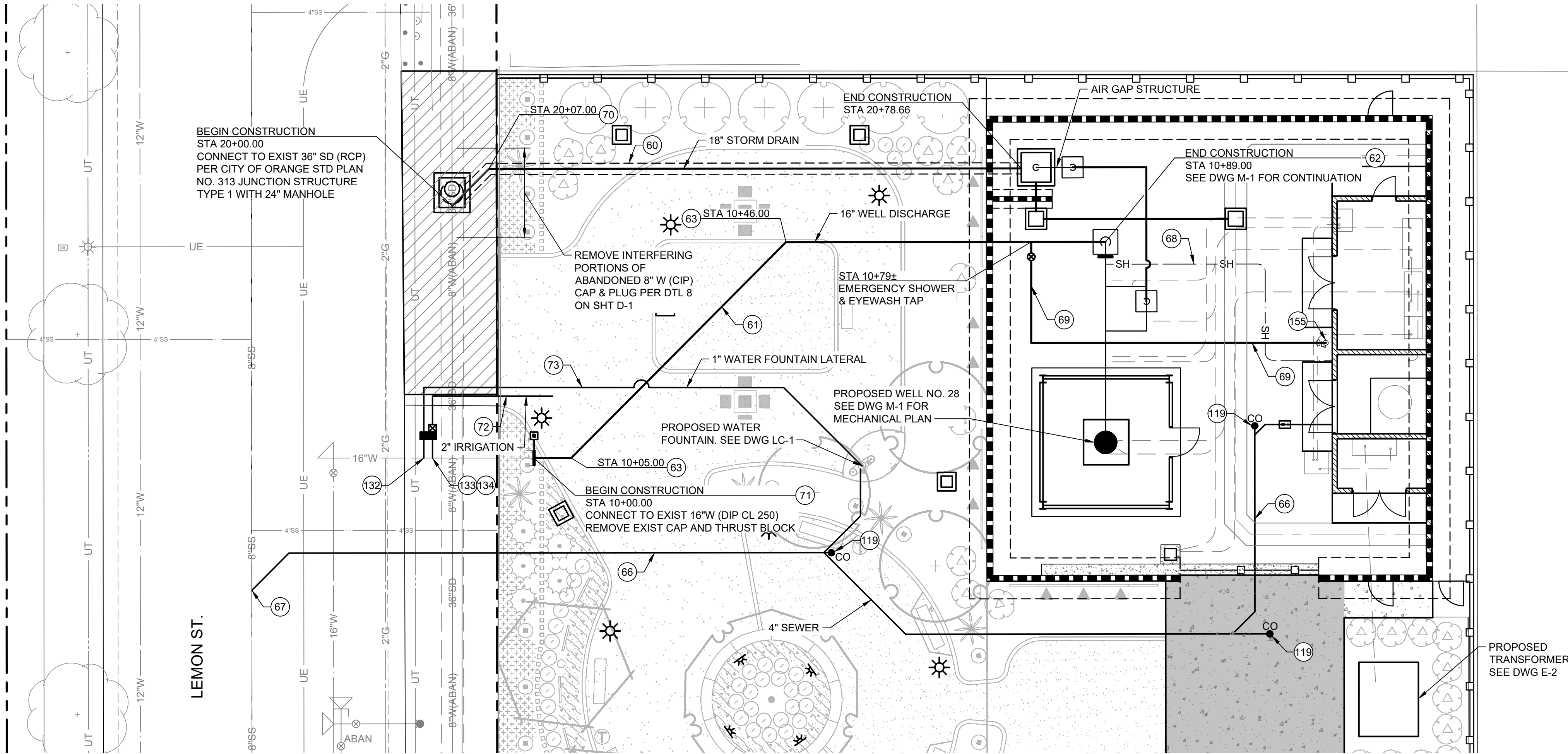
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OVERALL SITE PLAN
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED VERT. AS NOTED	C-2	SHEET OF SHEETS
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60% SUBMITTAL - NOT FOR CONSTRUCTION

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CONSTRUCTION NOTES:

BURIED PIPE AND FITTINGS

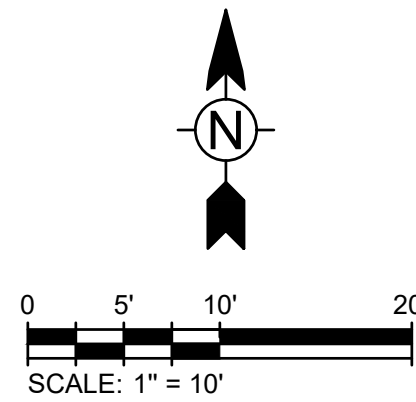
- 60 18" RCP STORM DRAIN LINE
- 61 16" CML&C STEEL PIPE
- 62 16" CML&C STEEL 90° BEND
- 63 16" CML&C STEEL 45° BEND
- 66 4" SEWER LATERAL PER CITY OF ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 206
- 67 CUT-IN CONNECTION TYPE A PER CITY OF ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 207
- 68 CHEMICAL INJECTION LINE: 1/2" BRAIDED REINFORCED PVC TUBING WITHIN 2" SCH 80 PVC PIPE (SECONDARY CONTAINMENT). PROVIDE LONG SWEEP BENDS FOR PVC PIPE.
- 69 CONSTRUCT 1-1/2" COPPER (TYPE "K" SOFT) PIPE AND FITTINGS
- 70 18" CONCRETE COLLAR PER CITY OF ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 320
- 71 INSTALL INSULATING FLANGE TEST STATION PER DTL 4 ON D-4
- 72 CONSTRUCT 2" COPPER (TYPE "K" SOFT) PIPE AND FITTINGS
- 73 CONSTRUCT 1" COPPER (TYPE "K" SOFT) PIPE AND FITTINGS

APPURTENANCES

- 119 SEWER CLEANOUT PER CITY OF ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 208

MISCELLANEOUS ITEMS

- 132 1" SERVICE INSTALLATION (COPPER TUBING) PER CITY OF ORANGE STDs OWD-201 & OWD-203
- 133 2" SERVICE INSTALLATION (COPPER TUBING) PER CITY OF ORANGE STDs OWD-201 & OWD-205
- 134 2" BACKFLOW PREVENTION DEVICE PER CITY OF ORANGE STD OWD-306
- 155 EMERGENCY SHOWER AND EYEWASH STATION PER DTL 4 ON DWG D-6



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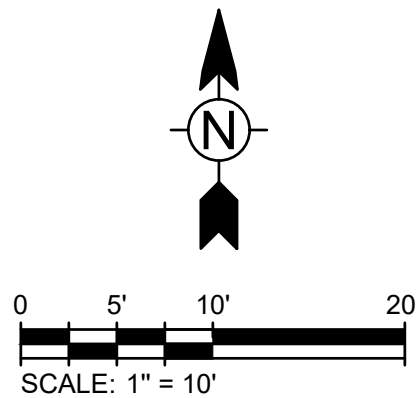
YARD PIPING PLAN AND PROFILE
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

C-3

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- 200 ROLLING GATE OPERATOR
- 201 16' (H) SCREEN WALL PER DWG A1.0
- 202 REMOVABLE ROOF-LINE BEAM
- 203 18' (W) X 16' (H) MOTORIZED ROLLING GATE
- 204 ROLLING GATE CONCRETE PAD
- 205 CONSTRUCT 20' WIDE COMMERCIAL DRIVEWAY
PER CITY OF ORANGE PUBLIC WORKS
DEPARTMENT STD PLAN NO. 115 (W=20', T=0')
- 206 CONSTRUCT SIDEWALK (CASE 1) WITHOUT TREE WELLS
(WIDTH AS NOTED) PER CITY OF ORANGE PUBLIC WORKS
DEPARTMENT STD PLAN NO. 118
- 207 CONSTRUCT CURB AND GUTTER (TYPE A) PER CITY OF
ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 117
- 208 CONSTRUCT 6' (H) METAL FENCE
- 209 CONSTRUCT 6' (H) PEDESTRIAN GATE
- 210 CONSTRUCT CURB (TYPE B) PER CITY OF ORANGE
PUBLIC WORKS DEPARTMENT STD PLAN NO. 128
- 211 CONSTRUCT 24' (W) CONCRETE DRIVEWAY
- 212 CONSTRUCT 3' (W) CONCRETE GUTTER (TYPE A) PER CITY
OF ORANGE PUBLIC WORKS DEPARTMENT STD PLAN NO. 127

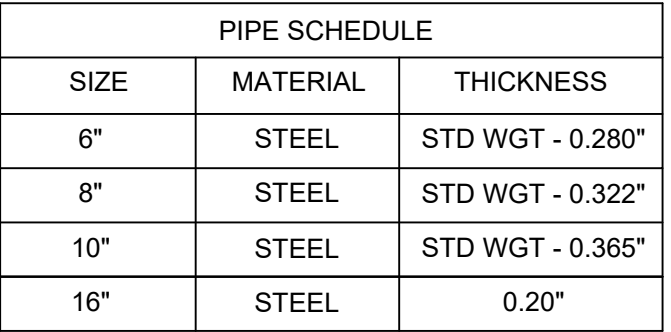
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GRADING PLAN

225 W MAPLE AVE, ORANGE CA 92866

SCALE:	HORIZ. AS NOTED VERT. AS NOTED	C-4	SHEET OF SHEETS
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60% SUBMITTAL - NOT FOR CONSTRUCTION



PIPE SCHEDULE		
SIZE	MATERIAL	THICKNESS
6"	STEEL	STD WGT - 0.280"
8"	STEEL	STD WGT - 0.322"
10"	STEEL	STD WGT - 0.365"
16"	STEEL	0.20"

PUMP ASSEMBLY

1	VERTICAL TURBINE PUMP, 3000 GPM @510" TDH, 1780 RPM
2	ELECTRIC MOTOR, 500 HP, 480 V (PREMIUM EFFICIENCY)
3	FABRICATED STEEL DISCHARGE HEAD WITH 16" CL 150 DISCHARGE HEAD
4	CONCRETE WELL BASE PER DTL 1 ON DWG D-3
5	STAINLESS STEEL MOUNTING FLANGE AND SOLE PLATE PER DTL 5 ON DWG D-3
10	3" ID LCS GRAVEL FEED TUBE PER DTL 4 ON DWG D-3
11	2" ID 304L SS PRESSURE TRANSDUCER/SOUNDING TUBE PER DTL 7 ON DWG D-3
12	4" ID 304L SS CAMERA TUBE PER DTL 6 ON DWG D-3
13	3" ID 304L SS AIR VENT PER DTL 3 ON DWG D-3
14	WELL PUMP WATER FLUSH CONNECTION: 1" BRASS BALL VALVE, 1" BRASS NIPPLE (AS REQUIRED), 1" UNION, 1" BRASS BEND

- 30 16" EPOXY LINED & PAINTED STEEL PIPE
- 31 16" CEMENT LINED & PAINTED STEEL SPOOL (FLG X GE)
- 32 16" CEMENT LINED & PAINTED STEEL 90° BEND
- 33 16" JOINT HARNESS PER DTL 3 ON DWG D-2
- 34 16" GROOVED END COUPLING
- 35 10" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 37 8" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 38 8" EPOXY LINED & PAINTED STEEL SPOOL (FLG X GE) (STD WT)
- 39 8" EPOXY LINED & PAINTED STEEL 90° BEND
- 40 8" X 6" EPOXY LINED & PAINTED STEEL REDUCING 90° BEND
- 41 8" FLANGED OUTLET PER DTL 4 ON DWG D-2
- 42 8" GROOVED END COUPLING
- 43 6" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 44 6" FLANGED OUTLET PER DTL 4 ON DWG D-2
- 45 10" EPOXY LINED & PAINTED STEEL 90° BEND

- 61 16" CML&C STEEL PIPE
- 62 16" CML&C STEEL 90° BEND
- 64 10" CMC STEEL PIPE (STD WT, EPOXY LINED)
- 68 CHEMICAL INJECTION LINE: 1/2" BRAIDED REINFORCED PVC TUBING WITHIN 2' SCH 80 PVC PIPE (SECONDARY CONTAINMENT). PROVIDE LONG SWEEP BENDS FOR PVC PIPE.
- 69 CONSTRUCT 1-1/2" COPPER (TYPE "K" SOFT) PIPE AND FITTINGS

80	16" MAGNETIC FLOW METER
81	16" SILENT CHECK VALVE
82	8" WELL PUMP CONTROL VALVE
83	8" SILENT CHECK VALVE
84	8" RW GATE VALVE W/ HANDWHEEL
85	6" RW GATE VALVE W/ HANDWHEEL
86	6" PRESSURE RELIEF VALVE

- (100) METER TAP TEST, INCLUDING: 1-1/2" EXTRA HEAVY HALF COUPLING, 1-1/2" X 1" SS INSULATING BUSHING, 1" BRASS CLOSE NIPPLE, 1" BRASS BALL VALVE (FIP X MIP)
- (101) SAMPLE TAP TAP PER DTL 7 ON DWG D-1
- (102) 2" DEEP WELL AIR AND VACUUM VALVE PER DTL 2 ON DWG D-1
- (103) 2" COMBINATION AIR AND VACUUM RELEASE VALVE PER DTL 3 ON DWG D-1
- (104) COMBINATION PRESSURE SWITCH AND GAUGE PER DTL 4 ON DWG D-1
- (105) FLOW SWITCH, INCLUDING: 1-3/4" EXTRA HEAVY HALF COUPLING, 1-3/4" X 1-1/4" SS INSULATING BUSHING, 1-1/4" NPT FLOW SWITCH
- (106) WATER FLUSH PIPING CONNECTION, INCLUDING: 2" EXTRA HEAVY HALF COUPLING, 2" X 1" SS INSULATING BUSHING, 1" BRASS NIPPLE, 1" BRASS BALL VALVE, 1" COPPER TUBING (TYPE K, HARD) 1" SWEAT X MIP ADAPTER, AND 90° BEND AS REQUIRED. RUN PIPING ALONG 16" DISCHARGE PIPING.
- (107) WASHDOWN CONNECTION, INCLUDING: 1" EXTRA HEAVY HALF COUPLING, 1" X 3/4" SS INSULATING BUSHING, 3/4" BRASS NIPPLE, AND 3/4" BRASS BALL VALVE
- (108) SODIUM HYPOCHLORITE INJECTION LINE TAP PER DTL 2 ON DWG D-6
- (109) PRESSURE TRANSMITTER AND PRESSURE GAUGE PER DTL 1 ON DWG D-1
- (110) 1" COPPER TUBING (TYPE K, HARD) AND BENDS. PROVIDE SUPPORTS (3 TOTAL) PER DTL 7 ON DWG D-6
- (111) 1" BRASS BALL VALVE
- (112) 1" IN-LINE WATER FILTER (SINGLE CARTRIDGE HOUSING, 316 SS HOUSING, 5 MICRON CARTRIDGE, WATTS FM20 OR EQUAL)
- (113) 1" BRASS DOUBLE CHECK VALVE, NFS 61-6 APPROVED (WILKINS MODEL 950XL72 OR EQUAL)
- (114) 1" FLOW SENSOR, PADDLE WHEEL TYPE (KOBOLD DRG-1165)
- (115) PRESSURE GAUGE (0 TO 200 PSI)
- (116) 1" VACUUM BREAKER (STEEL 3/4" NPT THREAD, HOFFMAN MODEL 62)
- (117) 1" BRASS UNION
- (129) EYEWASH CONNECTION: 2" EXTRA HEAVY COUPLING, 2" X 1-1/2" SS BUSHING, 1-1/2" BRASS BALL VALVE, 1-1/2" BRASS NIPPLES, 90° BEND 1-1/2" SWEAT" MIP ADAPTER, AND VALVE BOX PER CITY OF ORANGE STD OWD-101
- (131) CONSTRUCT AIR GAP PER DTL 2 ON DWG D-2

(150) ADJUSTABLE PIPE SUPPORT PER DTL 6 ON DWG D-1

(151) CENTIMET CURB PER DTL 2 ON DWG D-5

(152) RISER CONCRETE ENCASEMENT PER DTL 6 ON DWG D-2

(155) EMERGENCY SHOWER AND EYEWASH STATION PER DTL 4 ON DWG D-6

(156) SPLASH WALL PER APWA STD PLAN 601-1 (TYPE 2, H = 4'-0"). LATERAL LOAD = 25 PSF. MEDIUM WEIGHT CONCRETE BLOCKS CONFORMING TO ASTM C90, 8-in = 1-500 PSI, RUNNING BOND PATTERN, TOOLED CONCAVE JOINTS. ANGELUS SANDSTONE PRECISION BLOCK.

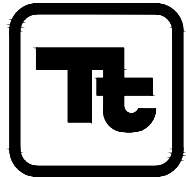
(157) ACOUSTICAL SOUND ENCLOSURE (17' X 17' X 14' H), WITH 3'-4" X 8'-6" DOOR. COLOR: TNEMEC WASHED KHAKI 03B

[illegible]

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MECHANICAL PLAN

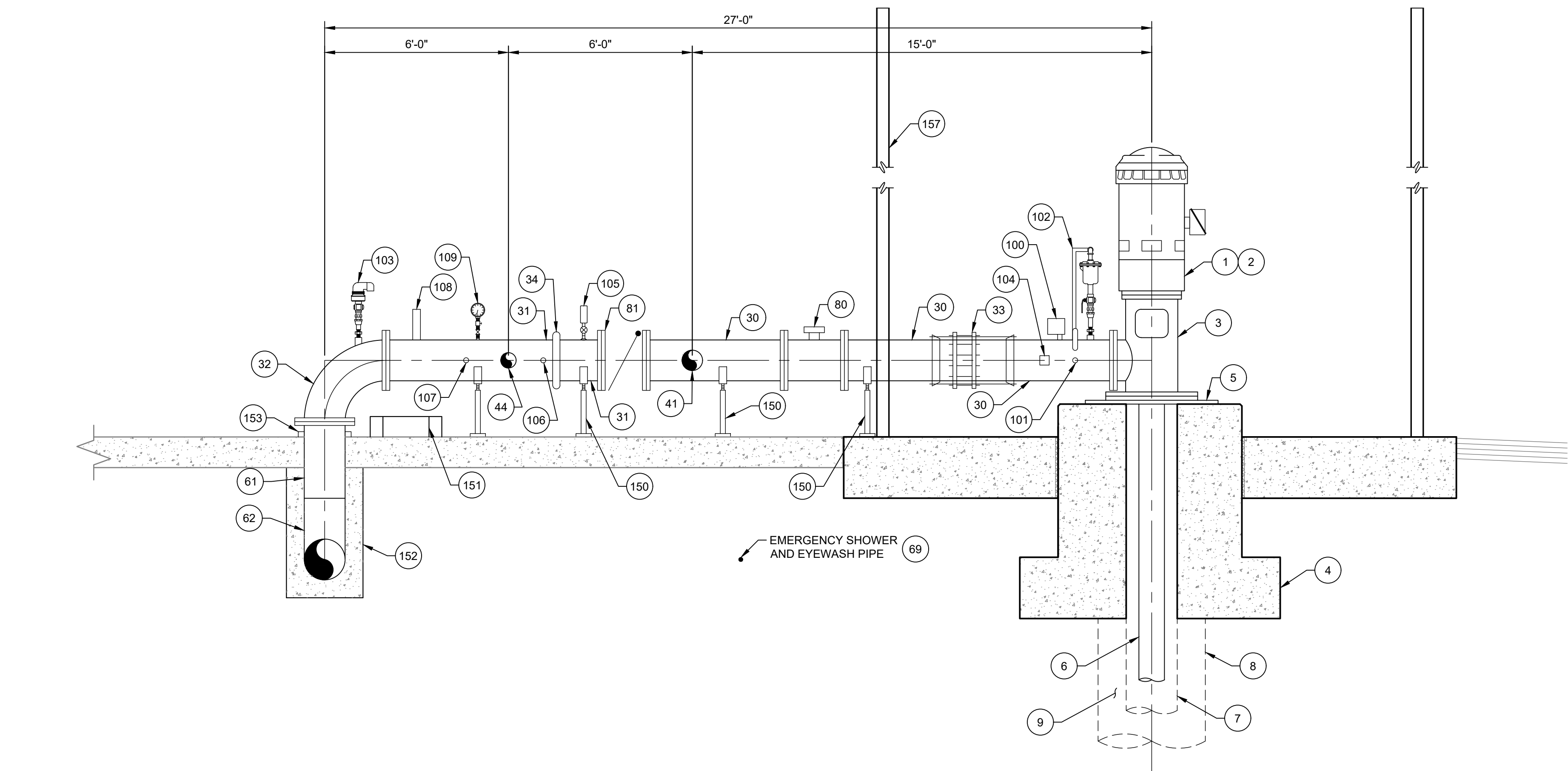
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
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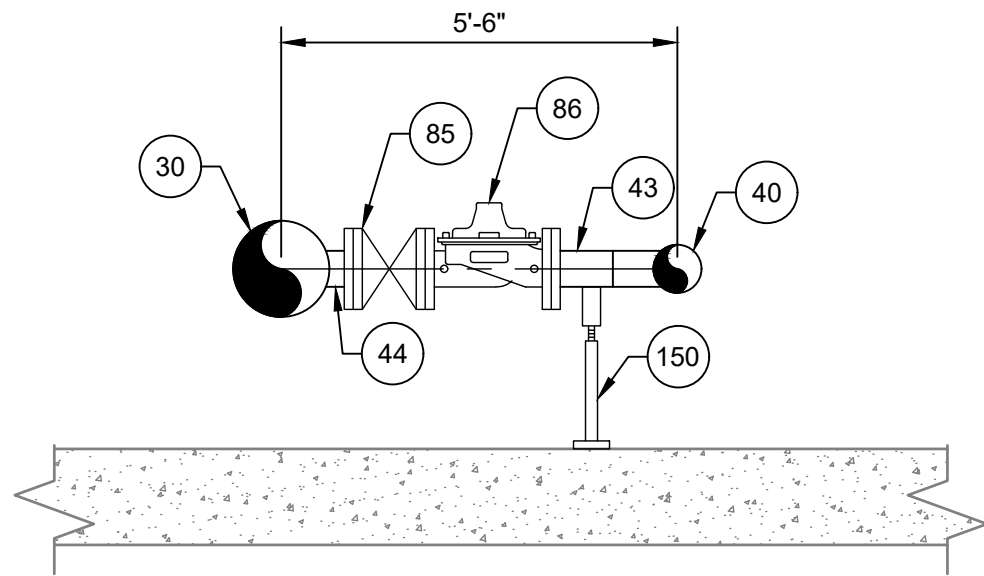
M-1

SHEET OF SHEETS

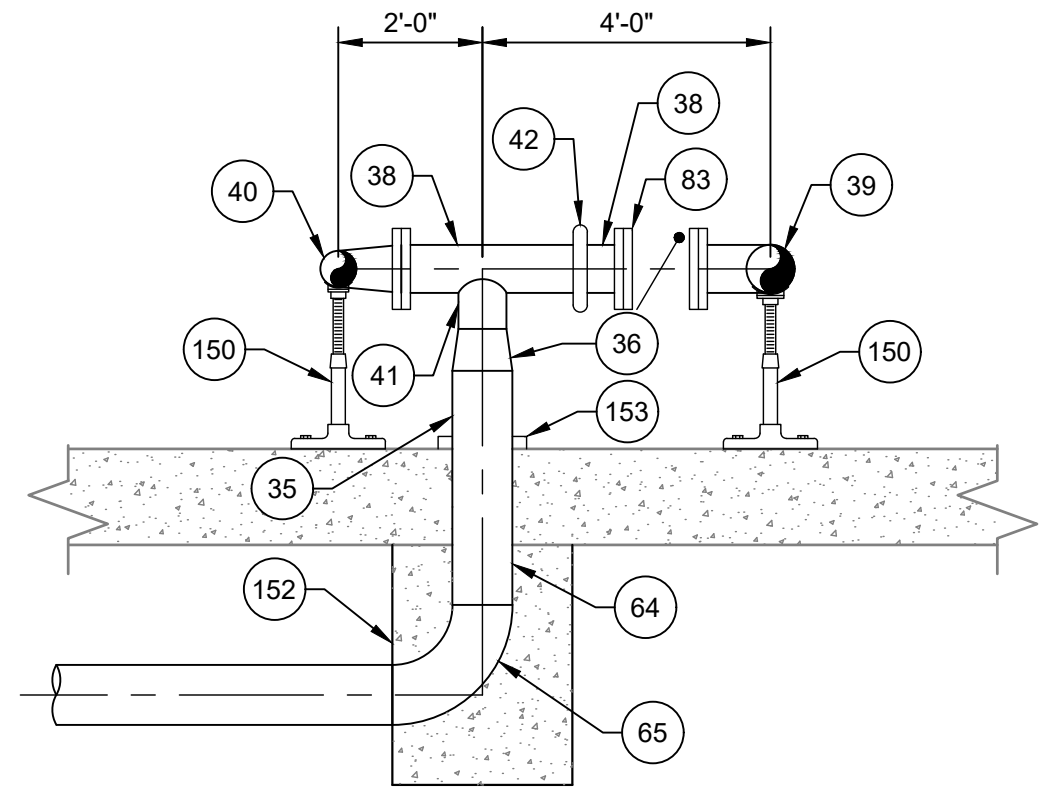
12/14/2020 9:04:54 AM - O:\PROJECTS\IRVINE\09394200-09394-19001\CAD\SHEETFILES\M-2_MECHANICAL SECTIONS.DWG - CABANERO, ERIN



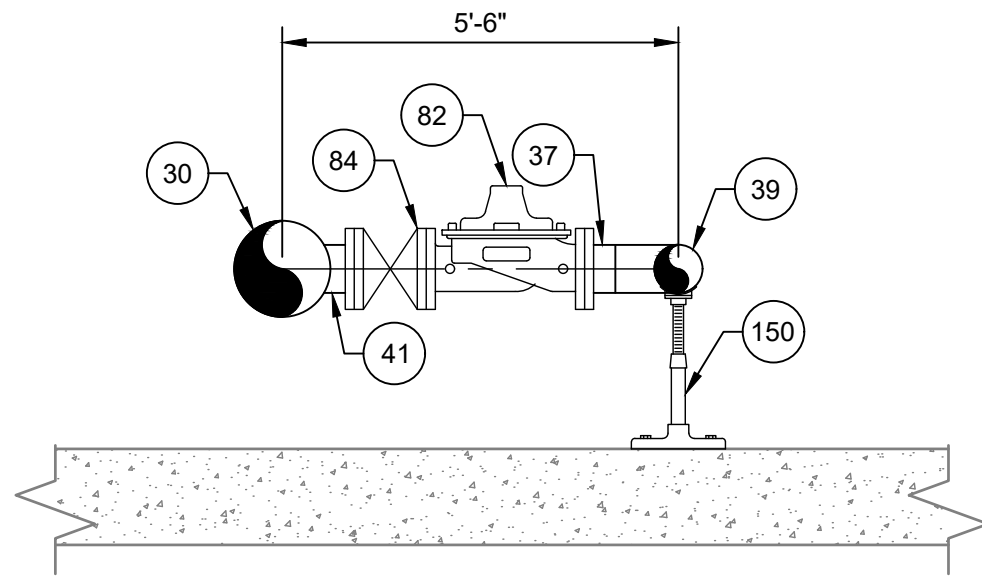
A SECTION A
SCALE: 3/8" = 1'-0"



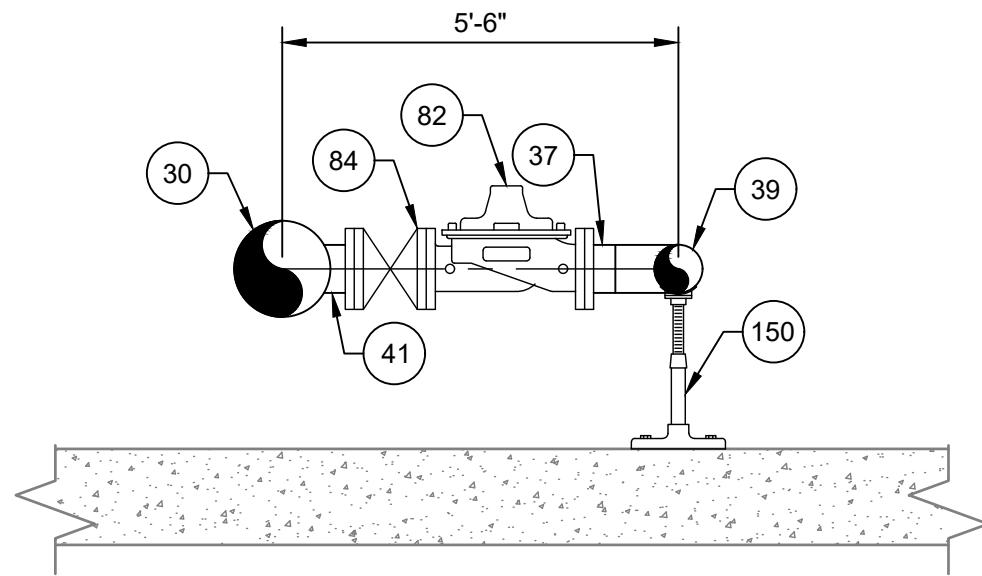
B SECTION B
SCALE: 3/8" = 1'-0"



C SECTION C
SCALE: 3/8" = 1'-0"



D SECTION D
SCALE: 3/8" = 1'-0"



CONSTRUCTION NOTES:

PUMP ASSEMBLY

- 1 VERTICAL TURBINE PUMP, 3000 GPM @510' TDH, 1780 RPM
- 2 ELECTRIC MOTOR, 500 HP, 480 V (PREMIUM EFFICIENCY)
- 3 FABRICATED STEEL DISCHARGE HEAD WITH 16" CL 150 DISCHARGE HEAD
- 4 CONCRETE WELL BASE PER DTL 1 ON DWG D-3
- 5 STAINLESS STEEL MOUNTING FLANGE AND SOLE PLATE PER DTL 5 ON DWG D-3
- 6 12" STL COLUMN PIPE
- 7 20" ID 304L SS WELL CASING (3/8" THK)
- 8 42" OD LCS CONDUCTOR CASING (3/8" THK)
- 9 10.3 SACK (MIN) CEMENT GROUT SANITARY SEAL

EXPOSED PIPE AND FITTINGS

- 30 16" EPOXY LINED & PAINTED STEEL PIPE
- 31 16" CEMENT LINED & PAINTED STEEL SPOOL (FLG X GE)
- 32 16" CEMENT LINED & PAINTED STEEL 90° BEND
- 33 16" JOINT HARNESS PER DTL 3 ON DWG D-2
- 34 16" GROOVED END COUPLING
- 35 10" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 36 10" X 8" EPOXY LINED & PAINTED STEEL CONCENTRIC REDUCER
- 37 8" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 38 8" EPOXY LINED & PAINTED STEEL SPOOL (FLG X GE) (STD WT)
- 39 8" EPOXY LINED & PAINTED STEEL 90° BEND
- 40 8" X 6" EPOXY LINED & PAINTED STEEL REDUCING 90° BEND
- 41 8" FLANGED OUTLET PER DTL 4 ON DWG D-2
- 42 8" GROOVED END COUPLING
- 43 6" EPOXY LINED & PAINTED STEEL PIPE (STD WT)
- 44 6" FLANGED OUTLET PER DTL 4 ON DWG D-2

BURIED PIPE AND FITTINGS

- 61 16" CML&C STEEL PIPE
- 62 16" CML&C STEEL 90° BEND
- 64 10" CMC STEEL PIPE (STD WT, EPOXY LINED)
- 65 10" CMC STEEL 90° BEND (STD WT, EPOXY LINED)
- 69 CONSTRUCT 1-1/2" COPPER (TYPE "K" SOFT) PIPE AND FITTINGS

VALVES AND METERS

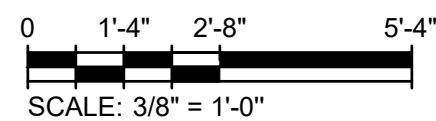
- 80 16" MAGNETIC FLOW METER
- 81 16" SILENT CHECK VALVE
- 82 8" WELL PUMP CONTROL VALVE
- 83 8" SILENT CHECK VALVE
- 84 8" RW GATE VALVE W/ HANDHWEEL
- 85 6" RW GATE VALVE W/ HANDHWEEL
- 86 6" PRESSURE RELIEF VALVE

APPURTENANCES

- 100 METER TAP TEST, INCLUDING: 1-1/2" EXTRA HEAVY HALF COUPLING, 1-1/2" X 1" SS INSULATING BUSHING, 1" BRASS CLOSE NIPPLE, 1" BRASS BALL VALVE (FIP X MIP)
- 101 SAMPLE TAP TAP PER DTL 7 ON DWG D-1
- 102 2" DEEP WELL AIR AND VACUUM VALVE PER DTL 2 ON DWG D-1
- 103 2" COMBINATION AIR AND VACUUM RELEASE VALVE PER DTL 3 ON DWG D-1
- 104 COMBINATION PRESSURE SWITCH AND GAUGE PER DTL 4 ON DWG D-1
- 105 FLOW SWITCH, INCLUDING: 1-3/4" EXTRA HEAVY HALF COUPLING, 1-3/4" X 1-1/4" SS INSULATING BUSHING, 1-1/4" NPT FLOW SWITCH
- 106 WATER FLUSH PIPING CONNECTION, INCLUDING: 2" EXTRA HEAVY HALF COUPLING, 2" X 1" SS INSULATING BUSHING, 1" BRASS NIPPLE, 1" BRASS BALL VALVE, 1" COPPER TUBING (TYPE K, HARD) 1" SWEAT X MIFT ADAPTER, AND 90° BEND AS REQUIRED. RUN PIPING ALONG 16" DISCHARGE PIPING.
- 107 WASHDOWN CONNECTION, INCLUDING: 1" EXTRA HEAVY HALF COUPLING, 1" X 3/4" SS INSULATING BUSHING, 3/4" BRASS NIPPLE, AND 3/4" BRASS BALL VALVE
- 108 SODIUM HYPOCHLORITE INJECTION LINE TAP PER DTL 2 ON DWG D-6
- 109 PRESSURE TRANSMITTER AND PRESSURE GAUGE PER DTL 1 ON DWG D-1

MISCELLANEOUS ITEMS

- 150 ADJUSTABLE PIPE SUPPORT PER DTL 6 ON DWG D-1
- 151 CONTAINMENT CURB PER DTL 2 ON DWG D-5
- 152 RISER CONCRETE ENCASEMENT PER DTL 6 ON DWG D-2
- 153 COATING TRANSITION PER DTL 5 ON DWG D-1
- 157 ACOUSTICAL SOUND ENCLOSURE (17' X 17' X 14' H), WITH 3'-4" X 8'-6" DOOR. COLOR: TNEC WASHED KHAKI 03BR



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MECHANICAL SECTIONS
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

M-2

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

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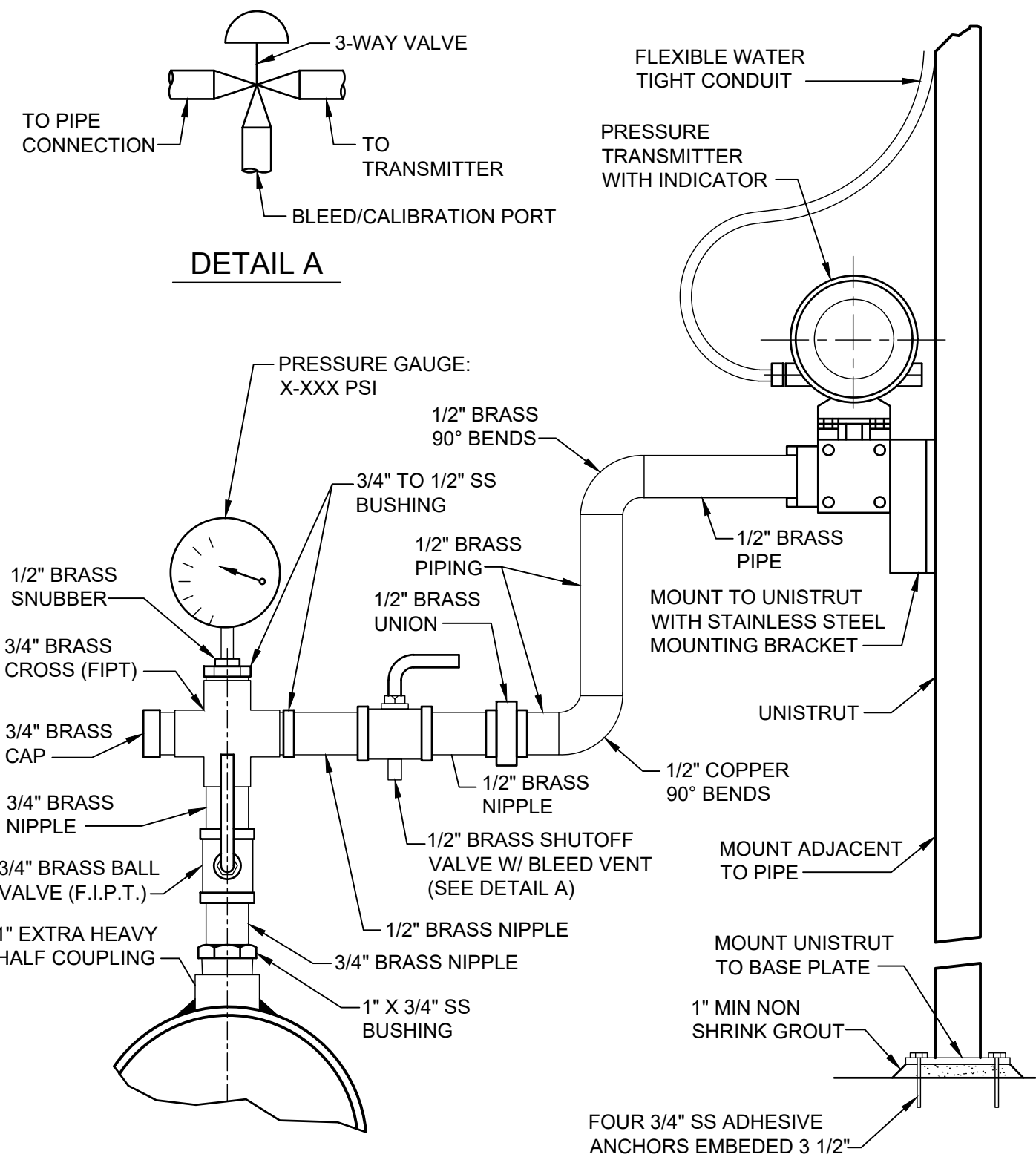
MECHANICAL PLAN AND SECTIONS
225 W MAPLE AVE, ORANGE CA 92866

SCALE:	HORIZ. <u>AS NOTED</u>
	VERT. <u>AS NOTED</u>

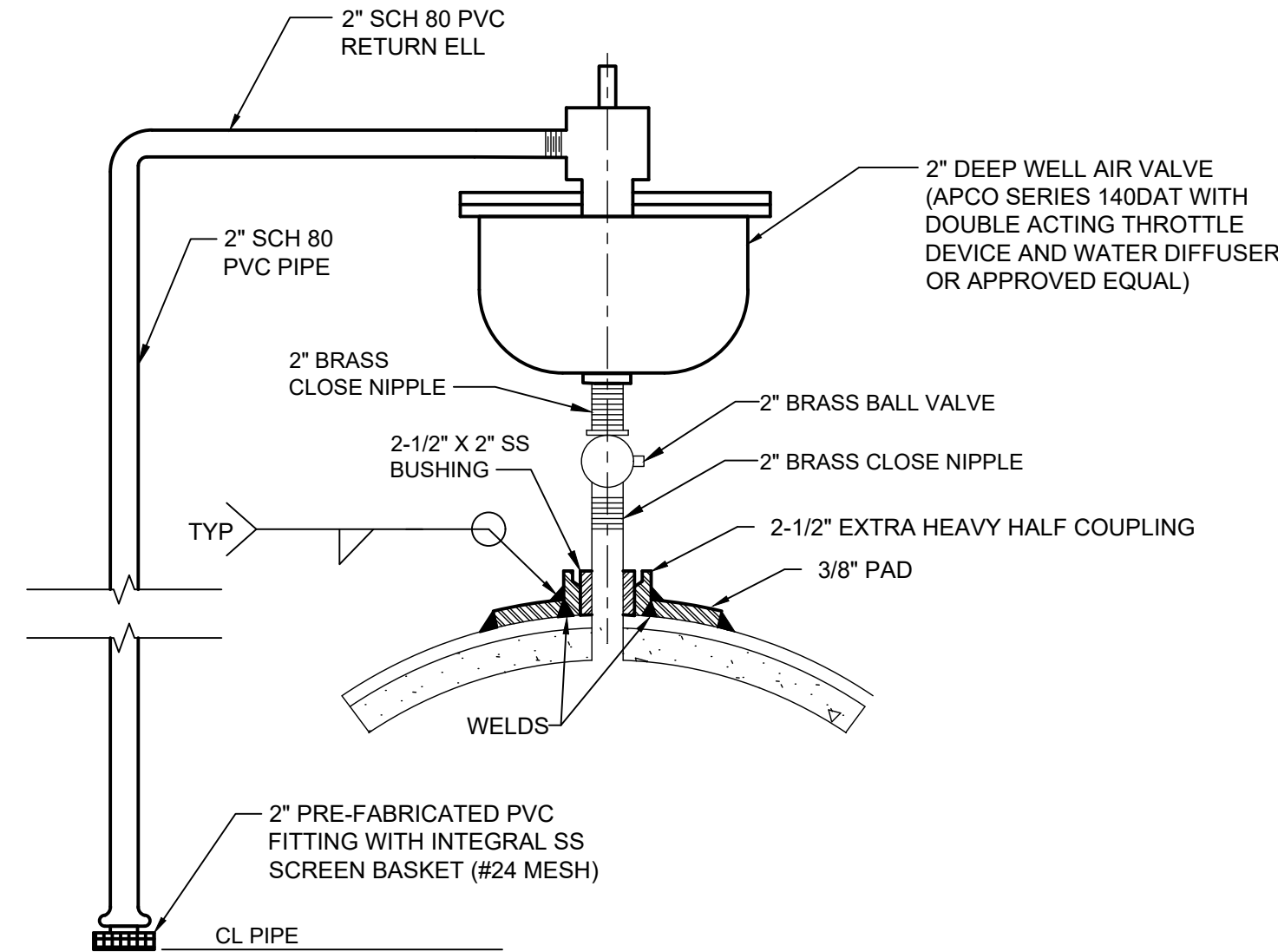
M-3

SHEET OF SHEETS

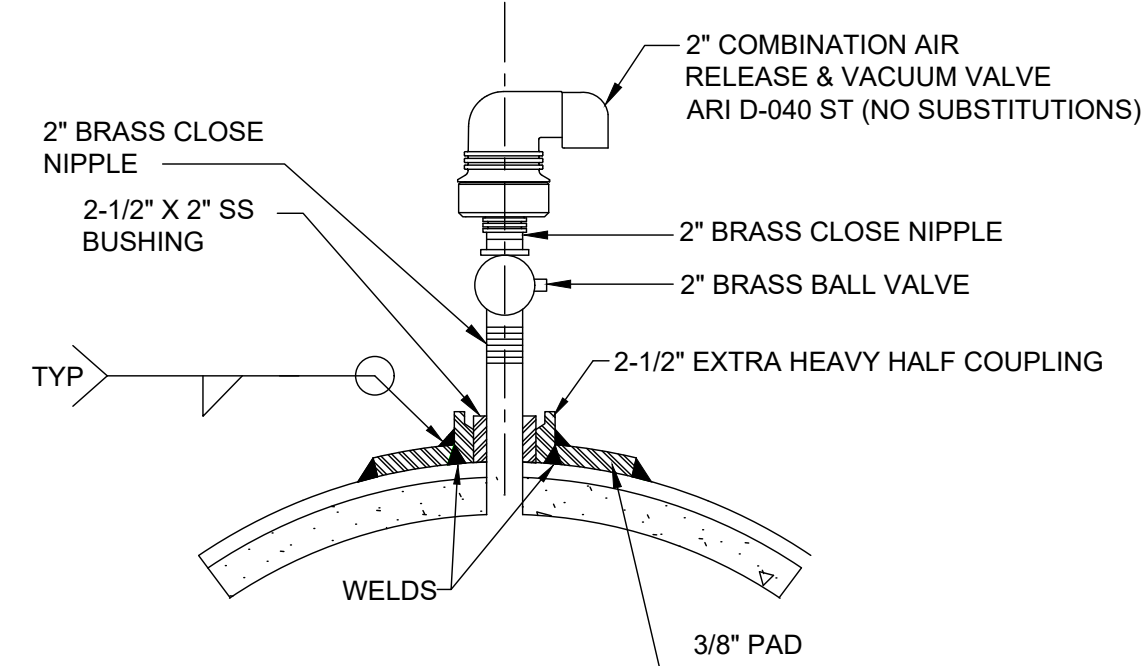
12/14/2020 9:07:03 AM - O:\PROJECTS\IRVINE\09394200-09394-1900\1\CAD\SHEETFILES\D-1_PIPING DETAILS.DWG - CABANERO, ERIN



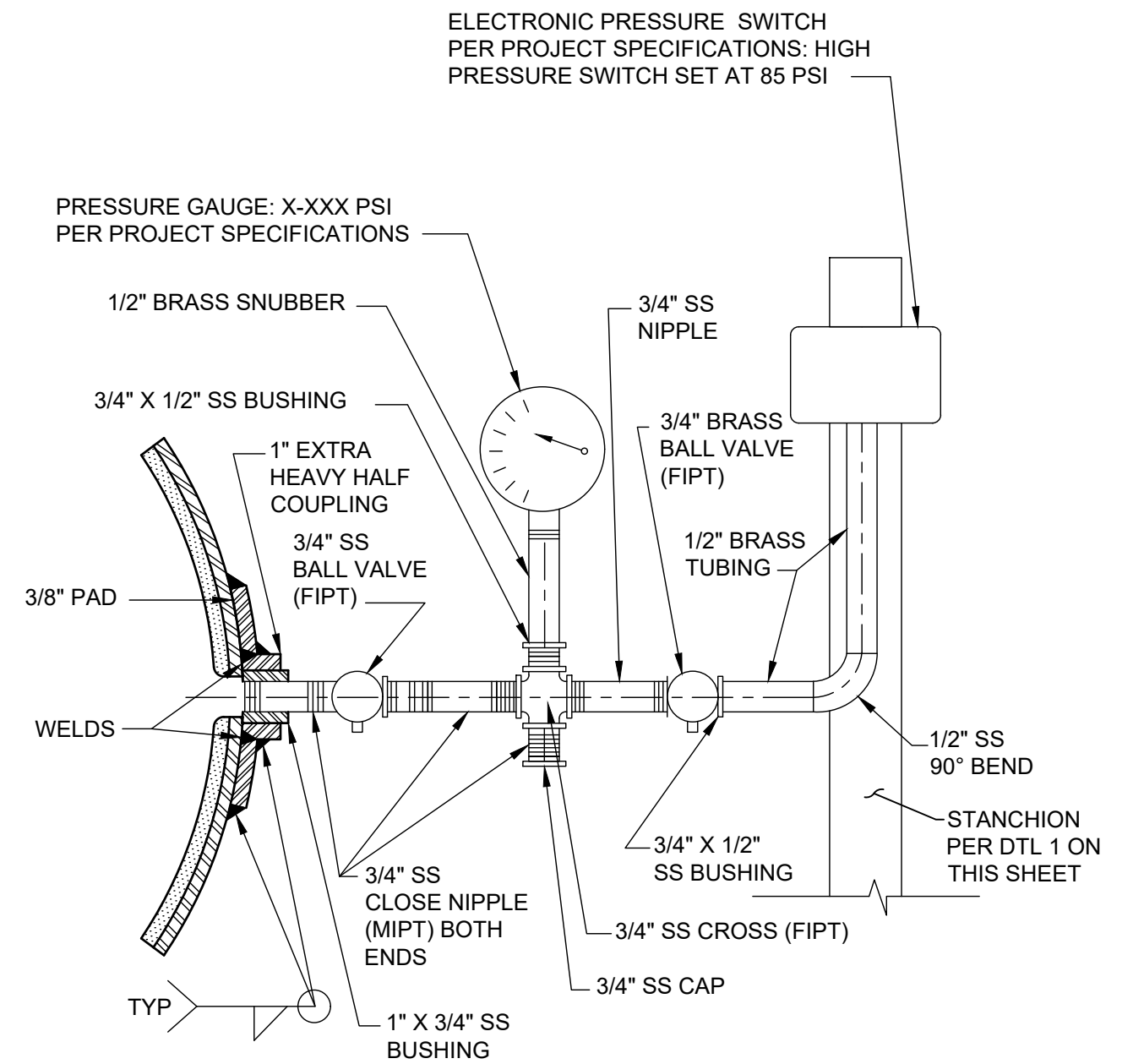
1 PRESSURE TRANSMITTER AND PRESSURE GAUGE
SCALE: NTS



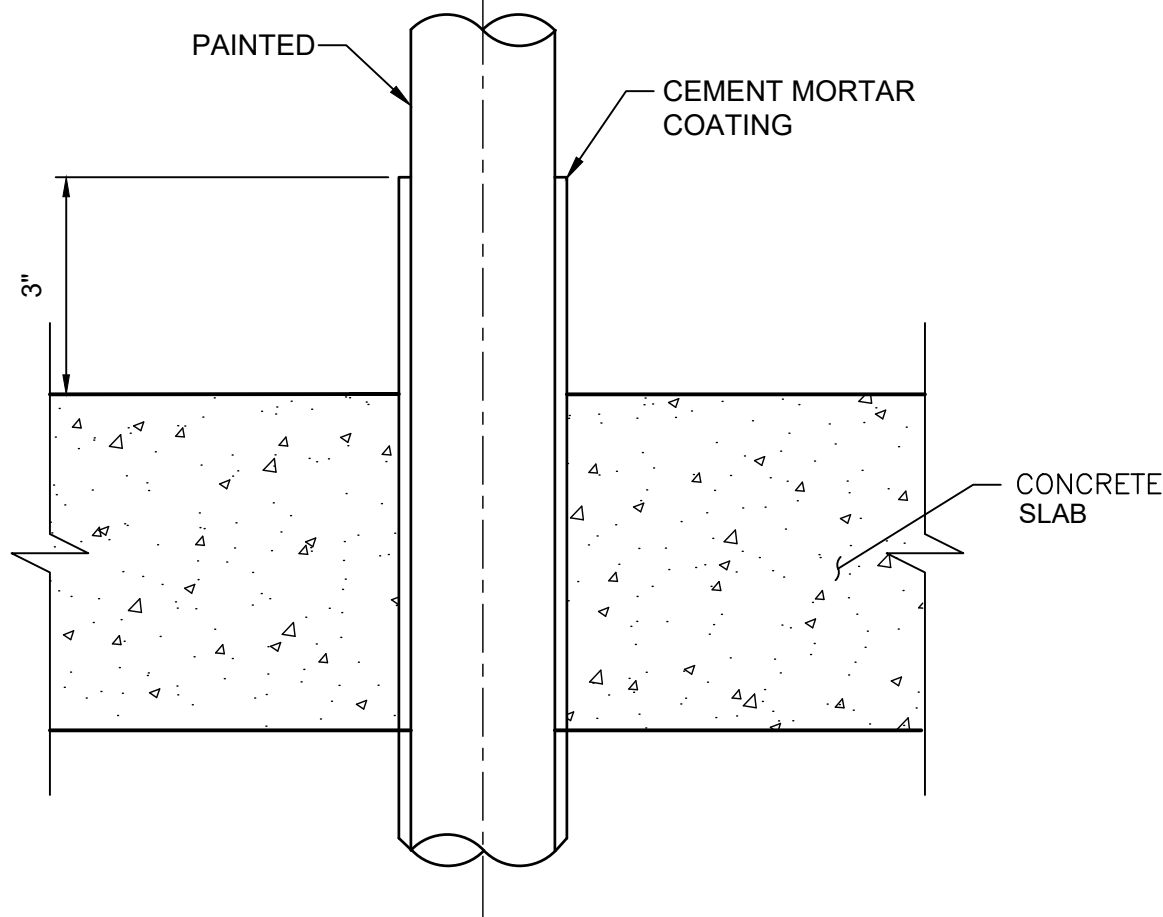
2 2" DEEP WELL AIR VALVE
SCALE: NTS



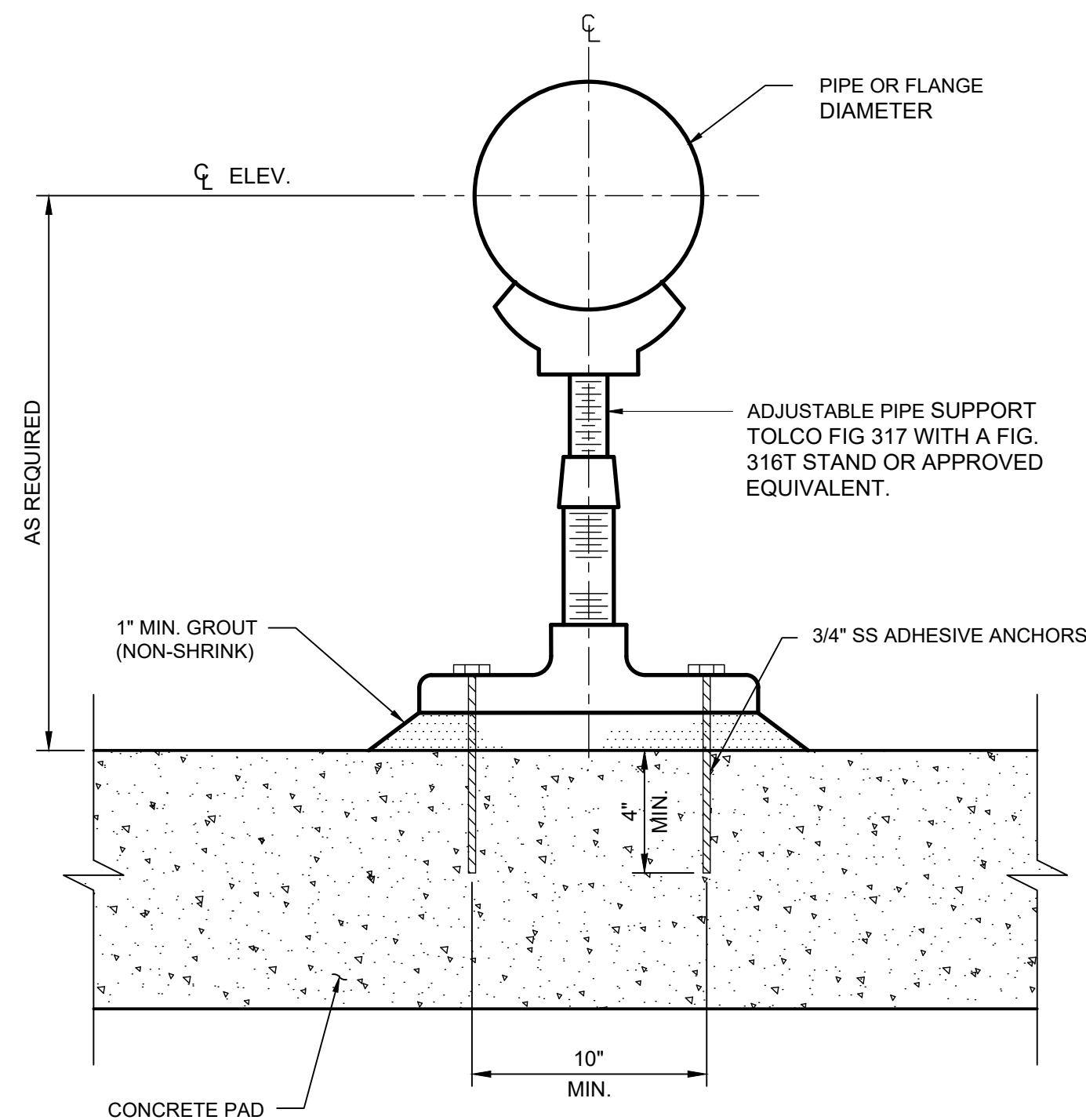
3 2" COMBINATION AIR RELEASE/VACUUM VALVE
SCALE: NTS



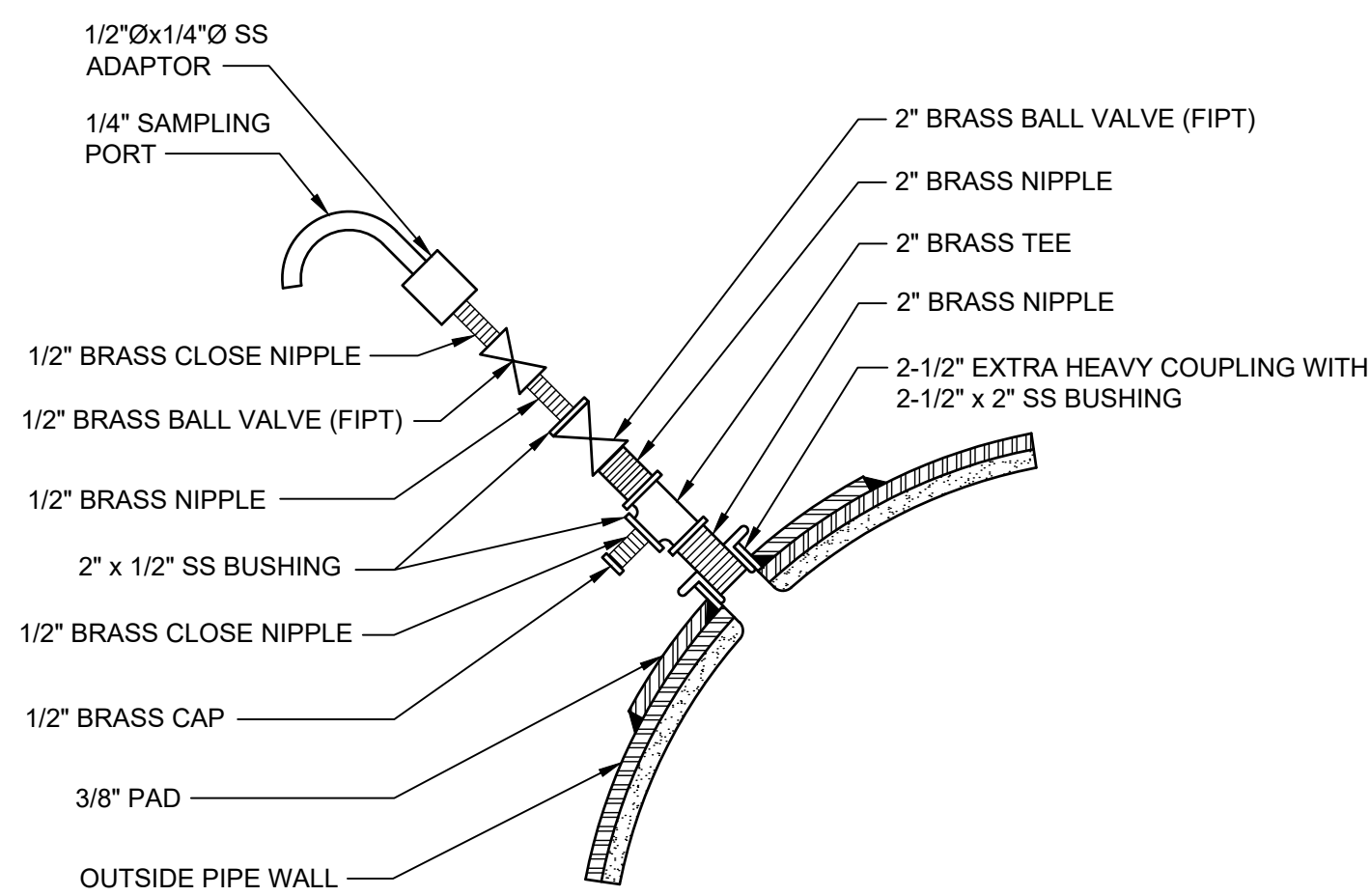
4 PRESSURE SWITCH AND GAUGE
SCALE: NTS



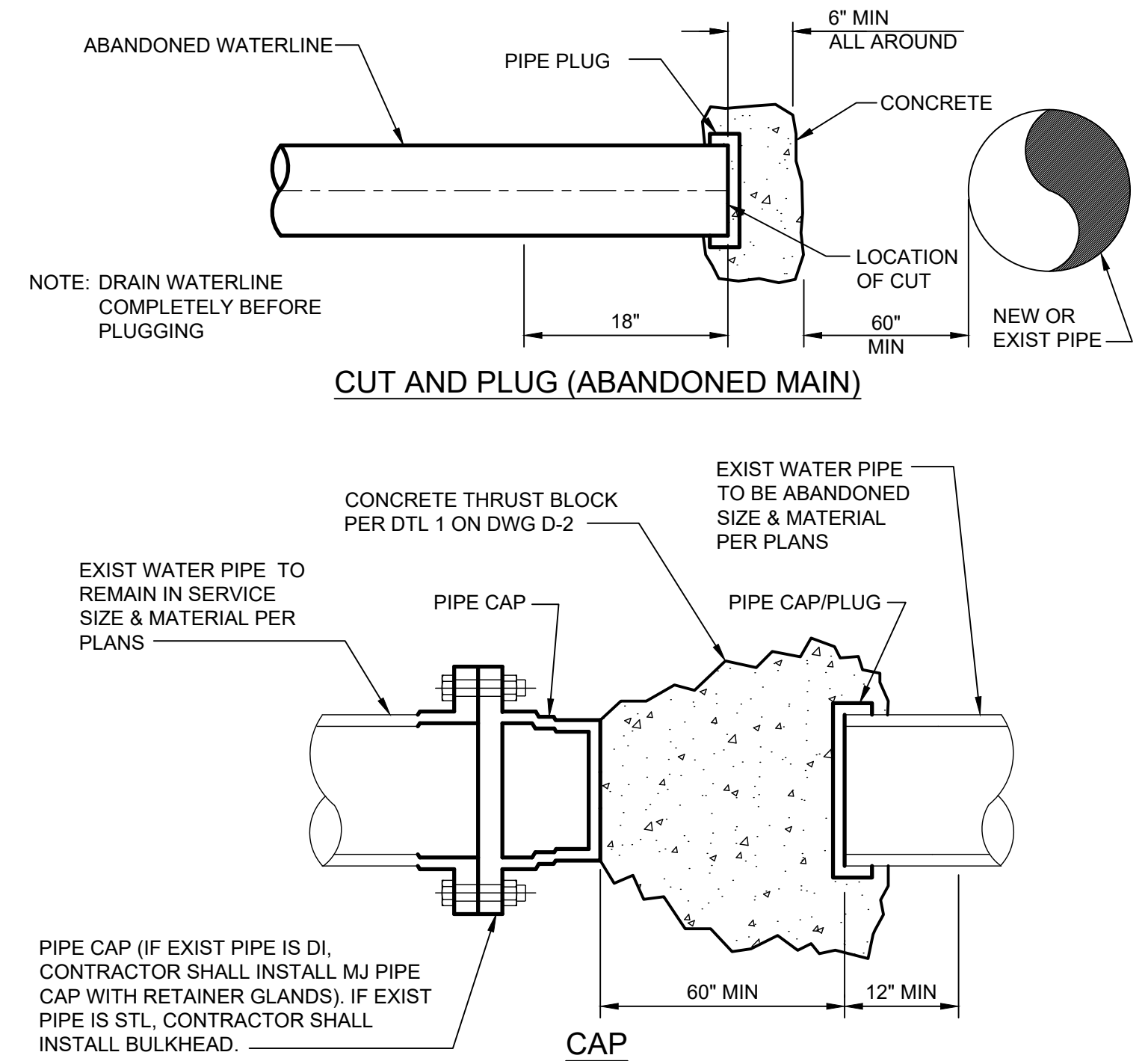
5 COATING TRANSITION
SCALE: NTS



6 ADJUSTABLE PIPE SUPPORT
SCALE: NTS



7 SAMPLE TAP
SCALE: NTS



8 CUT AND PLUG DETAIL
SCALE: NTS

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PIPING DETAILS		
225 W MAPLE AVE, ORANGE CA 92866		
SCALE:	HORIZ. AS NOTED VERT. AS NOTED	D-1 SHEET OF SHEETS

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MINIMUM SIZE OF THRUST BLOCKS BEARING SURFACE						
PIPE SIZE	11¼° BEND HORIZ VERT	22½° BEND HORIZ VERT	45° BEND HORIZ VERT	90° BEND HORIZ VERT	TEE HORIZ VERT	END CAP HORIZ VERT
16"	4'-8" 2'-3"	6'-6" 3'-0"	9'-0" 4'-3"	12'-0" 6'-0"	10'-0" 5'-0"	10'-0" 5'-0"

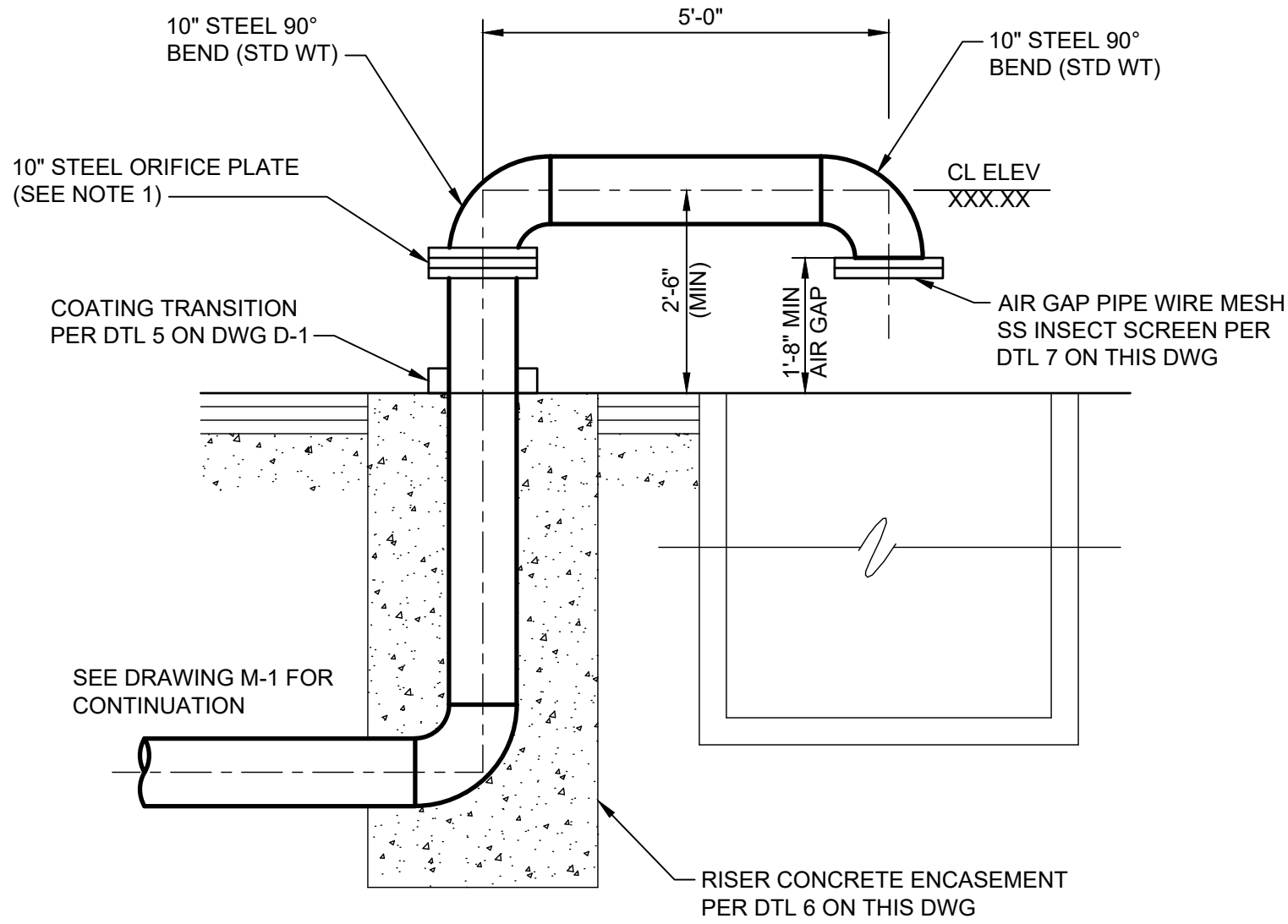
VERTICAL DEAD LOAD (MIN CUBIC YARDS)

PIPE SIZE	11¼° BEND	22½° BEND	45° BEND
16"	3.6"	7.1"	14.1"

NOTES:

- THRUST BLOCK FOR 12-INCH AND SMALLER PIPE SHALL BE PER CITY OF ORANGE WATER STANDARDS NO. OWD-109.
- THE THRUST BLOCK SHALL FOLLOW ALL THE CONDITIONS AS SPECIFIED IN ORANGE WATER STANDARDS NO. OWD-109.

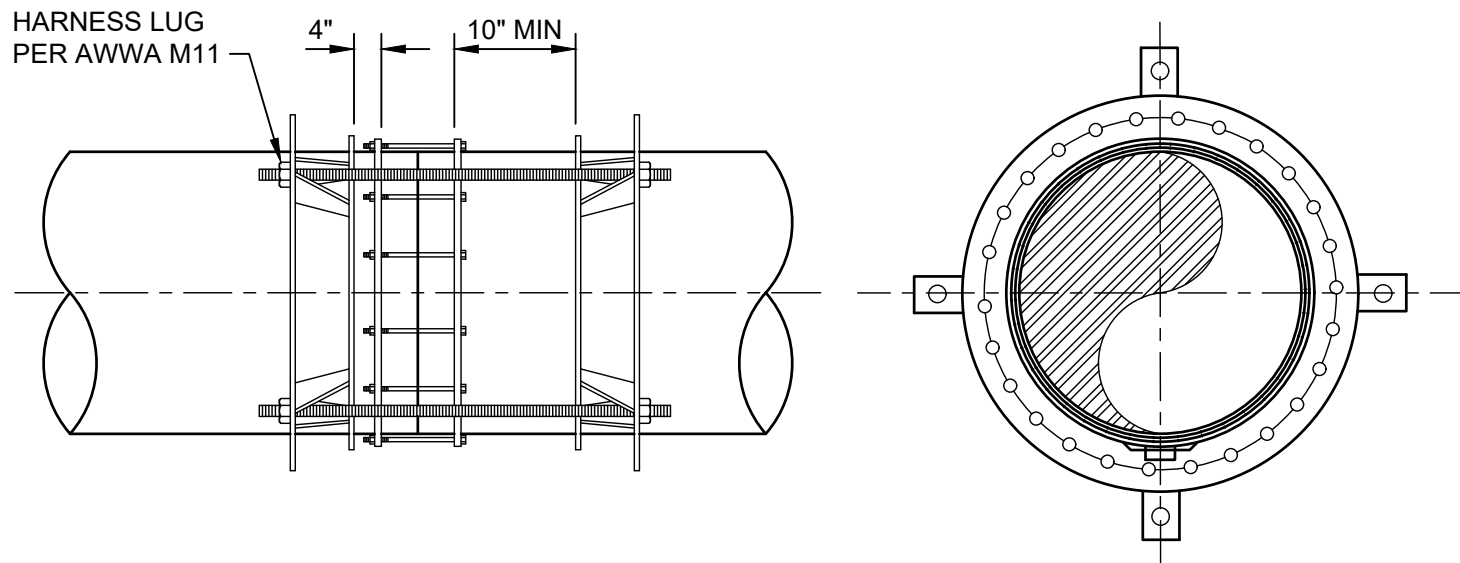
1 THRUST BLOCK
SCALE: NTS



NOTE:

- ORIFICE PLATE SHALL BE DESIGNED PER THE FOLLOWING CRITERIA:
 $Q = 3,000 \text{ GPM}$, $\Delta P = 25 \text{ PSI}$, $\text{BORE} = 5.7" \pm$
- ALL DRAIN LINE PIPING AND AIR GAP SHALL BE EPOXY LINED.

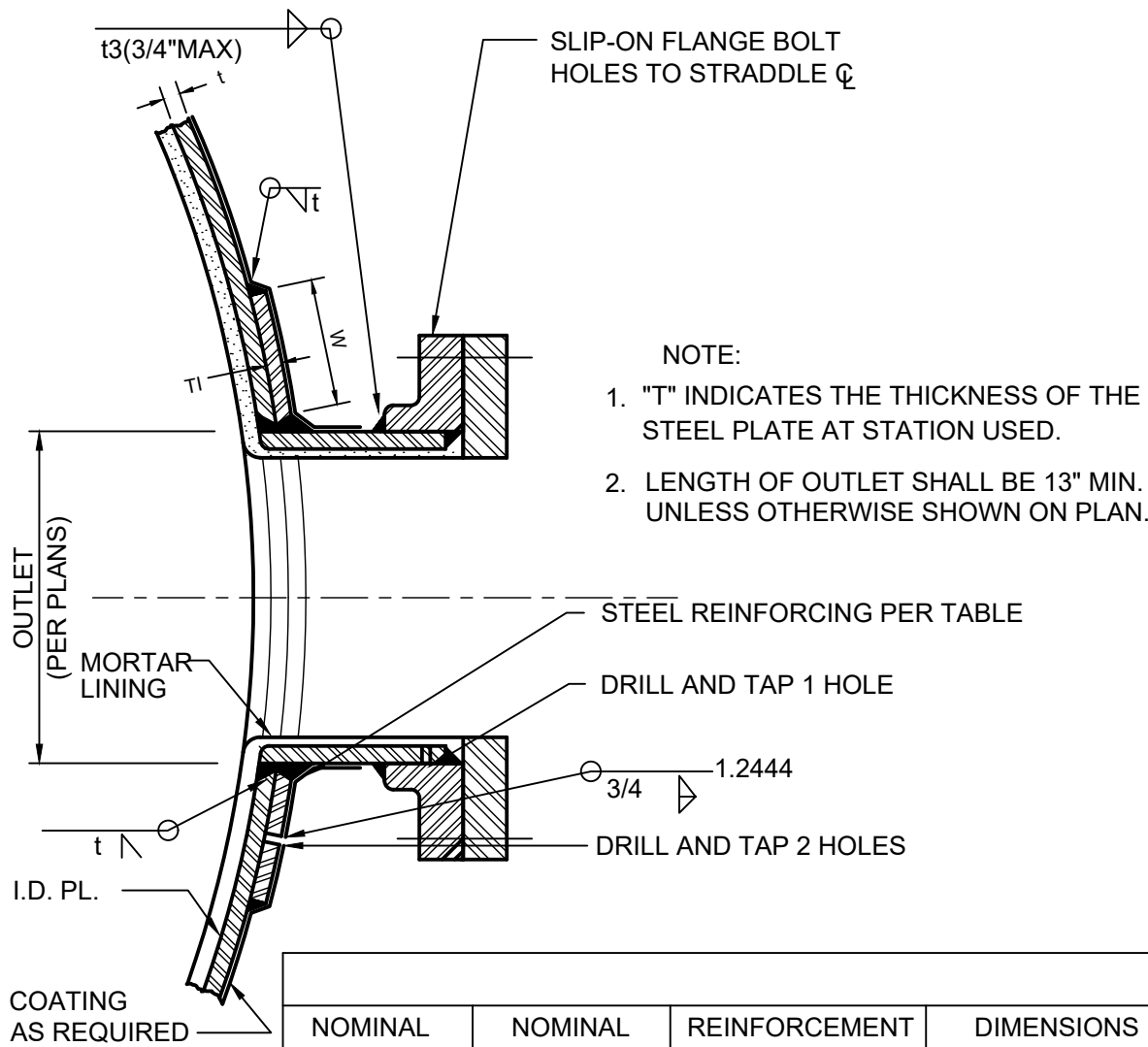
2 AIR GAP DETAIL
SCALE: NTS



NOTE:

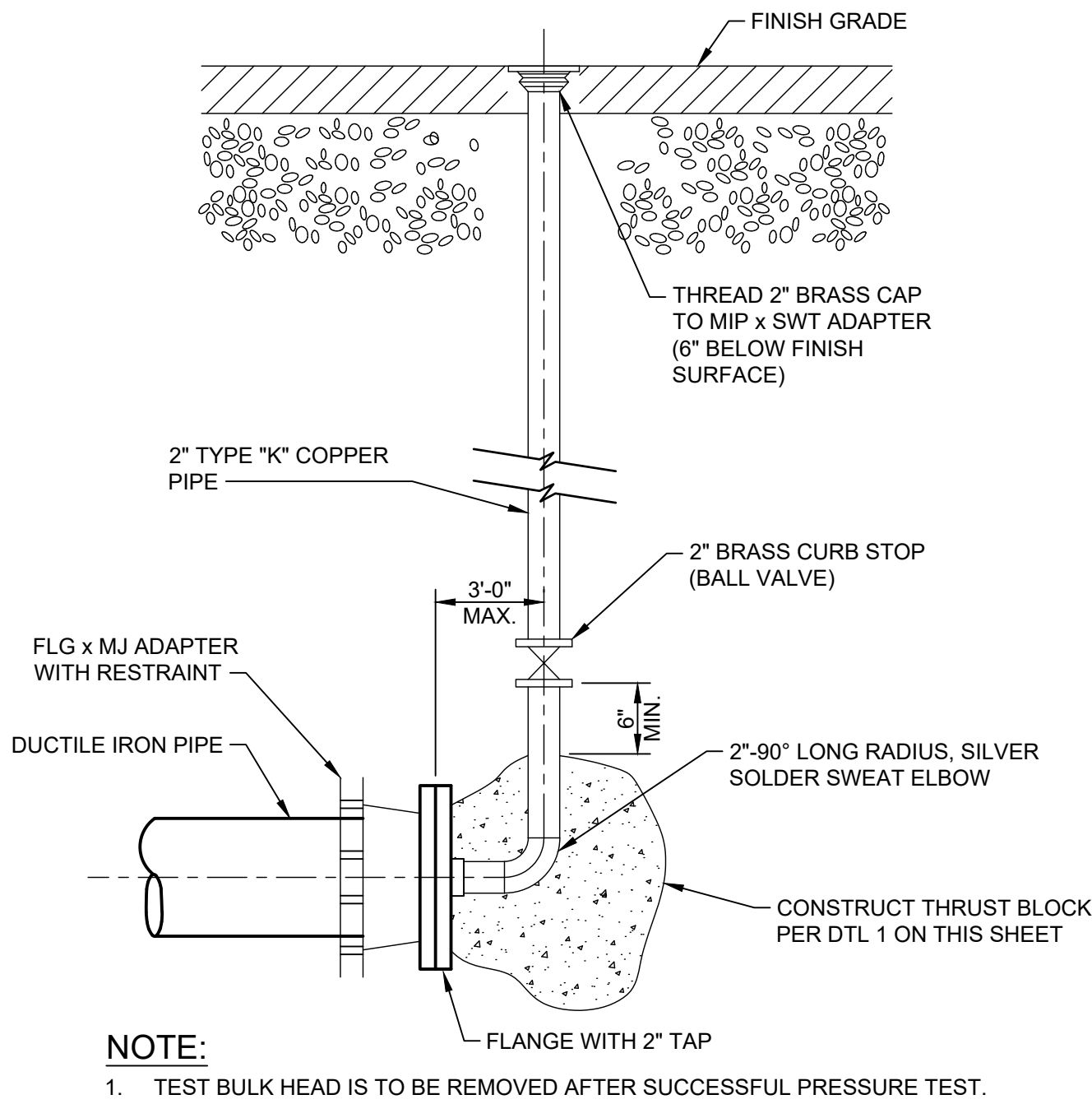
- THE GUSSET PLATES BETWEEN THE BACK PLATE AND THE FRONT PLATE MAY BE PERPENDICULAR TO THE FRONT AND BACK PLATES WITH A MINIMUM CLEAR DISTANCE BETWEEN EACH PAIR OF 2-INCHES.
- FABRICATOR TO VERIFY HARNESS LUG CLEARS FLEXIBLE COUPLING OUTSIDE DIAMETER.
- TIE BOLTS TO BE SPACED EQUALLY AROUND PIPE AND STRADDLING CENTERLINE OF PIPE BOLTS.
- DESIGN PER AWWA M-11. FOR A WORKING PRESSURE OF XXX PSI.
- TIE BOLT AND NUTS SHALL BE TYPE 316 SS.

3 JOINT HARNESS
SCALE: NTS

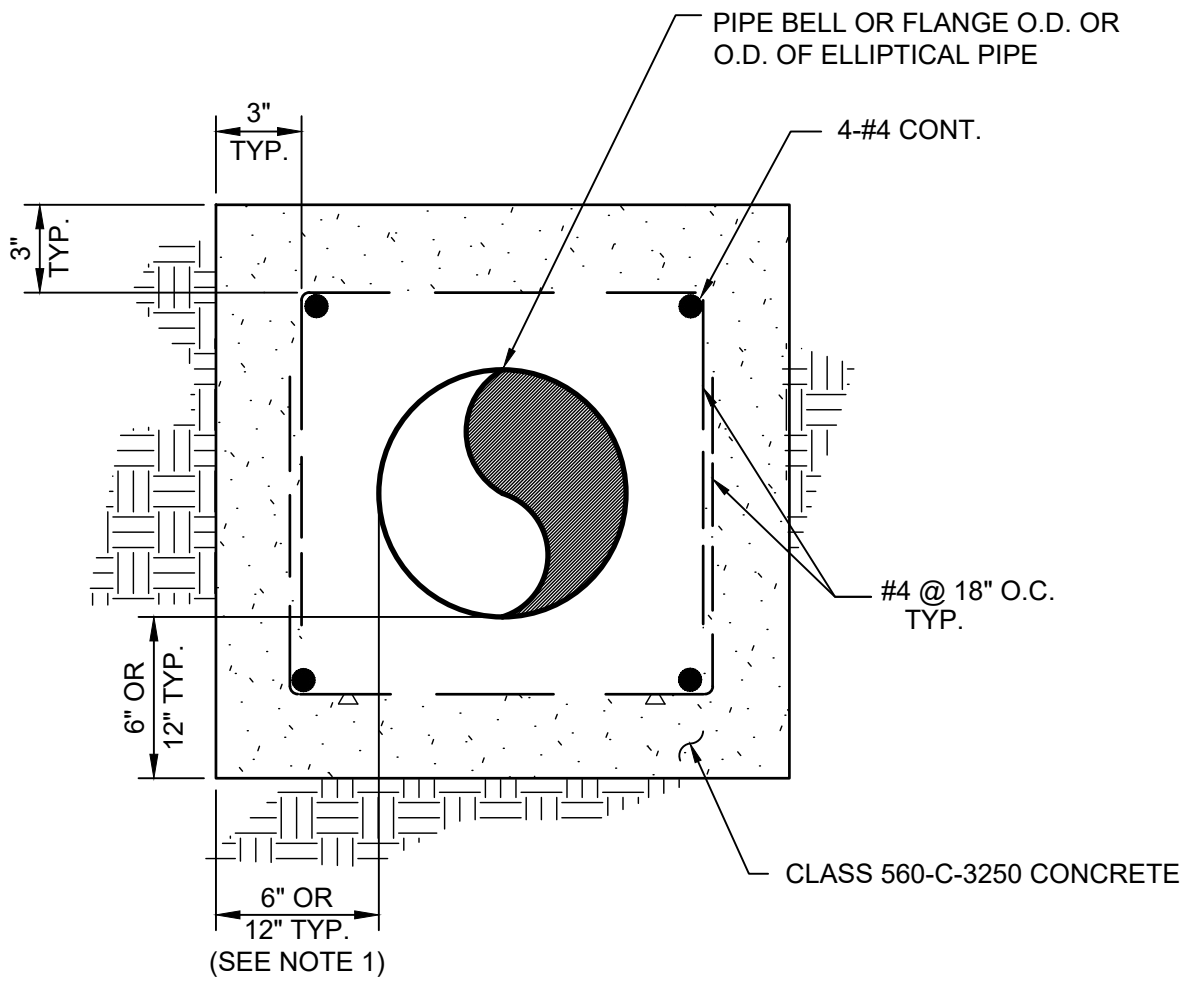


NOMINAL MAIN LINE SIZE (IN.)	NOMINAL BRANCH SIZE (IN.)	REINFORCEMENT TYPE	DIMENSIONS T1 (IN.)	W (IN.)	MINIMUM MORTAR LINING (IN.)
8	8	WRAPPER	0.25	3.0	EPOXY
16	6	COLLAR	0.25	2.5	5/16
16	8	COLLAR	0.25	3.0	5/16

4 FLANGED OUTLET
SCALE: NTS



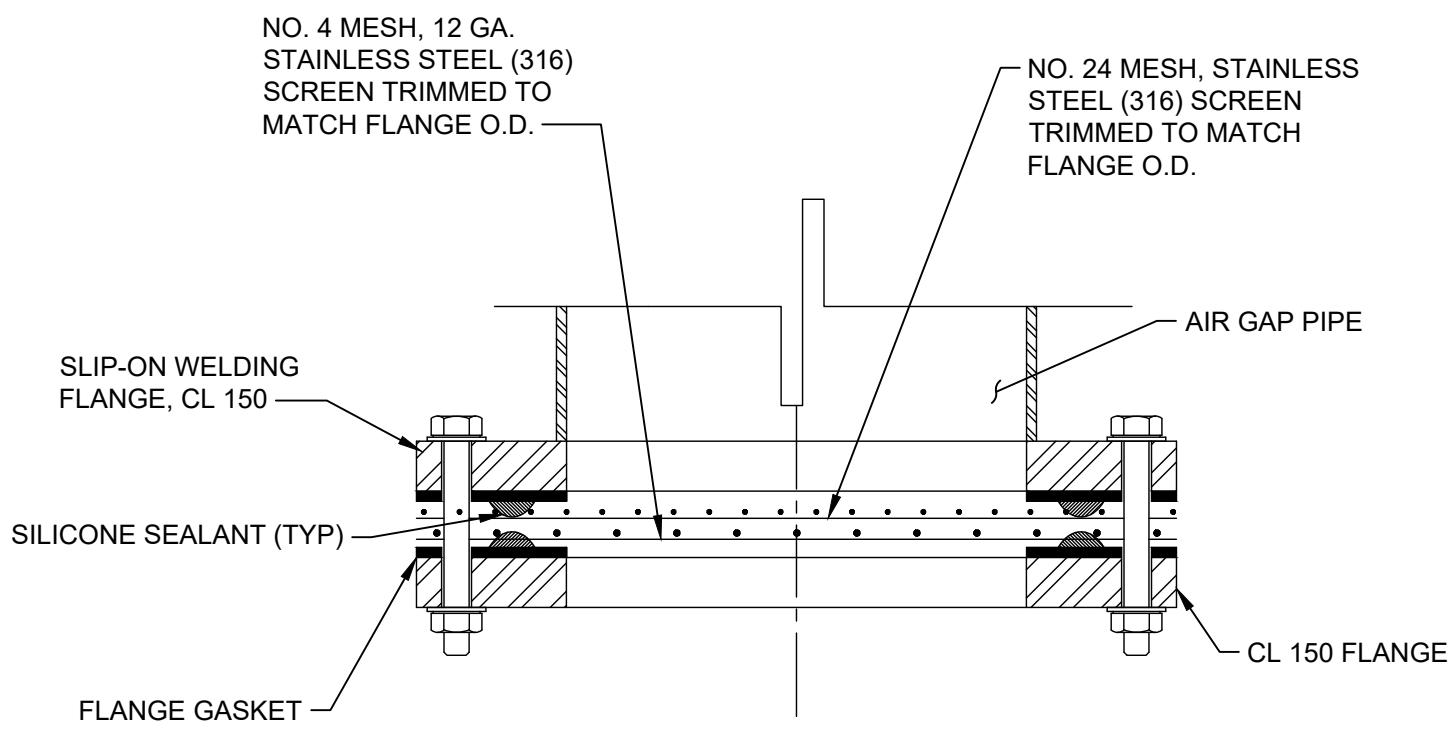
5 TEST BULKHEAD
SCALE: NTS



NOTE:

- CONCRETE ENCASEMENT FOR PIPELINE IS 6". RISER CONCRETE ENCASEMENT IS 12".
- ENCASEMENT SHALL BE PLACED AGAINST UNDISTURBED NATURAL GROUND OR FILL COMPACTED TO 90% RELATIVE DENSITY

6 CONCRETE ENCASEMENT
SCALE: NTS



7 AIR GAP PIPE SCREEN
SCALE: NTS

8 NOT USED
SCALE: NTS

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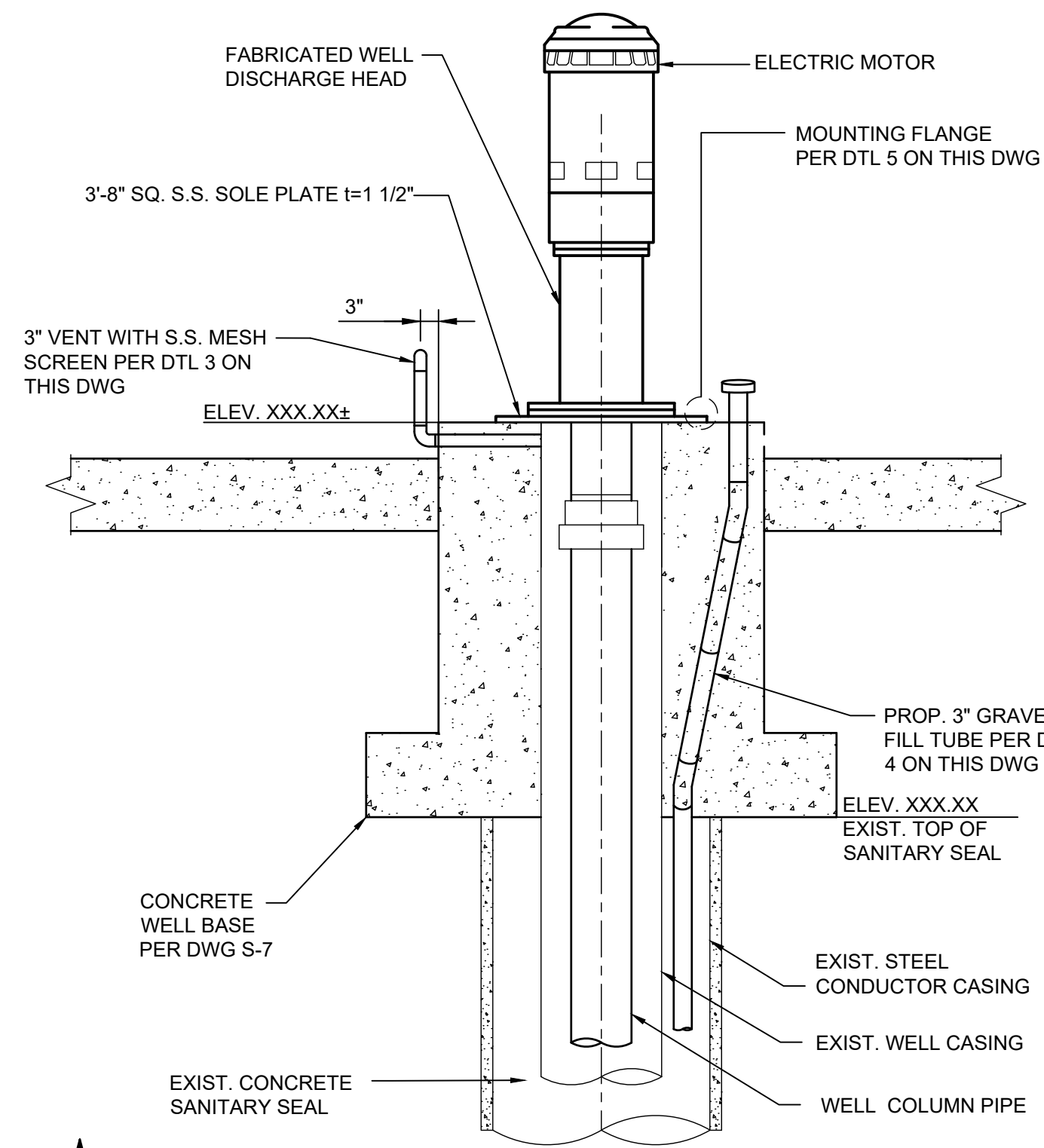
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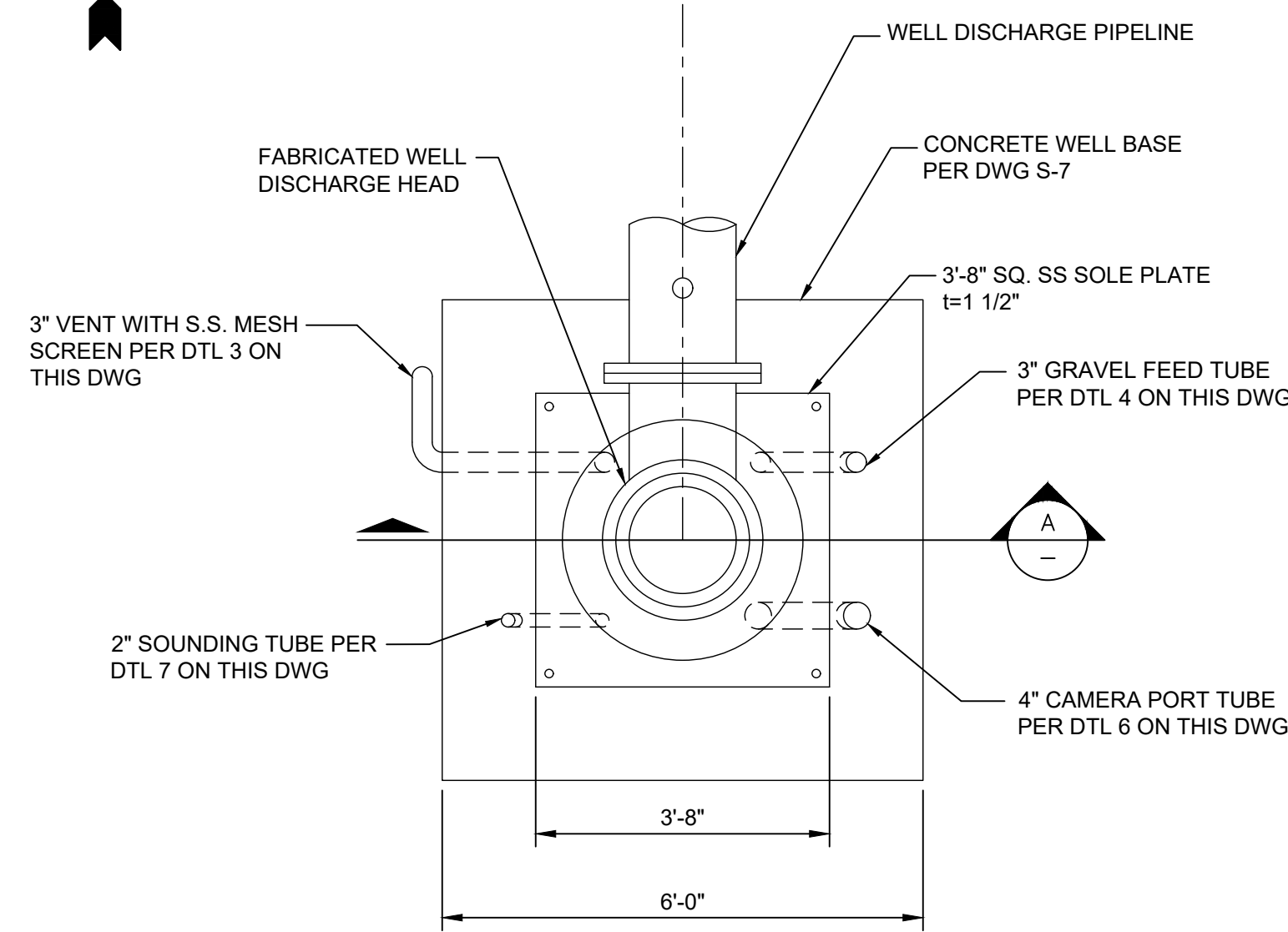
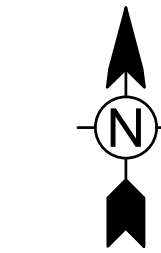
PIPING DETAILS			
225 W MAPLE AVE, ORANGE CA 92866			
SCALE:	HORIZ. AS NOTED VERT. AS NOTED	D-2	SHEET OF SHEETS

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SECTION A

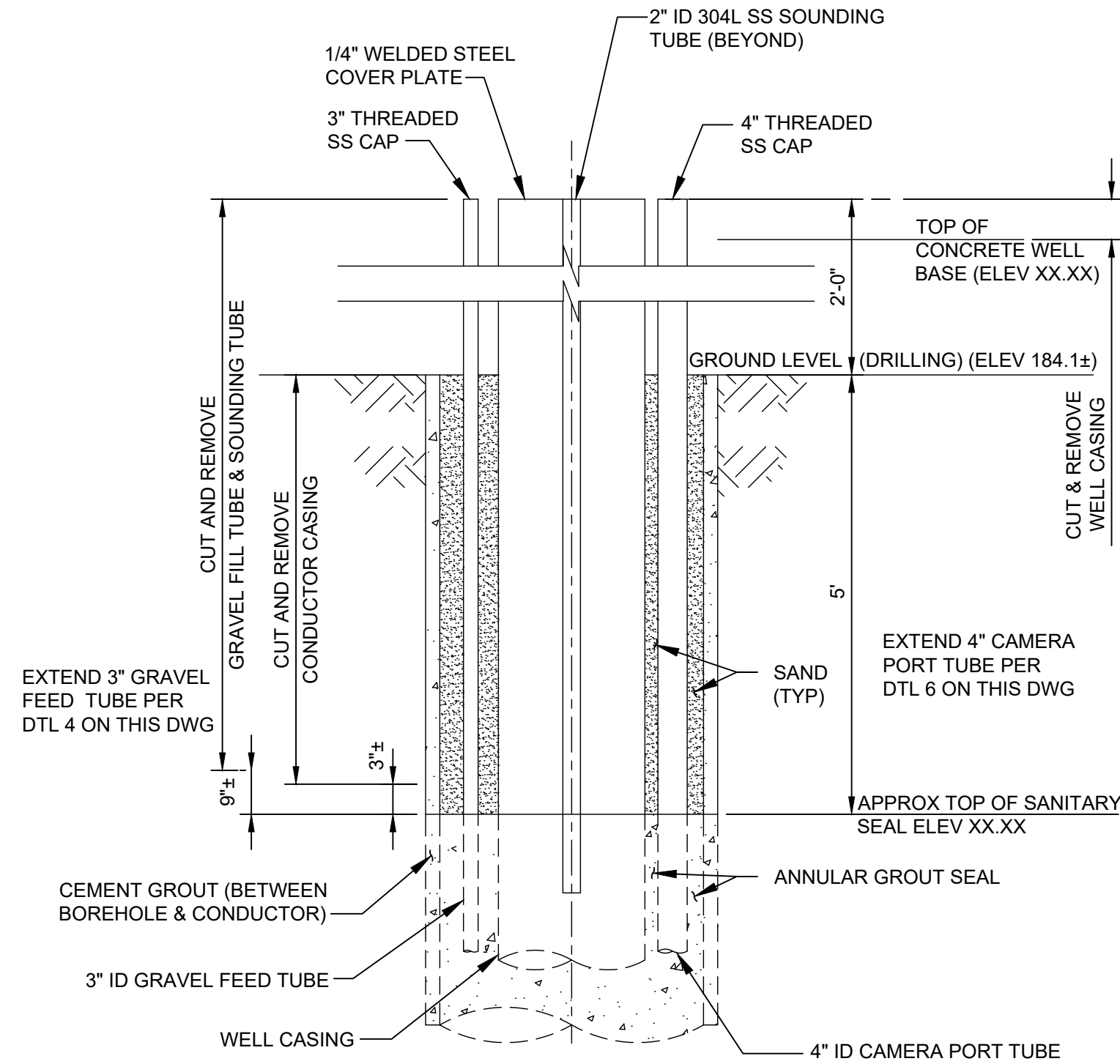


NOTES:

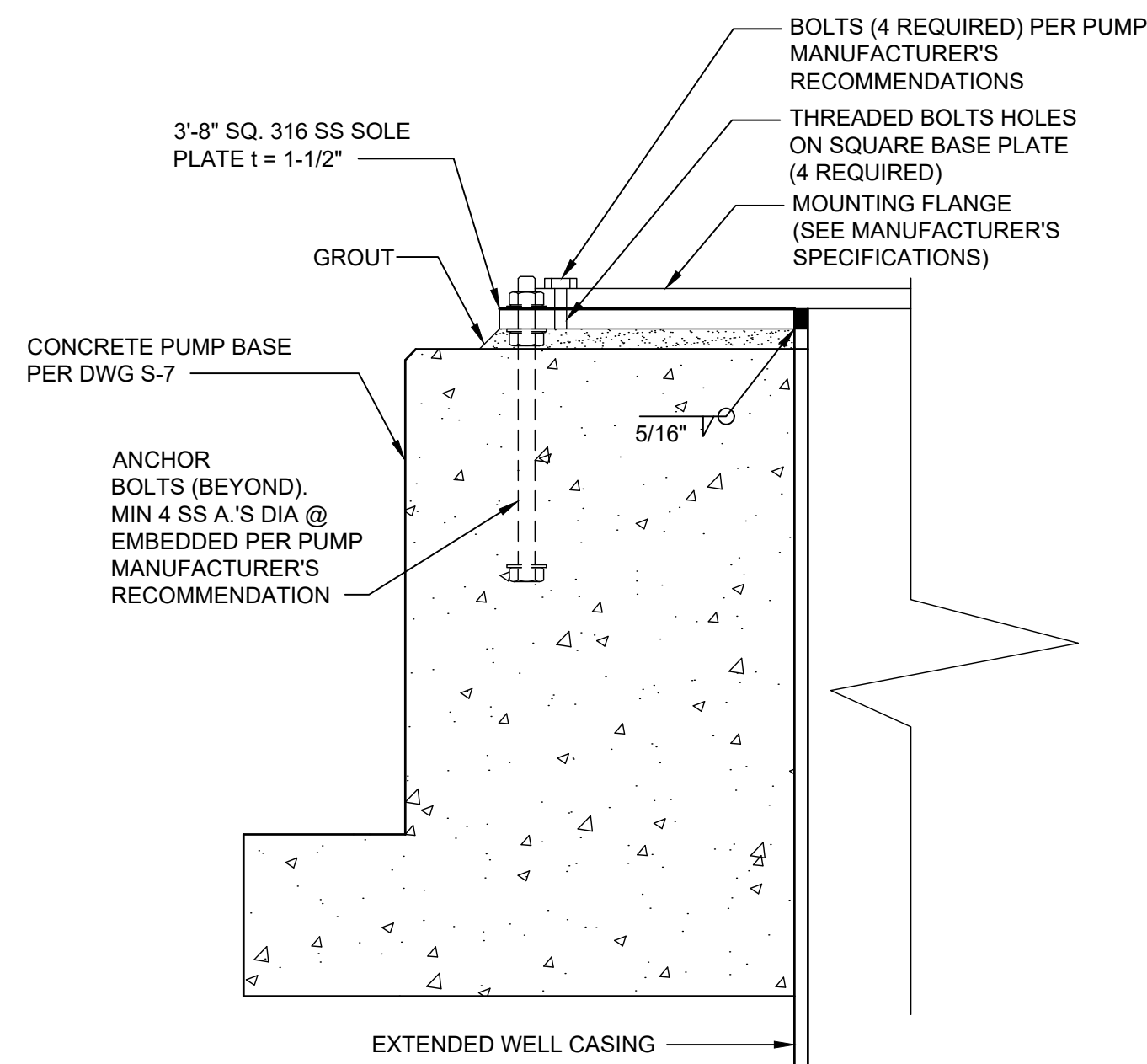
1. LEVEL TRANSDUCER SHALL BE PLACED WITHIN 2" SOUNDING TUBE
2. CONTRACTOR SHALL VERIFY DIMENSIONS OF ALL APPURTENANCES EXTENDING THROUGH PUMP MOUNTING FLANGE.
3. EXISTING SANITARY SEAL TO PROVIDE BEARING FOR PUMP BASE. REMOVE AS REQUIRED TO PROVIDE LEVEL BEARING AREA. SEE EXISTING WELL DTL 2 ON THIS DWG
4. CONTRACTOR TO VERIFY ORIENTATION OF EXISTING SOUNDING, GRAVEL FILL, AND AIR VENT.

	WELL 28
LOW CARBON STEEL CONDUCTOR CASING	42" O.D. 3/8" THK.
304L S.S. WELL CASING (2 FT AGS TO 440 FT BGS)	20" I.D. 3/8" THK.
304L S.S. WELL CASING (440 FT AGS TO 940 FT BGS)	20" I.D. 5/16" THK.
304L S.S. SOUNDING TUBE W/ CAMERA PORT TUBE	4" I.D. SCH 40S
304L S.S. PRESSURE TRANSDUCER/SOUNDING TUBE	2" I.D. SCH 40S
LOW CARBON STEEL GRAVEL TUBE	SCH 40S
304L S.S. AIR VENT	3" I.D. SCH 40S

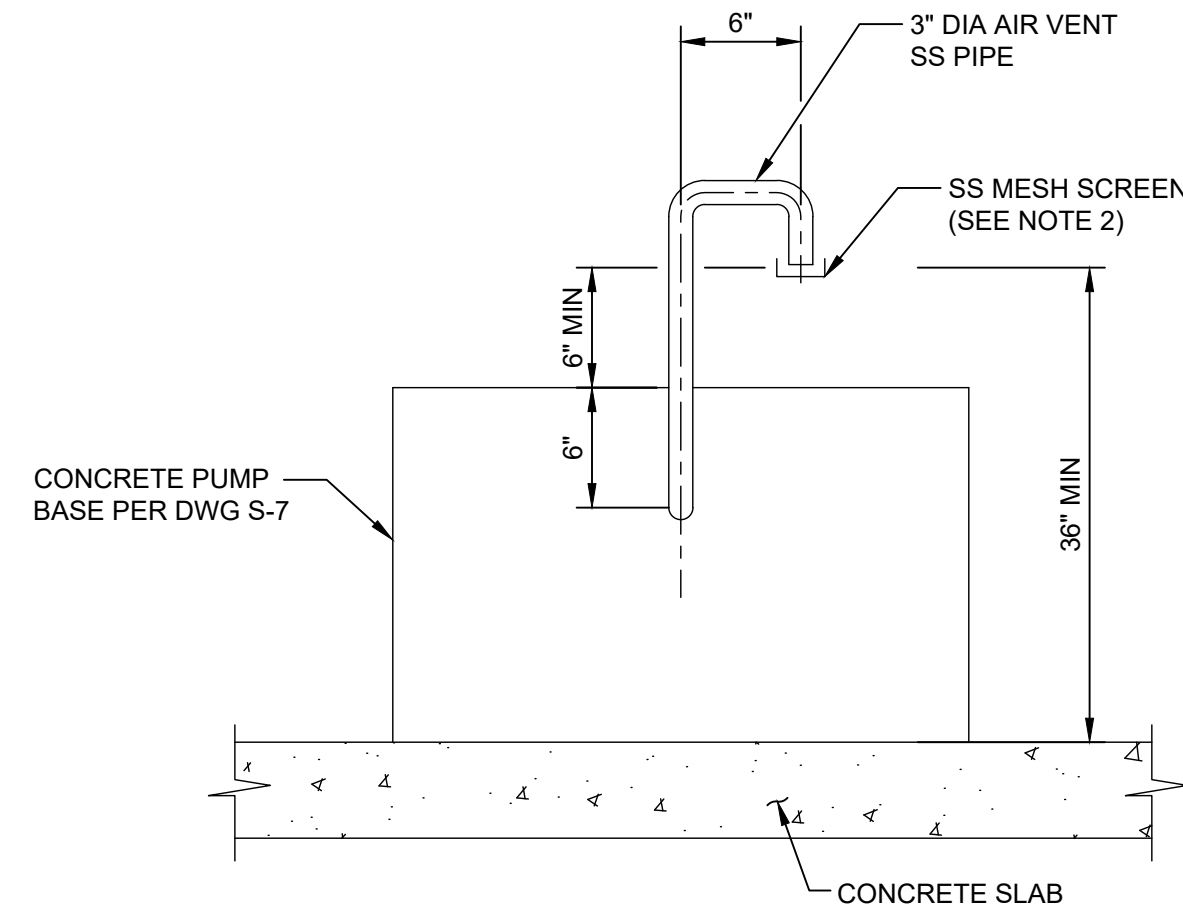
1 WELL 28 PUMP BASE
SCALE: NTS



2 EXISTING WELL
SCALE: NTS



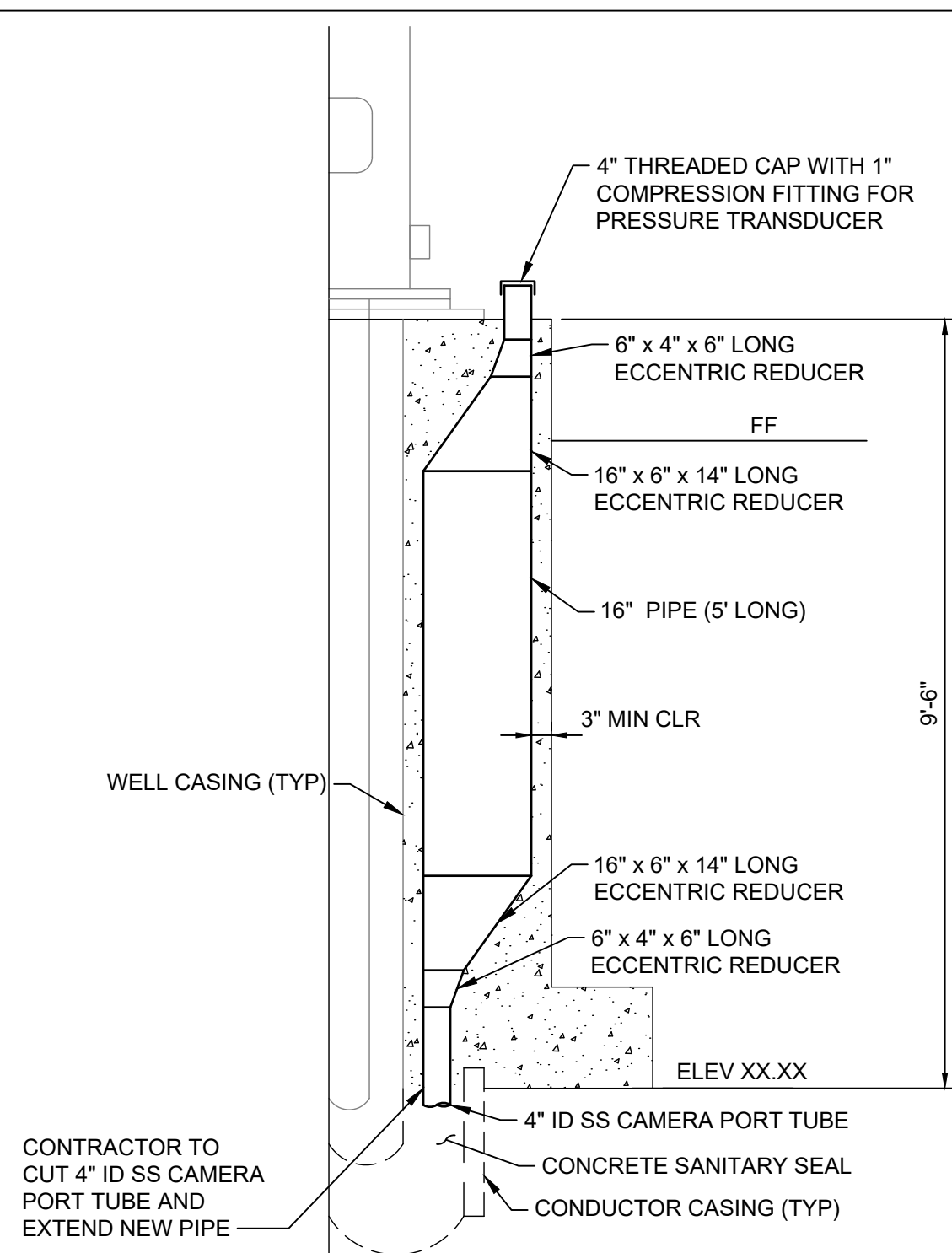
5 MOUNTING FLANGE DETAIL
SCALE: NTS



NOTES:

1. WELL DISCHARGE AND OTHER APPURTENANCES ARE NOT SHOWN FOR CLARITY.
2. THE MAXIMUM SCREEN SIZE OPENING SHALL BE #24 MESH.
3. WELL CASING SHALL BE PROVIDED WITH 3-INCH OUTLET FOR CONNECTION WITH 3-INCH SS AIR VENT PIPING.

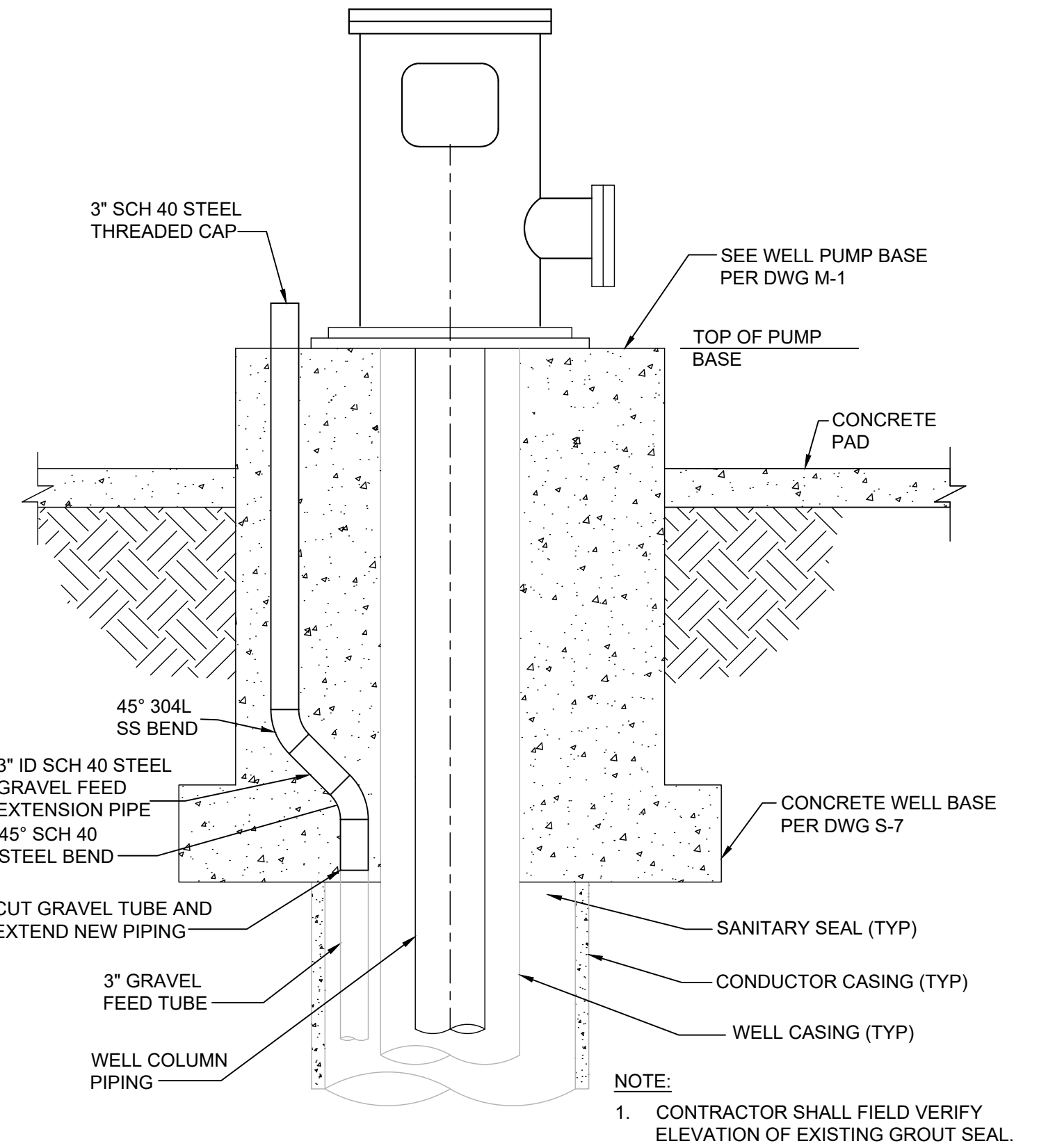
3 3" AIR VENT
SCALE: NTS



NOTE:

1. WELDING THICKNESS SHALL BE 1/4" MIN

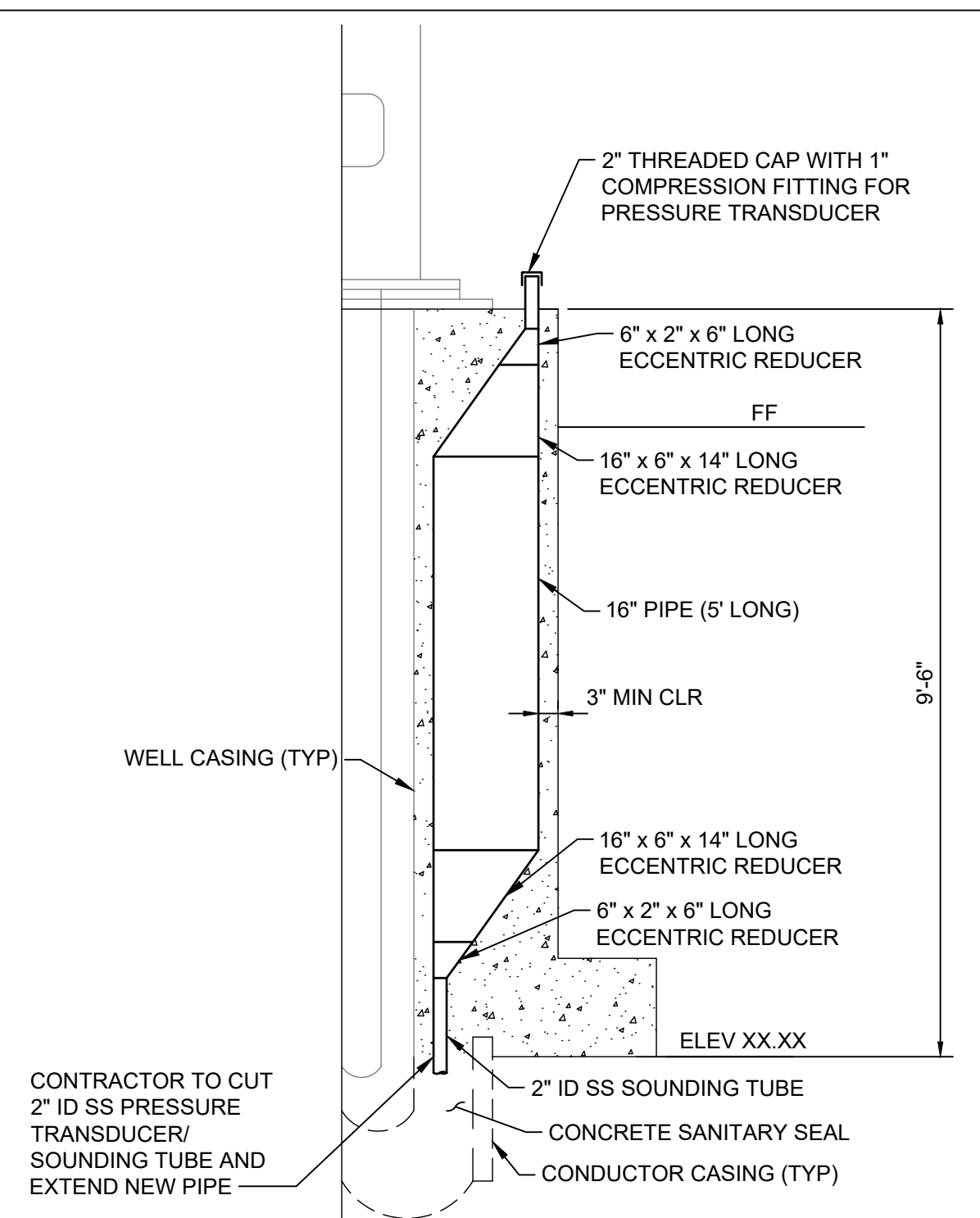
6 4" CAMERA PORT TUBE
SCALE: NTS



NOTE:

1. CONTRACTOR SHALL FIELD VERIFY ELEVATION OF EXISTING GROUT SEAL.

4 3" GRAVEL FILL TUBE
SCALE: NTS



NOTE:

1. WELDING THICKNESS SHALL BE 1/4" MIN

7 2" PRESSURE TRANSDUCER/SOUNDING TUBE
SCALE: NTS

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WELL DETAILS
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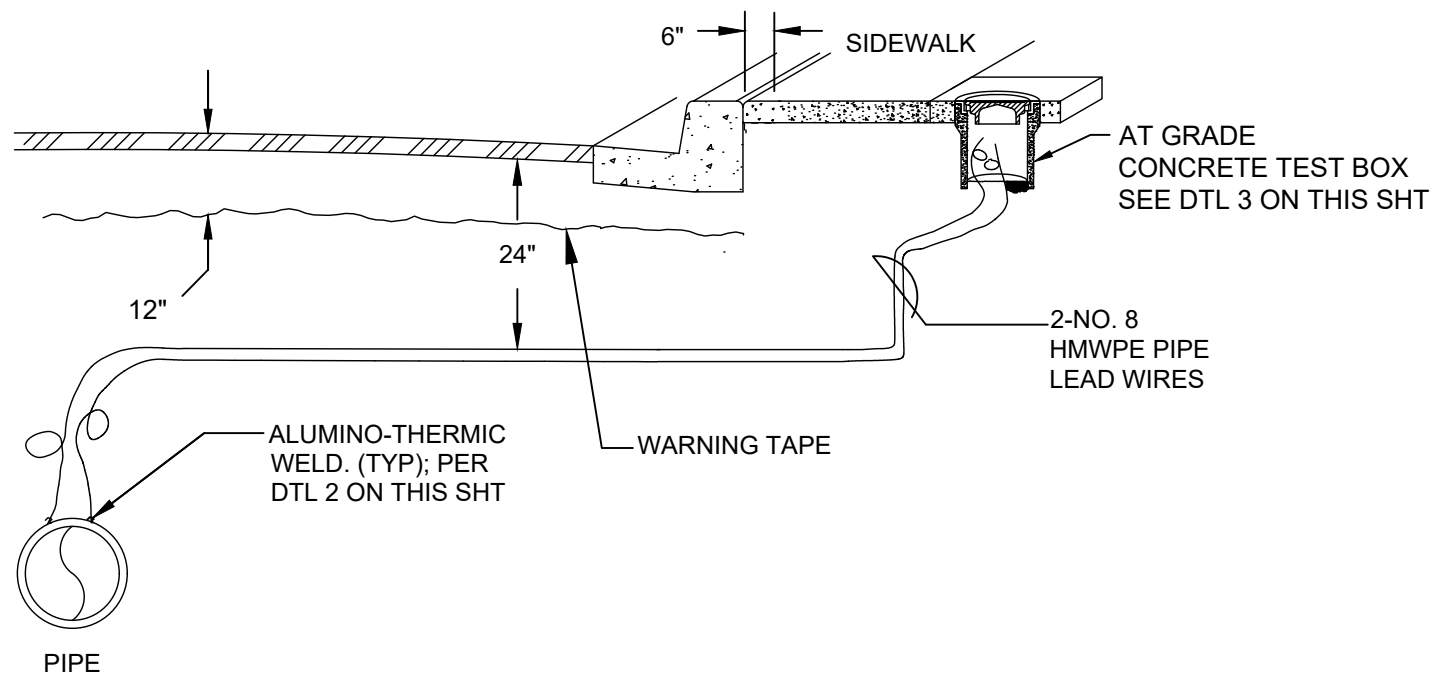
SCALE: HORIZ. AS NOTED
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D-3

SHEET OF SHEETS

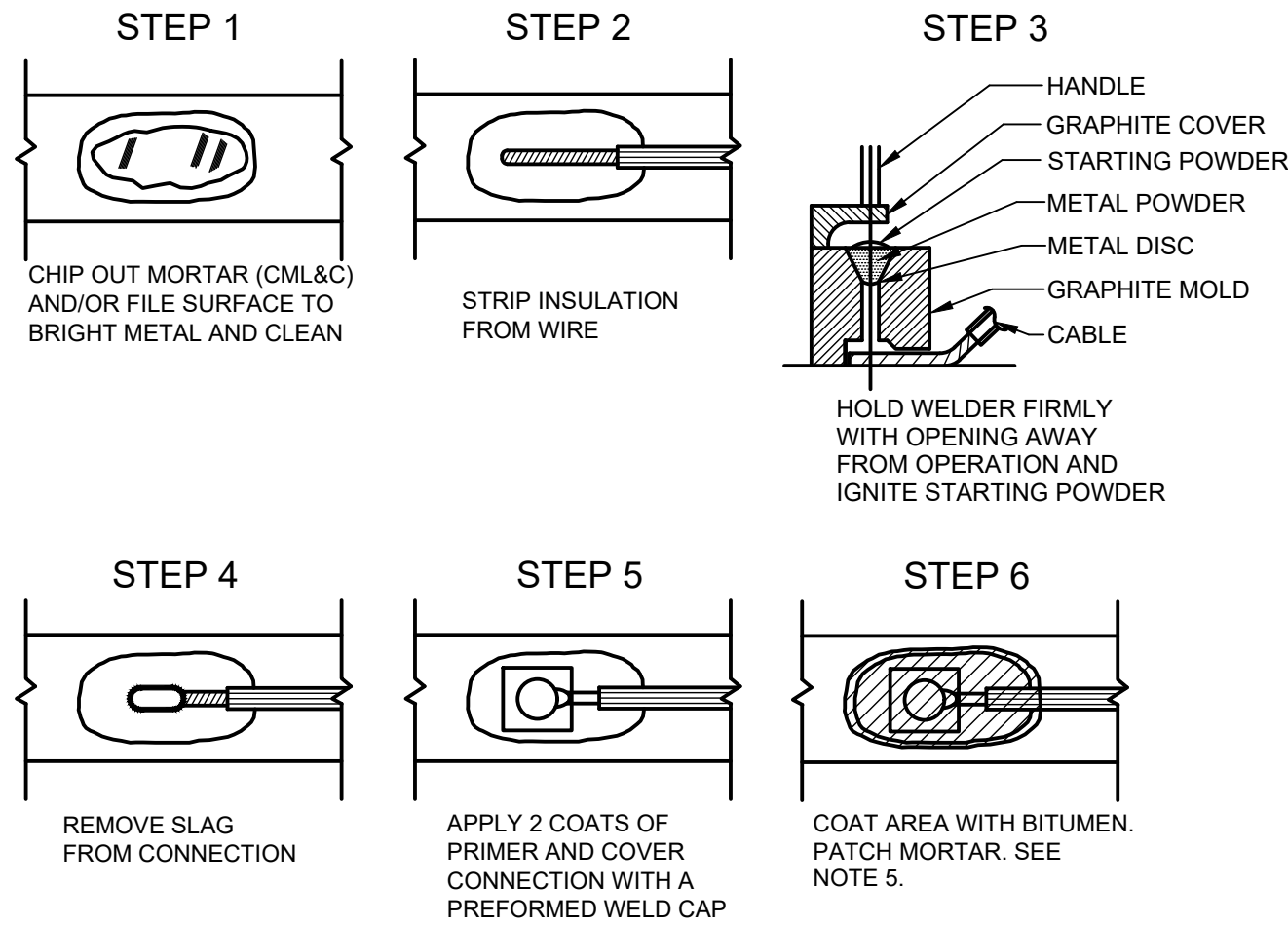
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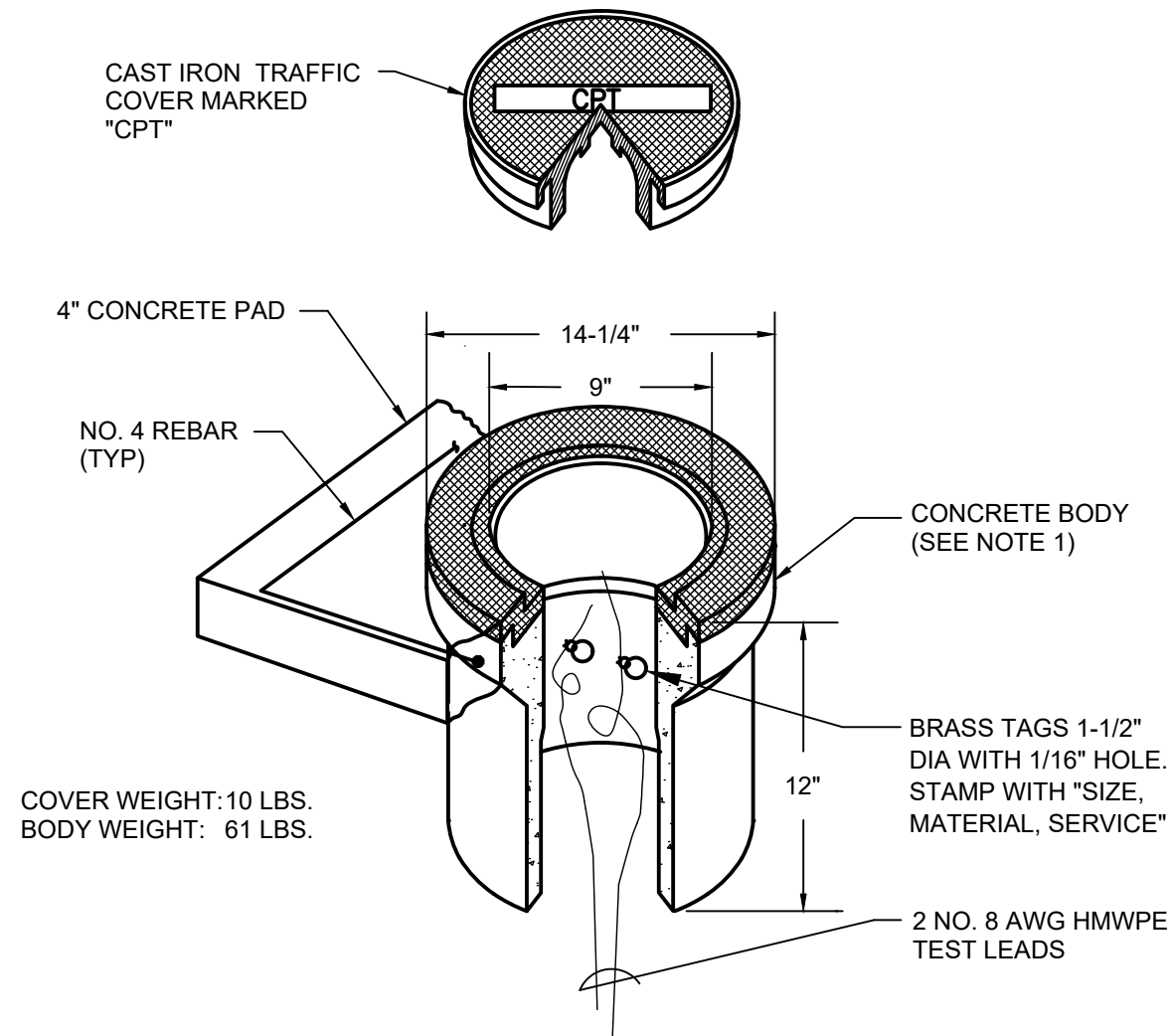
- NOTES:
1. PROVIDE 18" SLACK WIRE AT WELD AND COILED IN TEST BOX.
 2. IDENTIFY BRASS TAGS PER DTL 3 ON THIS SHT.
 3. WIRE TRENCH SHALL BE 24-INCHES DEEP (MIN). PLACE 3-INCHES OF SAND OR DG BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 6-INCHES OF SAND OR DG. COMPACT WIRE TRENCH FILL PER MNWD-STD.
 4. USE 6" WIDE, 4 MIL THICK INERT PLASTIC WARNING TAPE PRINTED WITH "CAUTION: CATHODIC PROTECTION CABLE BELOW".
 5. TEST BOX LOCATION AS SHOWN ON DWG. C-3.

1 2-WIRE TEST STATION
SCALE: NTS



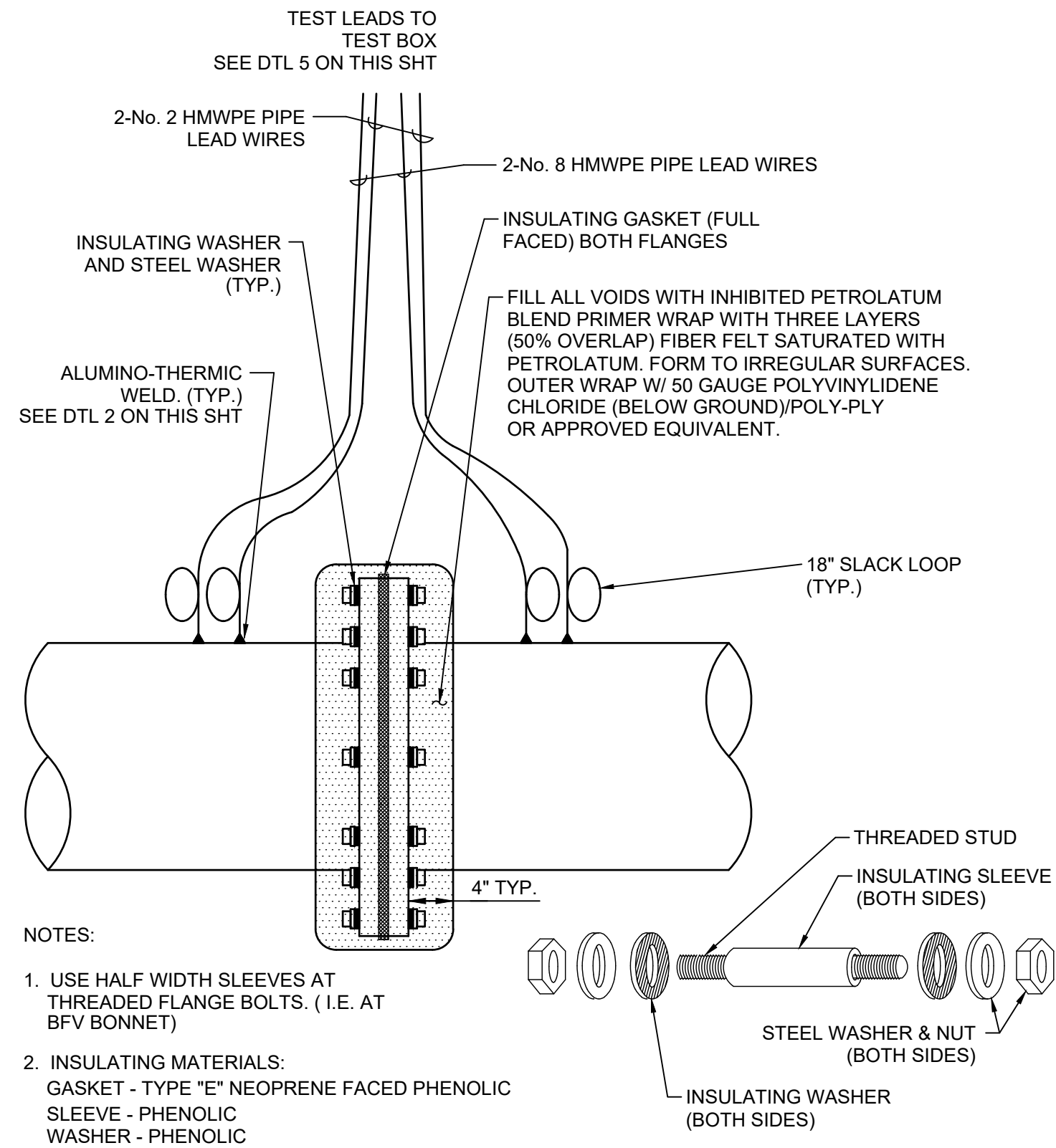
- NOTES:
1. WELDER SHOWN IS FOR HORIZONTAL SURFACES. FOR VERTICAL SURFACES SIDE WELDER IS REQUIRED.
 2. ALL WIRE WELDS SHALL BE 3 INCHES APART, MINIMUM.
 3. STANDARD WELD CARTRIDGES SHALL BE USED FOR DUCTILE IRON AND STEEL SURFACE. FOR CAST IRON, USE XF-19 ALLOY OR EQUIVALENT.
 4. ALL EXPOSED METAL (STRUCTURE, WIRE, & WELD) SHALL BE COVERED WITH 2 COATS OF PRIMER AND AN ELASTOMERIC WELD CAP.
 5. APPLY GENEROUS COAT OF BITUMEN OVER WELD CAP AND EXPOSED METAL AREA UP TO EDGE OF MORTAR (CML&C) OR 3" BEYOND WELD CAP (DIP). USE CARBOLINE 300M OR EQUAL.
 6. PATCH MORTAR COATING WITH QUICK SETTING MORTAR (CML&C).

2 ALUMINO-THERMIC WELD
SCALE: NTS



- NOTES:
1. VALVE BOX VEHICLE TRAFFIC - SOUTH BAY FOUNDRY - SBF-1208N
 2. ALL WIRES SHALL HAVE 18" MIN. SLACK IN BOX.
 3. BOTTOM OF TEST BOX SHALL BE NATIVE SOIL. DO NOT PLACE ROCK, GRAVEL OR SAND IN TEST BOX.
 4. FIRMLY STAMP BRASS TAGS (1-1/2" DIA WITH 1/16" DIA. HOLE) "SIZE, MATERIAL AND SERVICE" (EXAMPLE: 24", CMLCSP, DW). USE 1/4" HIGH CHARACTERS. SECURELY ATTACH BRASS TAGS TO TEST LEADS WITH BARE NO. 14 COPPER WIRE.
 5. HORIZONTAL WIRE RUNS SHALL BE IN 24-INCH DEEP TRENCH. PLACE 3-INCHES OF SAND OR DG. BEDDING IN TRENCH BEFORE PLACING WIRES. COVER WIRES WITH 6-INCHES OF SAND OR DG. COMPACT WIRE TRENCH FILL PER MNWD-STD.
 6. USE 6" WIDE, 4 MIL THICK INERT PLASTIC TAPE PRINTED WITH "CAUTION: CATHODIC PROTECTION CABLE BELOW". PLACE 12-INCHES BELOW GRADE.

3 AT-GRADE TEST BOX
SCALE: NTS



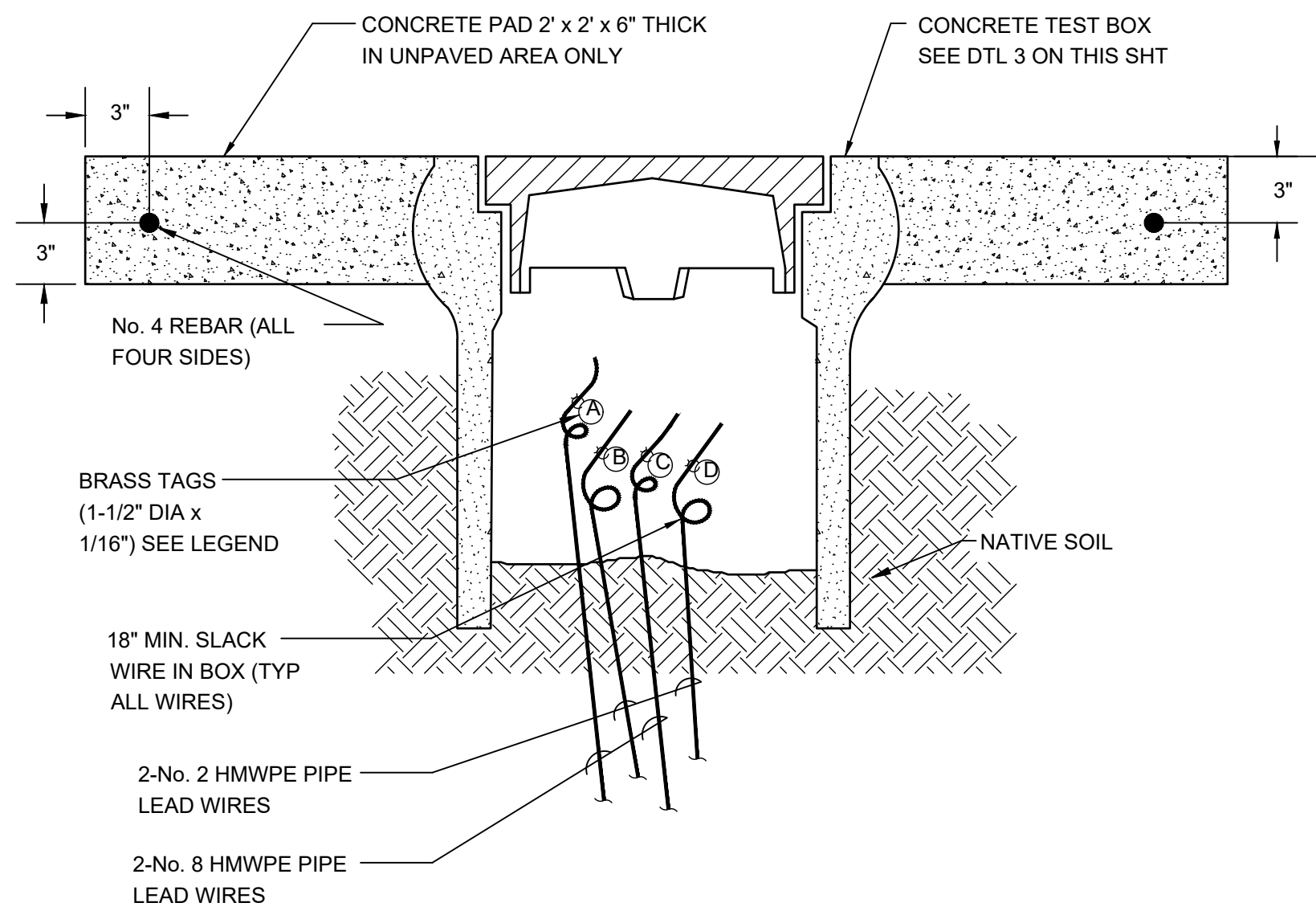
- NOTES:
1. USE HALF WIDTH SLEEVES AT THREADED FLANGE BOLTS. (I.E. AT BFV BONNET)
 2. INSULATING MATERIALS:
GASKET - TYPE "E" NEOPRENE FACED PHENOLIC
SLEEVE - PHENOLIC
WASHER - PHENOLIC

4 BURIED INSULATING FLANGE AND TEST STATION
SCALE: NTS

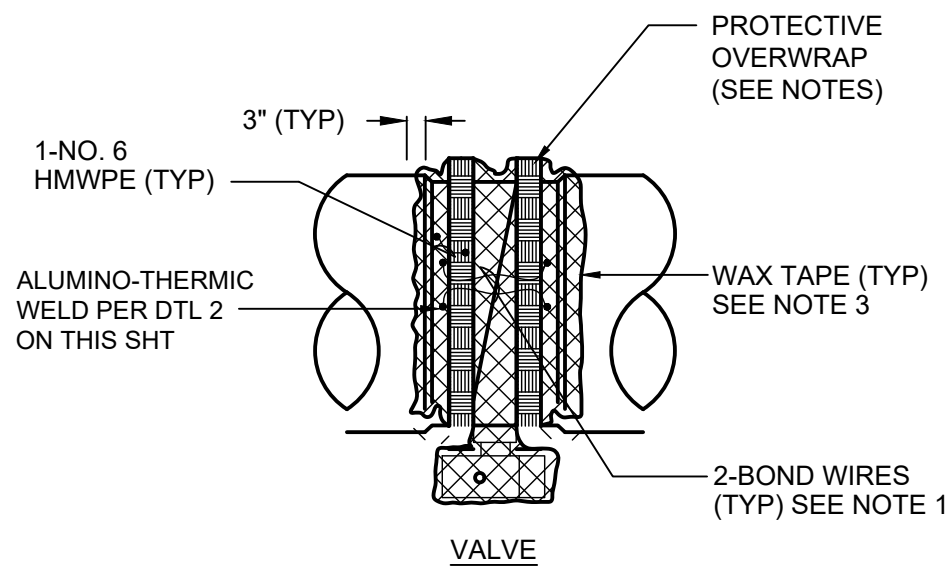
TAG LEGEND		
WIRE	SIZE	TAG ID (EXAMPLE)
A	No. 8 HMWPE	16" CMLC, DW
B	No. 2 HMWPE	16" CMLC, DW
C	No. 8 HMWPE	16" CMLC, DW
D	No. 2 HMWPE	16" CMLC, DW

CORROSION TEST STATION NOTES:

- ALL TEST STATIONS SHALL BE THE AT-GRADE TYPE WITH A CONCRETE TEST BOX SUITABLE FOR VEHICULAR TRAFFIC.
- PROVIDE 18" SLACK WIRE AT WELD TO PIPE AND COILED IN TEST BOX.
- BOTTOM OF TEST BOX SHALL BE NATIVE SOIL. DO NOT PLACE ROCK, GRAVEL OR SAND IN TEST BOX.
- A CONCRETE PAD (24" SQUARE X 6" THICK) AROUND TEST BOXES ARE REQUIRED IN UNPAVED AREAS.
- JACK AND BORE WIRES UNDER PAVEMENT WHERE REQUIRED.
- FOR TWO-WIRE TEST STATION, WIRES "C" AND "D" CAN BE OMITTED.



5 4-WIRE TEST STATION
SCALE: NTS



- NOTES:
- BOND WIRE SIZE:

PIPE DIA	SIZE
<14"	NO. 6 AWG HMWPE
<20"	NO. 4 AWG HMWPE
≥20"	NO. 2 AWG HMWPE
 - WIRES CAN BE WELDED DIRECTLY TO PIPE OR FLANGE. JUMPER FROM PIPE TO VALVE OR FOLLOWER IS NO 6 HMWPE.
 - ALL NON-MORTAR COATED SURFACES SHALL BE WRAPPED WITH WAX TAPE. INDIVIDUALLY WRAP ALL RODS, BOLTS & IRREGULAR SURFACES. SEE SPECIFICATION SECTION 13110.
 - INSTALL BOND WIRES BEFORE WAX TAPE.
 - CARE SHALL BE TAKEN WHEN BACKFILLING TRENCH TO PREVENT DAMAGE TO WAX TAPE SYSTEM.
 - FLANGES (ONLY) 18" AND LARGER SHALL BE OVERWRAPPED WITH 10 MIL PIPE TAPE (2 LAYERS 50% OVERLAP) TO PROTECT WAX TAPE DURING BACKFILLING.
 - FLANGES LESS THAN 18" REQUIRE NO PIPE TAPE PROTECTIVE OVERWRAP.

6 MECHANICAL JOINT BOND
SCALE: NTS

7 NOT USED
SCALE: NTS

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CATHODIC PROTECTION DETAILS
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
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D-4
SHEET OF SHEETS

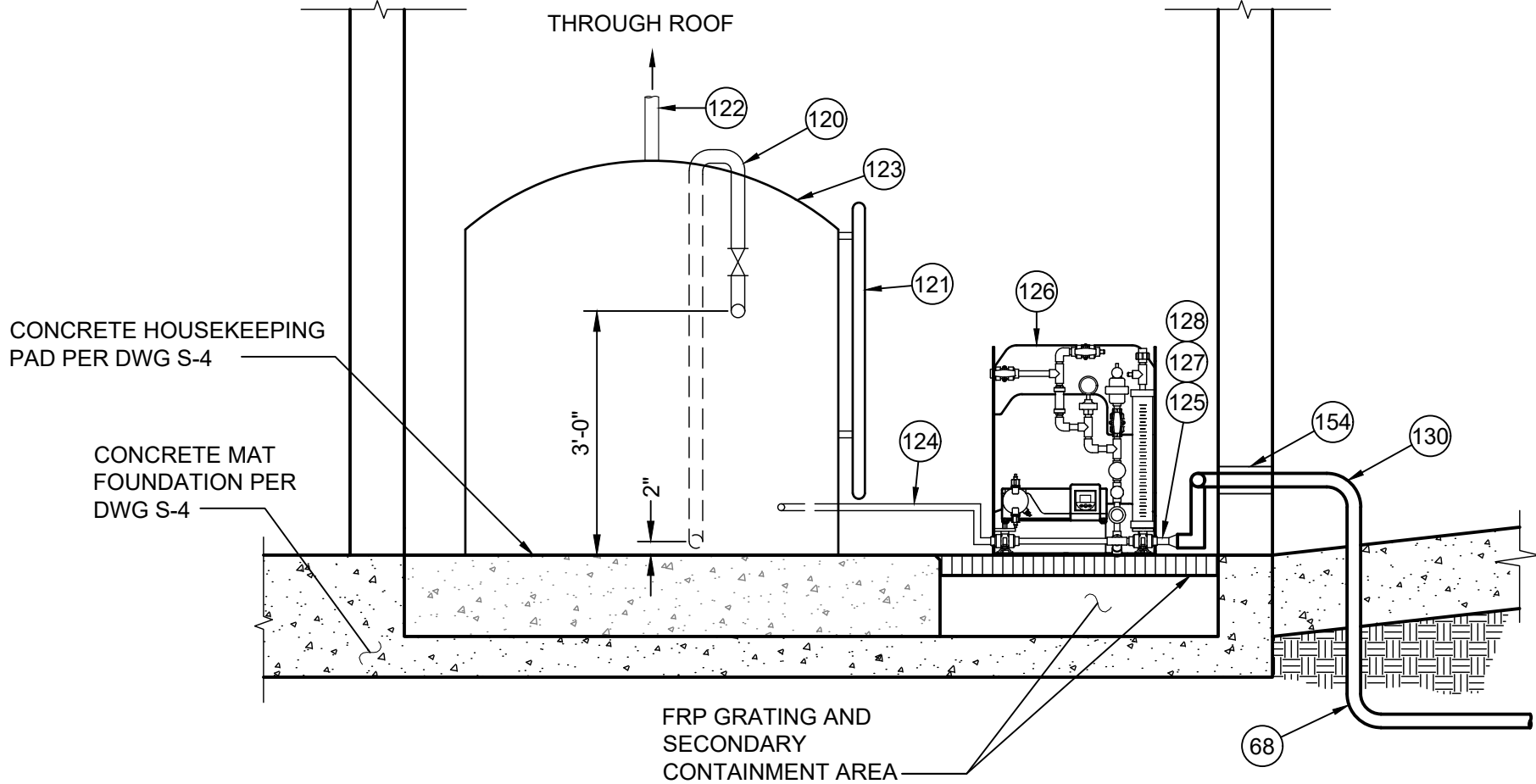
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SODIUM HYPOCHLORITE NOTES:

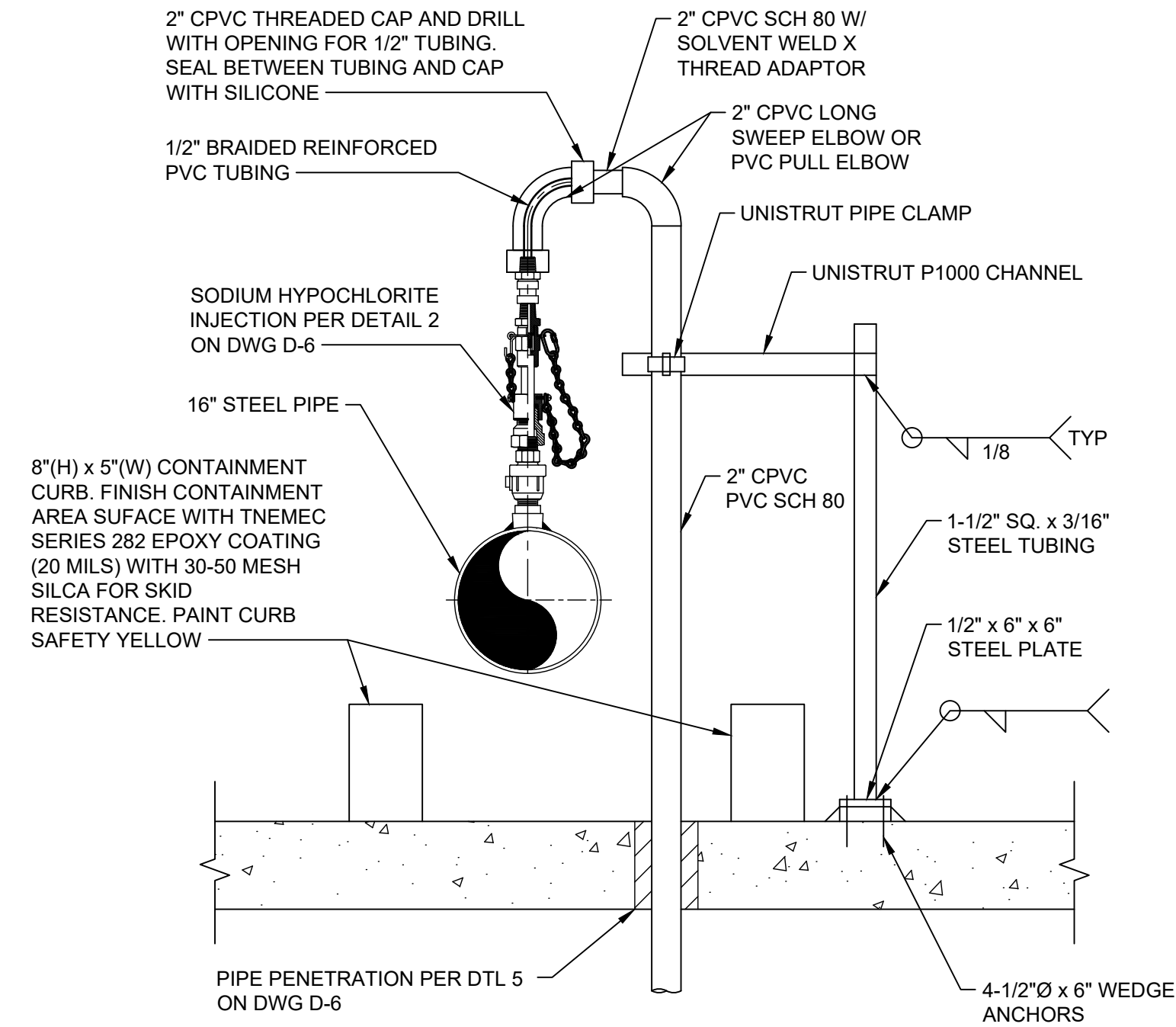
1.
- ALL PIPING SHALL BE SCH 80 PVC UNLESS NOTED OTHERWISE.
2.
- ALL PIPING CARRYING NaOCI (DOES NOT INCLUDE DISINFECTION ROOM) SHALL BE INSTALLED IN SCH 80 PVC DOUBLE WALL, EXCEPT WHERE NOTED OTHERWISE. CONTRACTOR SHALL PROVIDE ACCESS POINTS, VENTS, AND DRAINS.
3.
- SEISMIC RESTRAINT SYSTEM FOR THE SODIUM HYPOCHLORITE TANK SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL DURING SHOP DRAWING REVIEW.
4.
- ALL PIPING CARRYING SODIUM HYPOCHLORITE SHALL BE ATTACHED TO THE WALL OR SUPPORTED FROM THE FLOOR PER DETAIL 3 ON THIS DWG OR DETAIL 6 ON DWG D-6
5.
- SOME PIPING NOT SHOWN FOR CLARITY. SEE SCHEMATIC ON DETAIL 1 ON DWG D-6 FOR REMAINDER OF PIPING REQUIREMENTS.

CONSTRUCTION NOTES:

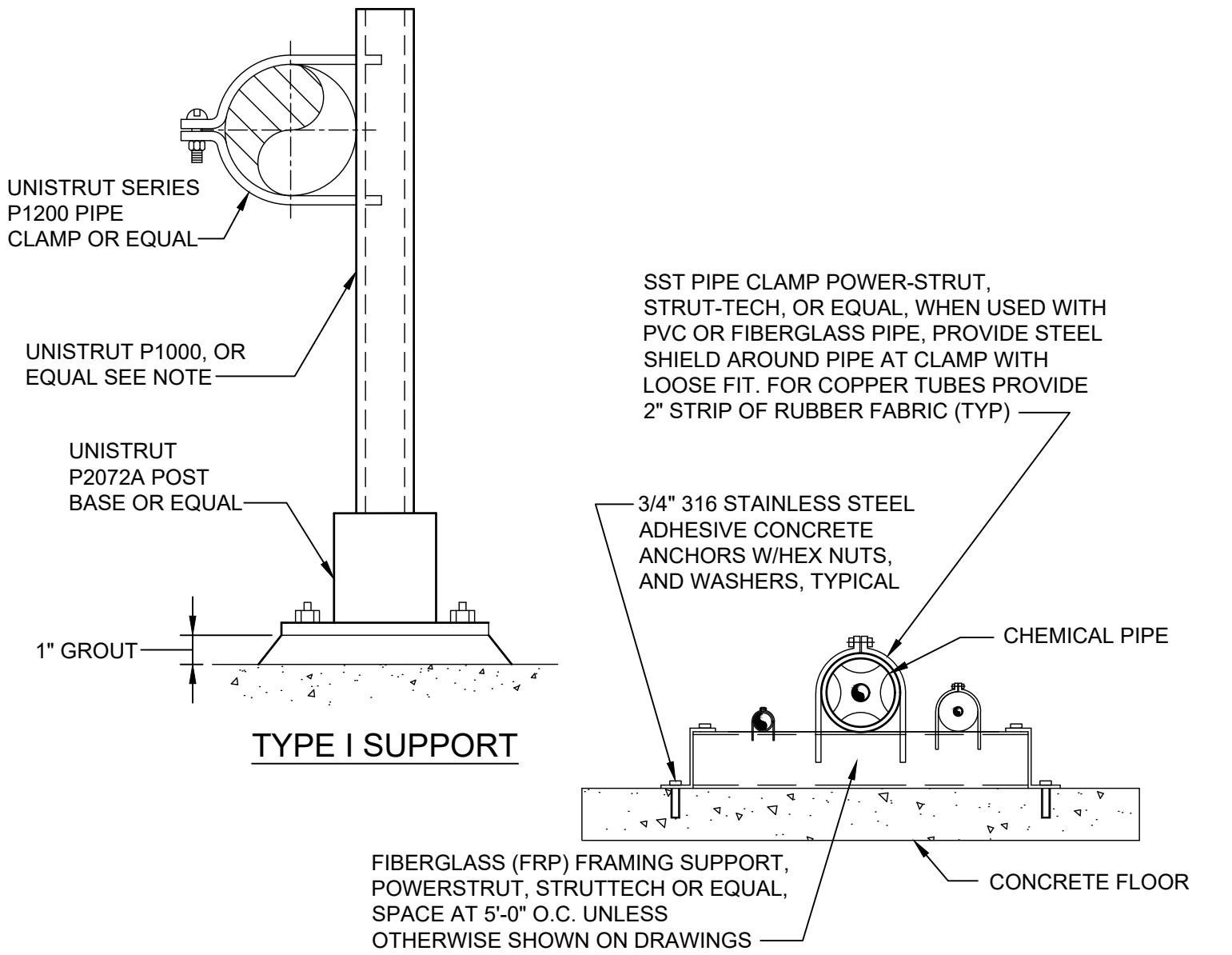
- 68
- CHEMICAL INJECTION LINE: 1/2" BRAIDED REINFORCED PVC TUBING WITHIN 2" SCH 80 PVC PIPE (SECONDARY CONTAINMENT). PROVIDE LONG SWEEP BENDS FOR PVC PIPE.
- 120
- 2" TANK FILL (COMBINATION DROP PIPE) CONNECTION WITH CAMLOCK, PVC BALL VALVE, AND PVC BALL CHECK VALVE
- 121
- SITE GLASS TANK GAUGE, SITE GLASS SHALL BE FACTORY MARKED WITH GRADATIONS
- 122
- 4" U-VENT ROUTED THROUGH ROOF WITH INSECT SCREEN
- 123
- 350 GALLON DOUBLE WALL SODIUM HYPOCHLORITE TANK
- 124
- 1" PVC SCH 80 NaOCI SUCTION PIPING
- 125
- 1/2" PVC SCH 80 NaOCI DISCHARGE PIPING
- 126
- METER PUMP SKID PACKAGE (WALL MOUNTED PER MANUFACTURER'S RECOMMENDATION)
- 127
- 1/2" PVC COUPLING (SLIP x FIPT)
- 128
- 1/2" PVC MALE CONNECTOR (MIPT x TUBE) WITH HOSE CLAMP AROUND TUBE CONNECTION
- 130
- 2" PVC PULL ELBOW, SCH 80
- 154
- PIPE PENETRATION PER DTL 5 ON DWG D-6



1 DISINFECTION SECTION
SCALE: NTS

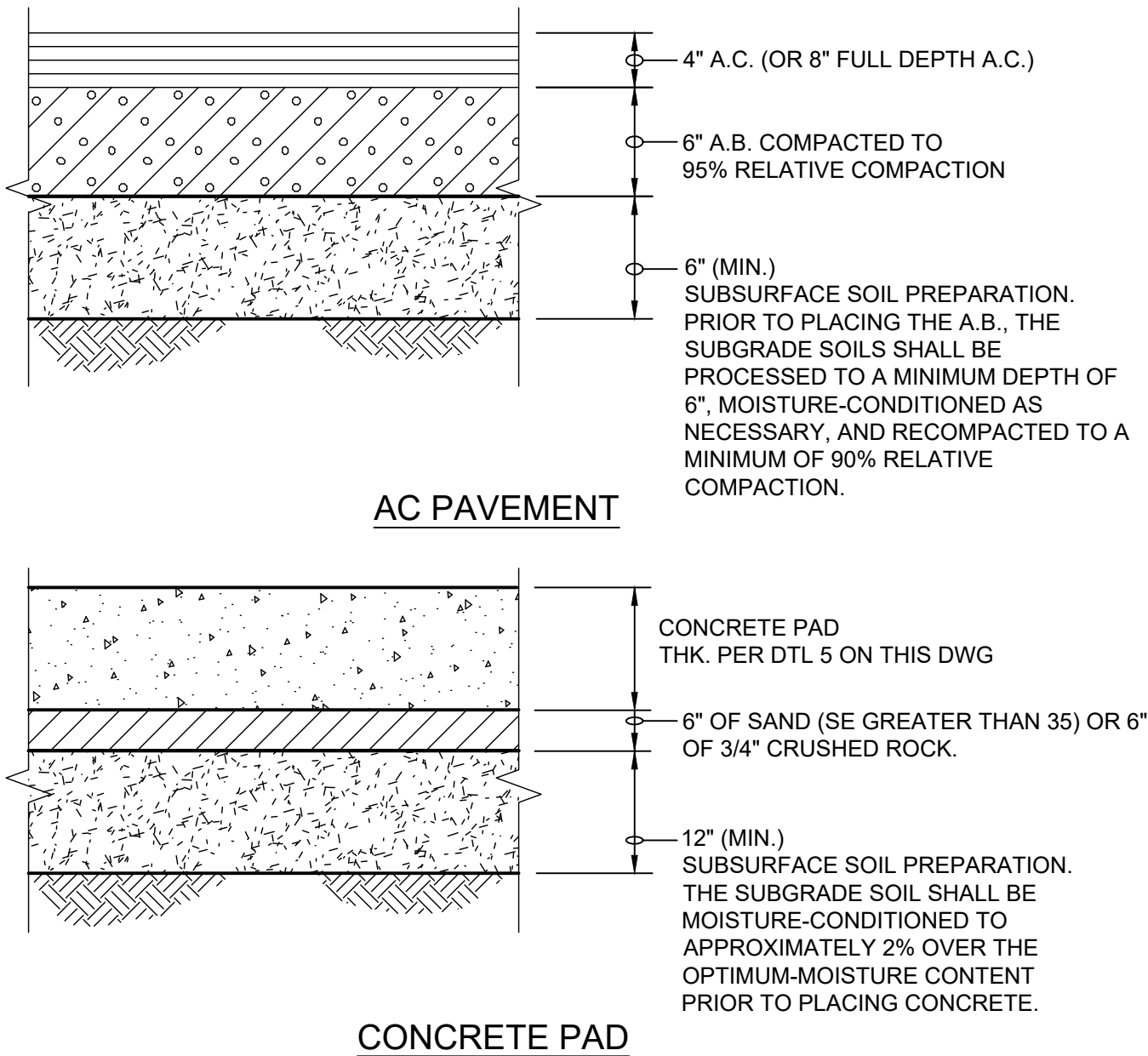


2 CHEMICAL PIPING, SUPPORT, AND CONTAINMENT CURB
SCALE: NTS



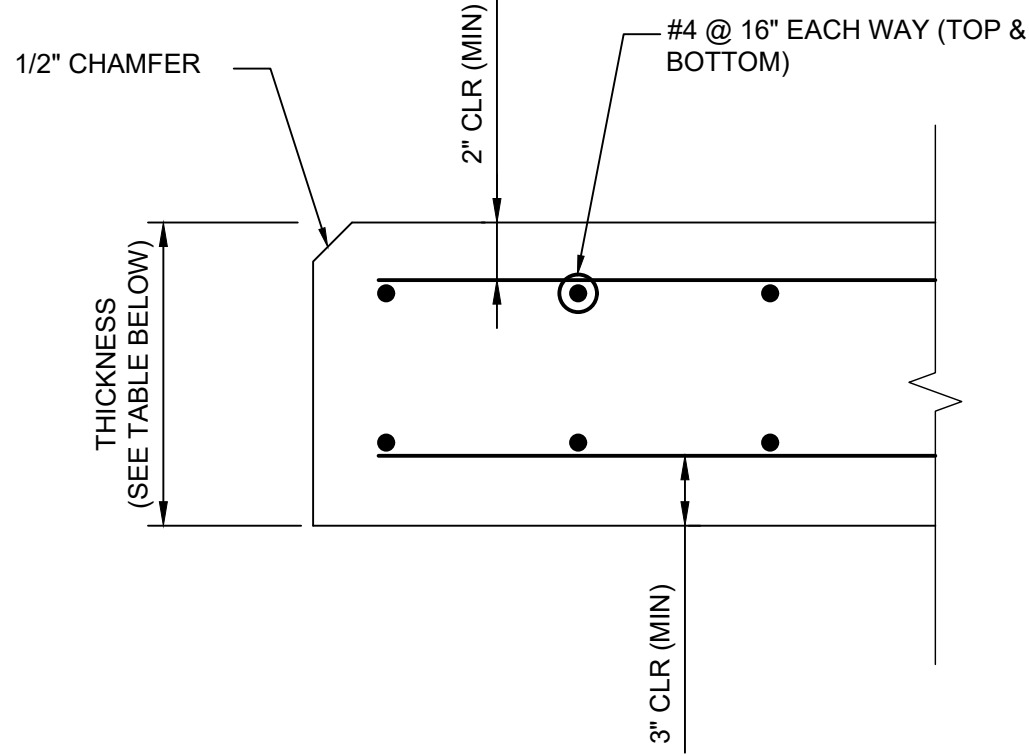
- NOTES
1.
- ALL CHEMICAL PIPING 9" ABOVE FLOOR AND HIGHER SHALL BE PROVIDED WITH TYPE I SUPPORT.
2.
- ALL CHEMICAL PIPING LOWER THAN 9" ABOVE FLOOR SHALL BE PROVIDED WITH TYPE II SUPPORT.
3.
- PIPE SUPPORT FOR TYPE I SHALL BE CONSTRUCTED FROM 316 STAINLESS STEEL OR FRP MATERIALS, TO MATCH CHEMICAL COMPATIBILITY.
4.
- REFER TO ADHESIVE ANCHOR NOTES AND ADHESIVE ANCHOR EMBEDMENT AND SPACING ON DWG S-1.

3 CHEMICAL PIPE SUPPORT
SCALE: NTS



- GENERAL OVER-EXCAVATION WORK:
1.
- REMOVE TO DEPTH OF 36" (MIN.) BELOW EXISTING GRADE OR 24" BELOW FINISHED GRADE (WHICH EVER IS GREATER) AND REPLACE W/ COMPACTED SOIL (90% RELATIVE COMPACTION).
2.
- PRIOR TO REPLACING THE OVER EXCAVATED MATERIAL, THE AREA SHALL BE SCARIFIED A MINIMUM OF 6", MOISTURE-CONDITIONED AS NECESSARY, AND RECOMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.

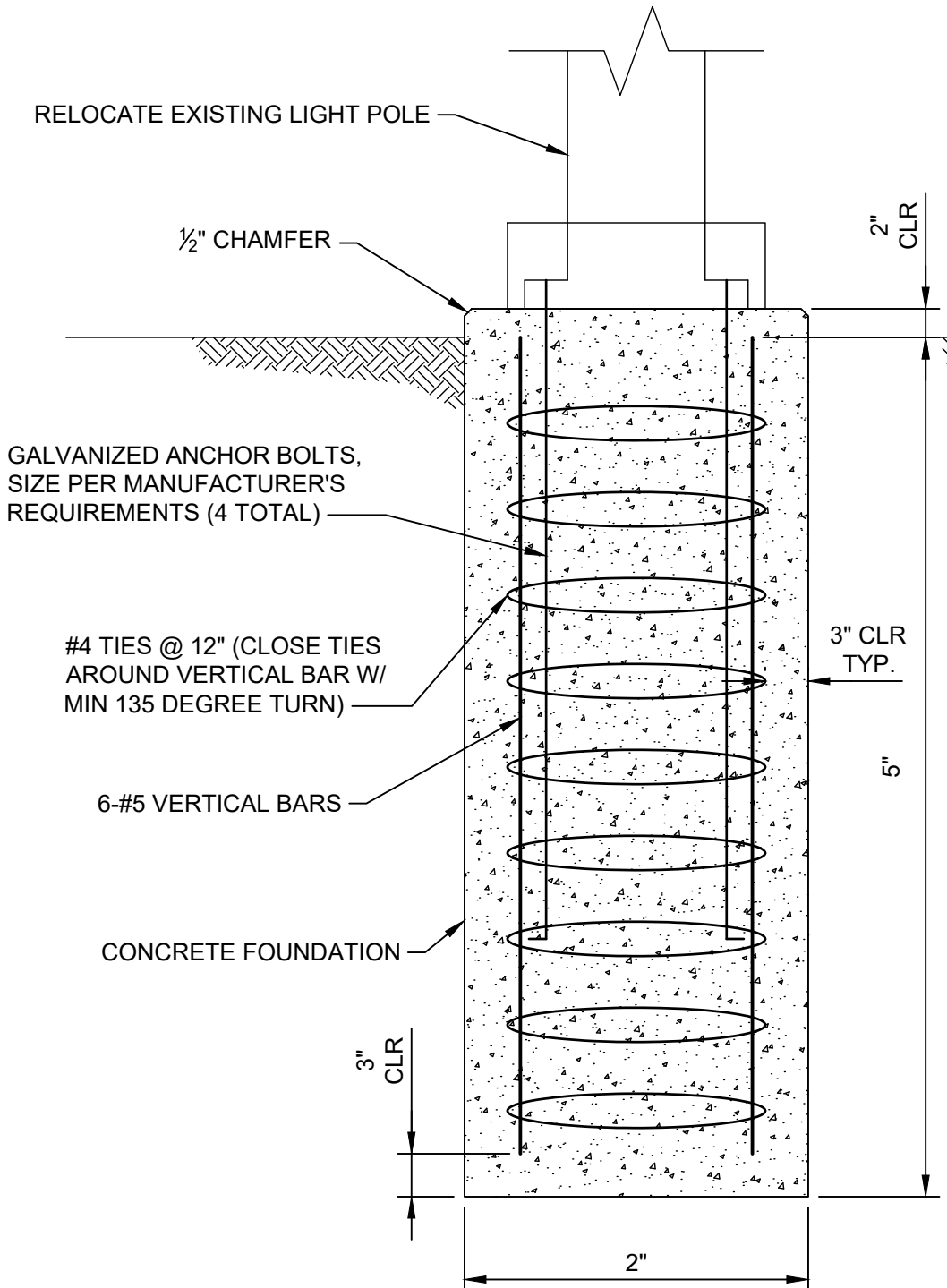
4 SUBSURFACE SOIL PREPARATION
SCALE: NTS



CONCRETE PAD	THICKNESS
DOOR LANDINGS	12"
WEST OF BUILDING (UNDER WELL PIPING)	16"

5 CONCRETE PAD
SCALE: NTS

6 NOT USED
SCALE: NTS



7 STREET LIGHT FOUNDATION
SCALE: NTS

REVISIONS		
No.	DATE	DESCRIPTION



www.tetrattech.com

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Irvine, California 92614
Phone: (949) 809-5000 Fax: (949) 809-8010

CITY OF ORANGE

OFFICE OF THE CITY ENGINEER

DISINFECTION SECTION AND SITE DETAILS

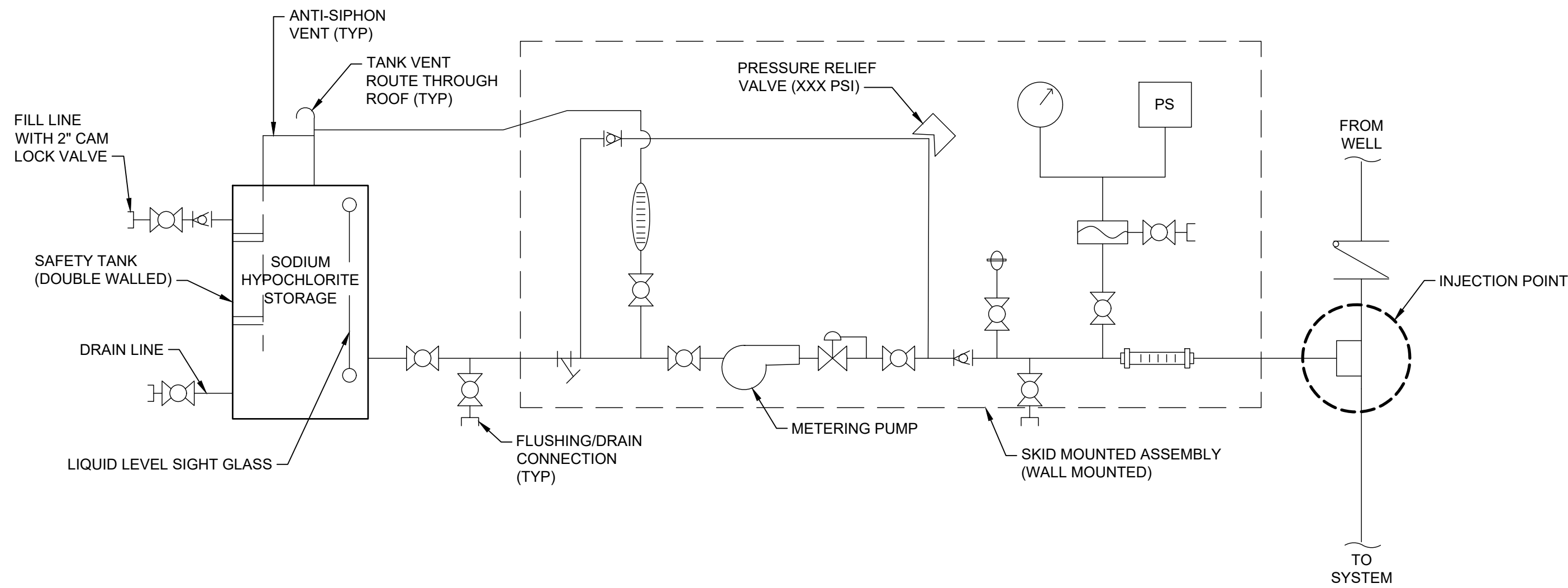
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

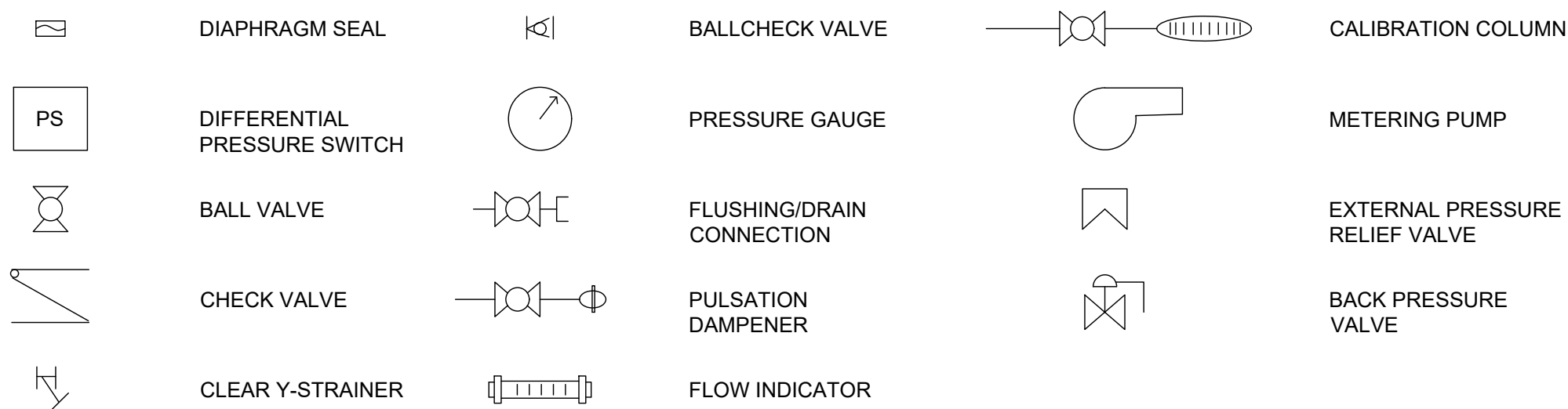
D-5

SHEET OF SHEETS

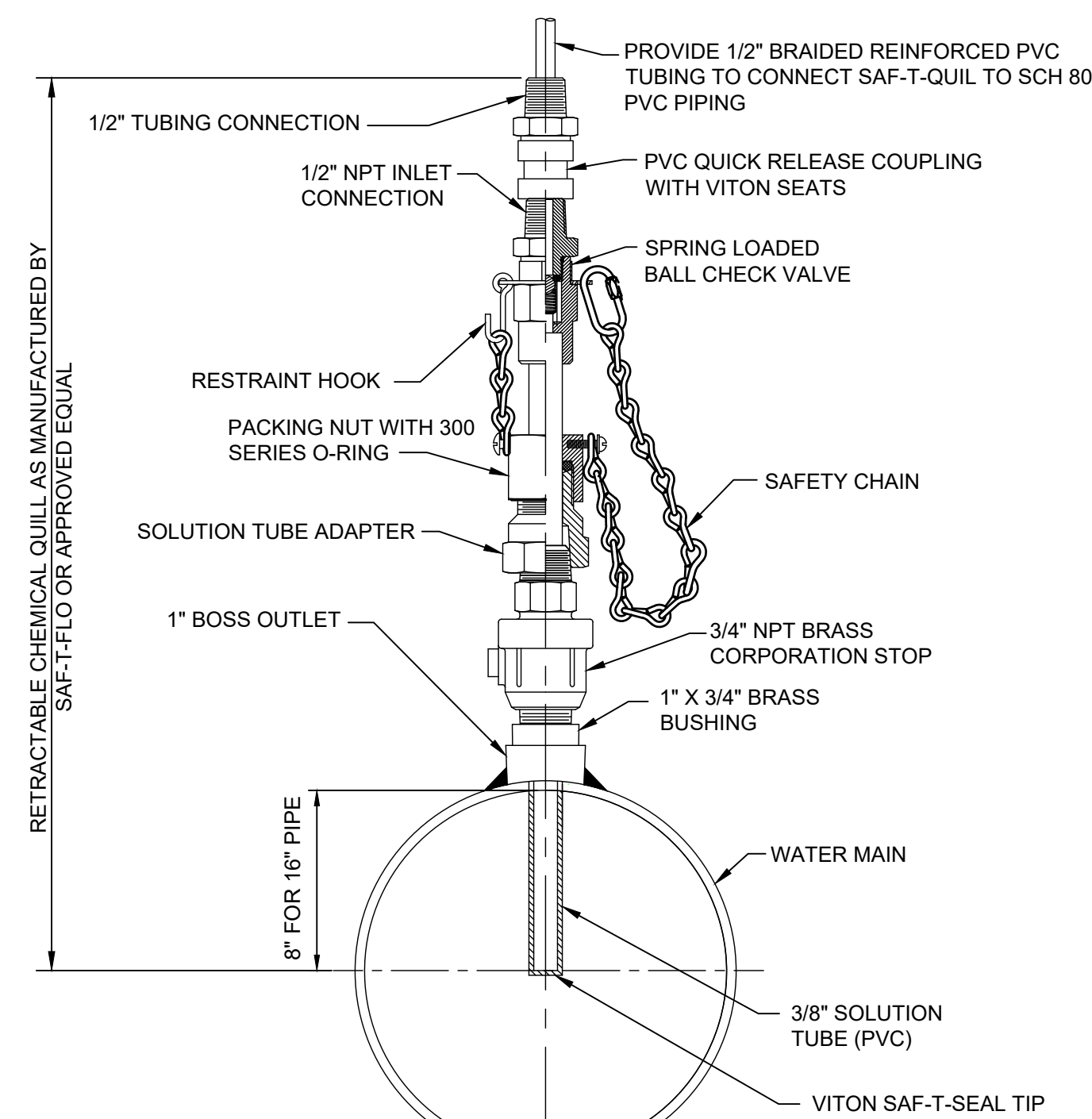
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LEGEND



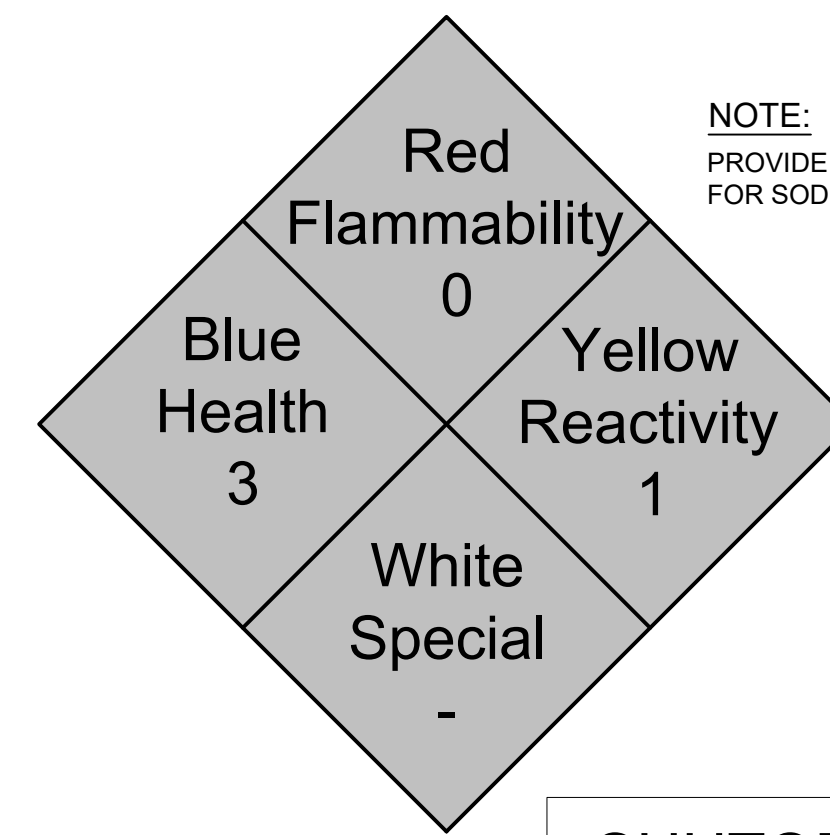
1 SODIUM HYPOCHLORITE SCHEMATIC
SCALE: NTS



NOTES:

- ORIENT INJECTION ASSEMBLY AT 12 O'CLOCK.
- CONTRACTOR SHALL REPAIR PIPE COATING DAMAGED BY TAPPING.
- INJECTION QUILL SHALL BE MADE OF MATERIALS COMPATIBLE WITH 12.5% SODIUM HYPOCHLORITE.

2 SODIUM HYPOCHLORITE INJECTION DETAIL
SCALE: NTS



NOTE:
PROVIDE TANK SIGN PER NFPA 704-M LABEL
FOR SODIUM HYPOCHLORITE

SHUTOFF VALVE

SHUTOFF IDENTIFICATION SIGN

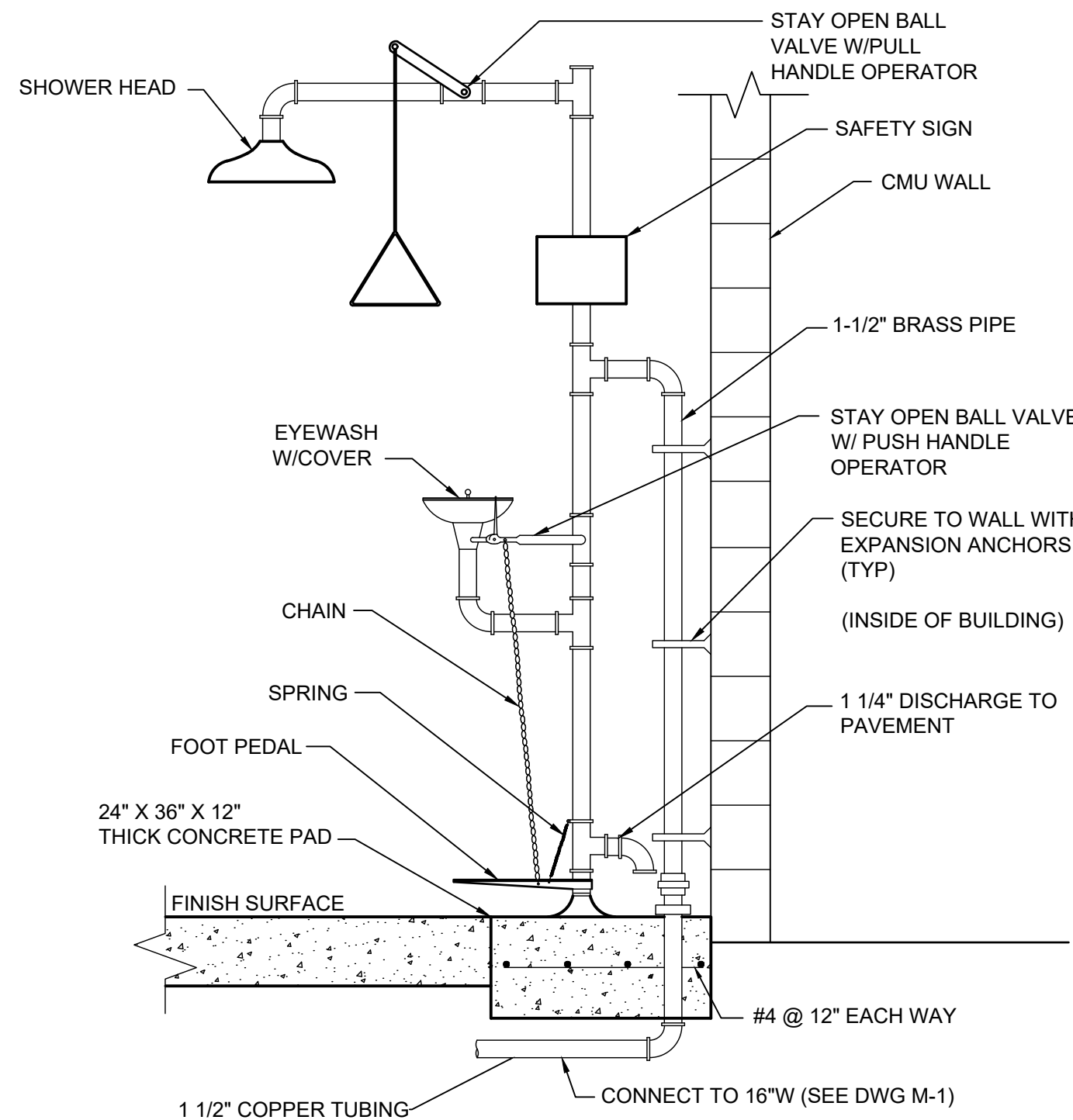
SODIUM HYPOCHLORITE

CORROSIVE LIQUID

HAZARD IDENTIFICATION SIGN

- EACH SIGN SHALL BE ADHESIVE BACKED PLASTIC PLATE WITH BLACK LETTERS ON WHITE BACKGROUND. LETTER HEIGHT SHALL BE 3 INCHES.
- PROVIDE ONE HAZARD AND ONE SHUTOFF VALVE IDENTIFICATION SIGN FOR THE STORAGE TANK. SIGNS SHALL BE LOCATED AS DIRECTED BY CITY.
- PROVIDE ONE HAZARD SIGN ON THE OUTSIDE FACE OF THE DOOR.

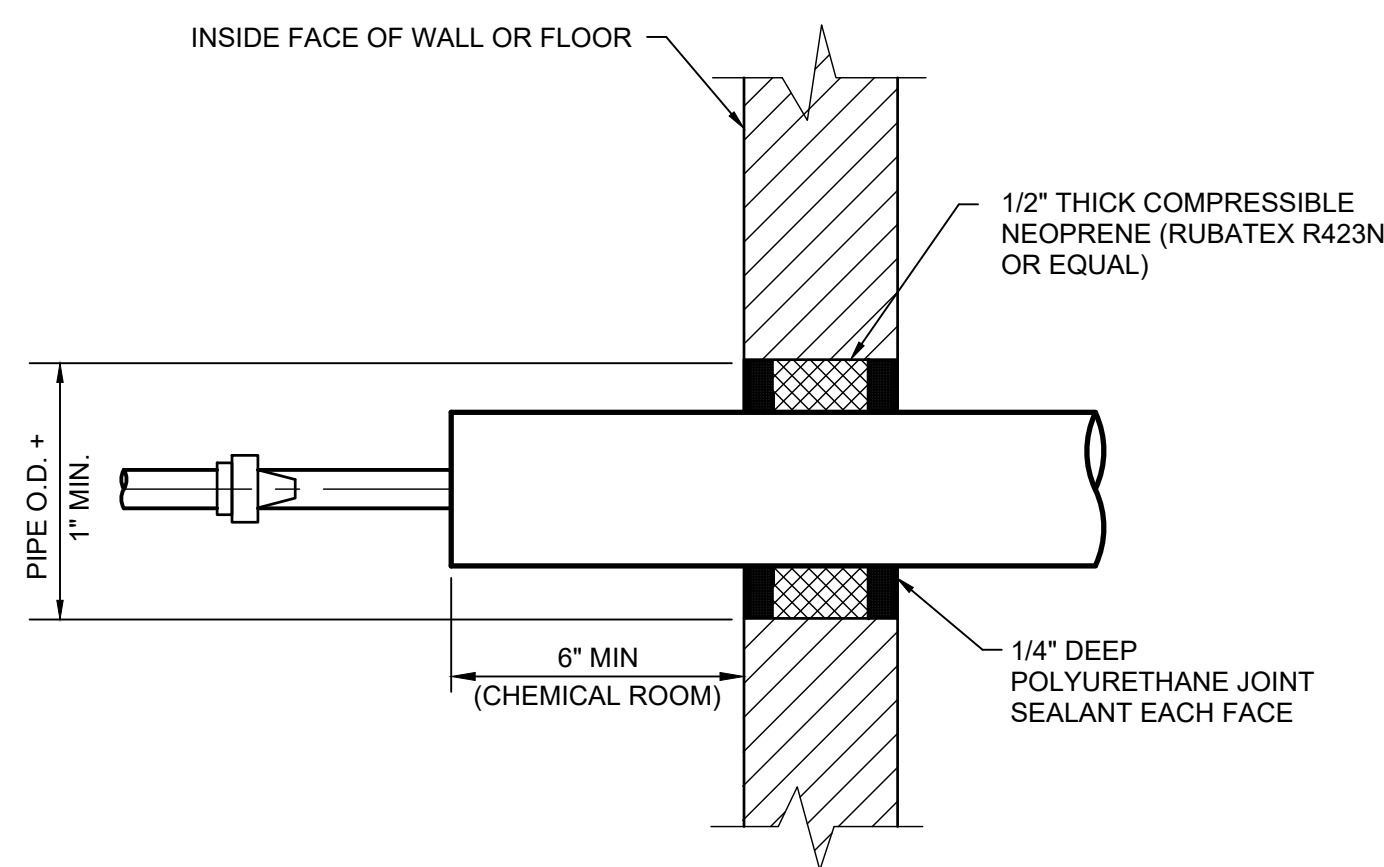
3 HAZARD AND SHUTOFF VALVE IDENTIFICATION DETAIL
SCALE: NTS



NOTES:

- UNIT SHALL BE HAWS MODEL NUMBER 8320 COMBINATION SHOWER WITH EYE/FACE WASH, OR APPROVED EQUAL.

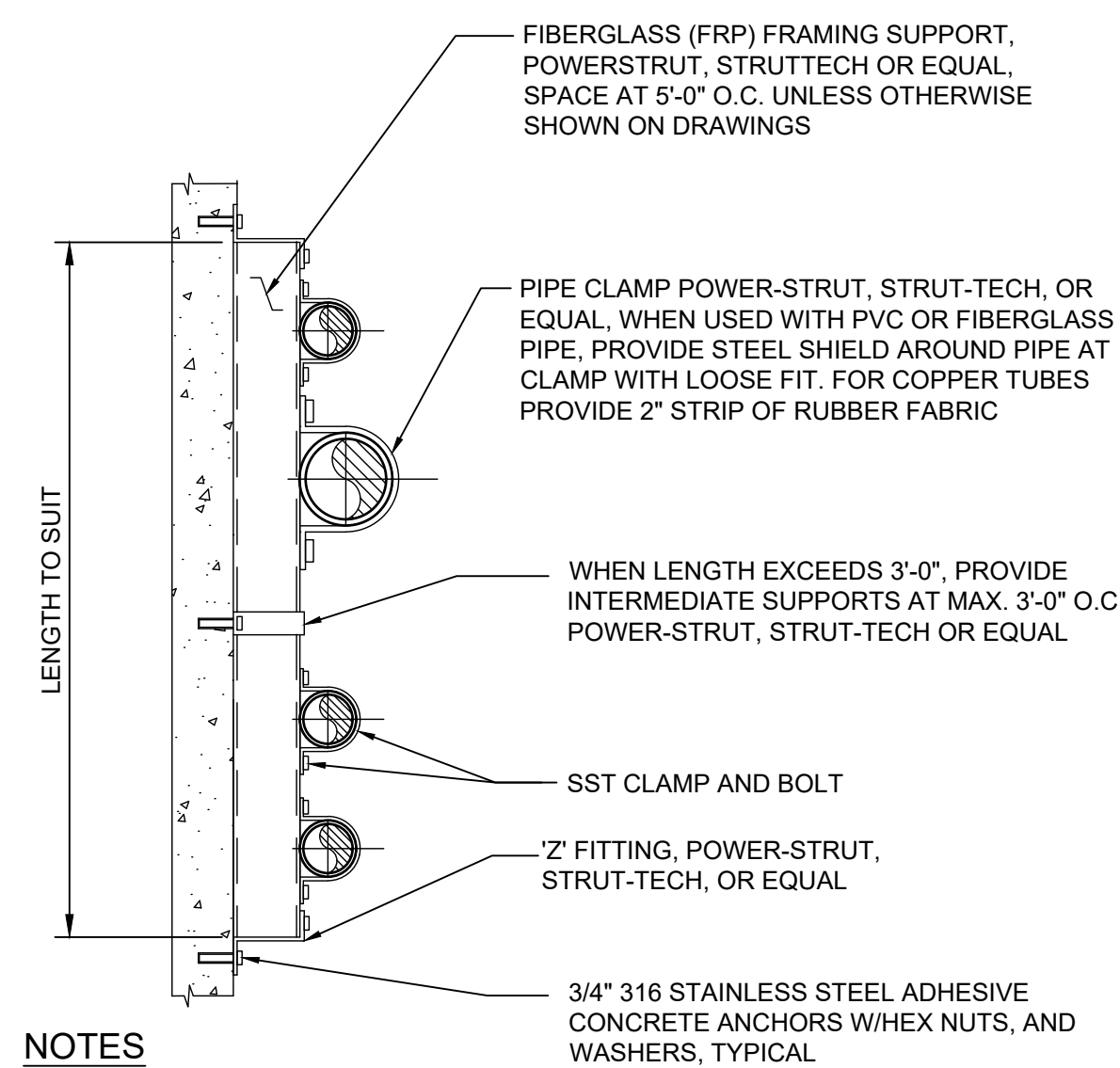
4 EMERGENCY SHOWER AND EYEWASH DETAIL
SCALE: NTS



NOTES

- A CEMENT MORTAR PATCH COATING SHALL EXTEND APPROXIMATELY 3" ± AROUND OPENING.
- FOR PIPE PENETRATION IN SODIUM HYPOCHLORITE ROOM SEE DRAWING M-1.

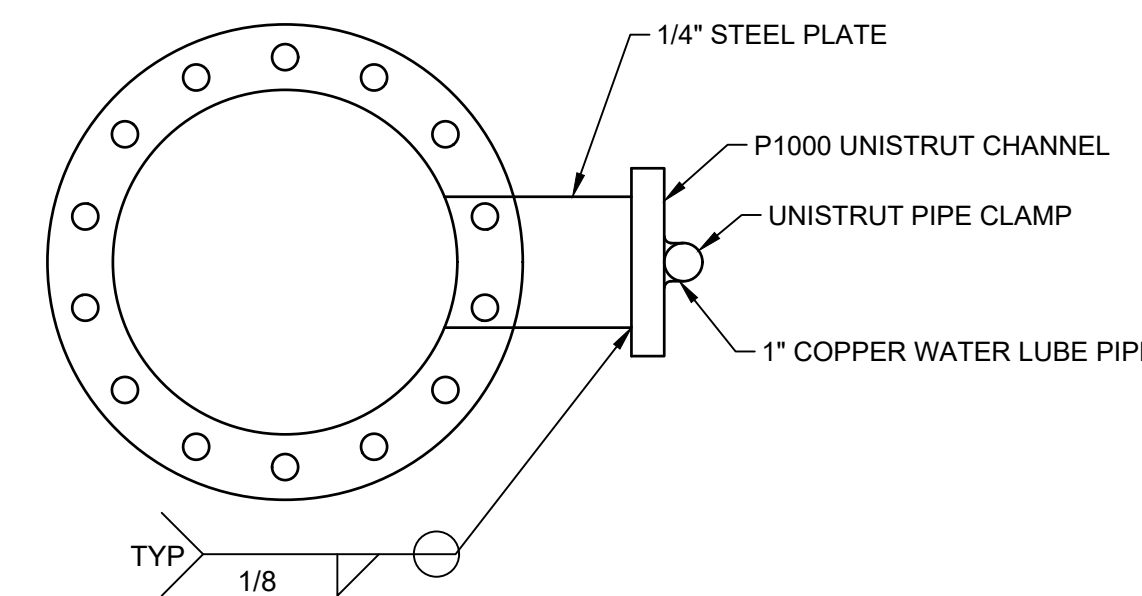
5 PIPE PENETRATION DETAIL
SCALE: NTS



NOTES

- REFER TO ADHESIVE ANCHOR NOTES AND ADHESIVE ANCHOR EMBEDMENT AND SPACING ON SHEET S-1.

6 FLUSH MOUNTED PIPE WALL SUPPORT
SCALE: NTS



7 WATER LUBE SUPPORT
SCALE: NTS

REVISIONS		
No.	DATE	DESCRIPTION



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CITY OF ORANGE
OFFICE OF THE CITY ENGINEER

DISINFECTION DETAILS

225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

D-6

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

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GENERAL STRUCTURAL NOTES
THESE NOTES SHALL APPLY UNLESS SHOWN/INDICATED OTHERWISE ELSEWHERE IN THE STRUCTURAL DRAWINGS.

GENERAL

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING CODE (C.B.C.) BASED UPON THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (I.B.C.).
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING WORK. DIMENSIONS OF (E) CONSTRUCTION WHERE SHOWN ON THESE DRAWINGS ARE NOMINAL AND SHOULD BE FIELD VERIFIED. SHOULD CONDITIONS EXIST WHICH ARE CONTRARY TO THOSE SHOWN ON PLANS, THE ENGINEER SHALL BE NOTIFIED IN WRITING BEFORE PROCEEDING WITH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL COLUMNS, WALLS, TRUSSES, ETC. ARE ADEQUATELY BRACED AND SHORED DURING CONSTRUCTION. ALL BRACING/SHORING SHALL BE DESIGNED BY A REGISTERED ENGINEER HIRED BY THE CONTRACTOR. BRACING OF CONCRETE AND MASONRY WALLS AND COLUMNS SHALL REMAIN IN PLACE UNTIL ROOF AND FLOOR DIAPHRAGMS IS COMPLETELY INSTALLED AND ATTACHED TO ITS FRAMING SUPPORTS.
- UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND THESE GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS WHERE THE OCCUR.
- THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT BE CONSIDERED AS INSPECTION OF SUCH ITEMS.
- DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS.
- ALL WORK SHALL CONFORM TO THE PLANS AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
- SOIL PROPERTIES, ALLOWABLE DESIGN VALUES, GRADING AND COMPACTION REQUIREMENTS AS PER SOILS REPORT BY LEIGHTON CONSULTING (PROJECT NO. 12451-001) DATED AUGUST 23, 2019. THIS REPORT SHALL BE CONSIDERED A PART OF THESE PLANS AND SHALL BE KEPT AT THE JOB SITE AT ALL TIMES. A COPY OF THIS REPORT IS AVAILABLE FOR REVIEW IN THE ENGINEER'S OFFICE.

REINFORCING NOTES

- REINFORCEMENT FOR CONCRETE AND MASONRY SHALL BE DEFORMED BARS CONFORMING TO A.S.T.M. SPECIFICATION A615 (A706/A706M FOR WELDED REINFORCING). GRADE 60 STEEL SHALL BE USED EXCEPT THAT #3 BARS AND SMALLER MAY BE GRADE 40 STEEL.
- WIRE MESH SHALL CONFORM TO A.S.T.M. A185. LAP 12" WHERE SPLICED.
- ALL REINFORCEMENT, ANCHOR BOLTS, AND OTHER ANCHORAGES PLACED IN MASONRY AND CONCRETE SHALL BE ACCURATELY PLACED AND POSITIVELY SECURED AND SUPPORTED BY CONCRETE BLOCKS, METAL CHAIRS, SPACERS, OR METAL HANGERS, AND SHALL BE IN POSITION BEFORE CONCRETE PLACING OR GROUTING IS BEGUN. DETAILING AND PLACING OF BARS SHALL CONFORM TO THE A.C.I. MANUAL OF STANDARD PRACTICES.
- BARS SPECIFIED AS "CONTINUOUS" SHALL EXTEND THE FULL LENGTH OF THE MEMBER CONTAINING THEM AND MAY BE SPLICED (UNLESS NOTED OR SHOWN WITHOUT SPLICES ON THE PLANS). IN MASONRY, PROVIDE LAPS PER DETAIL ___ ON SHEET S-8. IN CONCRETE, PROVIDE LAPS PER DETAIL 4 ON SHEET S-8. STAGGER ALL SPLICES.
- DOWELS SHALL BE PROVIDED AT ALL POUR JOINTS AND SHALL BE THE SAME SIZE AND SPACING AS REINFORCING DIRECTLY BEYOND POUR JOINTS.
- WELDING OF REINFORCING STEEL, METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE OR MASONRY CONSTRUCTION SHALL CONFORM TO ANSI/AWS D1.4-11. USE LOW HYDROGEN E-70 SERIES ELECTRODES FOR WELDING OF REINFORCING BARS. CONTINUOUS INSPECTION IS REQUIRED OF ALL FIELD WELDING IN ACCORDANCE WITH C.B.C. CHAPTER 17.
- THE SPECIFIED DIMENSIONS OF THE VERTICAL LEGS OF "L" DOWELS, WHOSE HORIZONTAL LEGS ARE CAST INTO A FOOTING OR SLAB CAST ON TOP OF EARTH, ARE BASED UPON THE SLAB THICKNESS AS SHOWN ON THE DRAWINGS. IF A SLAB IS POURED THICKER THAN SHOWN ON THE DRAWINGS, SUCH AS FOR THE SUBGRADE OCCURRING AT A LOWER ELEVATION THAN SHOWN, THE VERTICAL LEGS MUST BE FABRICATED TO A LONGER LENGTH OR THE HORIZONTAL TAILS MUST BE SUPPORTED ABOVE SUBGRADE HIGH ENOUGH TO PROVIDE THE SAME AMOUNT OF LAP LENGTH BETWEEN THE DOWEL AND THE WALL VERTICAL REINFORCING.

CONCRETE NOTES

- ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. AGGREGATES SHALL CONFORM TO A.S.T.M. C33.
- CEMENT FOR CONCRETE SHALL BE TYPE V PORTLAND CEMENT CONFORMING TO A.S.T.M. C150. TYPES I OR II CEMENT MAY BE USED IF SOIL SULFATE LEVELS AS DETERMINED BY A GEOTECHNICAL ENGINEER ARE SUFFICIENTLY LOW.
- CONCRETE COVER FOR REINFORCING BARS SHALL BE: CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3" EXPOSED TO EARTH OR WEATHER: NO. 6 THROUGH NO. 18 BARS = 2" NO. 5 BARS, W31 OR D31 WIRE, AND SMALLER = 1 1/2" NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: SLABS, WALLS, JOISTS: NO. 14 AND NO. 18 BARS = 1 1/2" NO. 11 BARS AND SMALLER = 3/4" BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS = 1 1/2"
- DRYPACK SHALL BE 1 PART CEMENT AND 3 PARTS SAND (BY VOLUME).
- NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES THROUGH WALLS AND FLOORS.
- THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SPECIFICALLY NOTED OR SHOWN SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
- "ROUGHENED SURFACES", WHERE SPECIFIED ON THE DRAWINGS, SHALL BE MECHANICALLY ROUGHENED SUCH THAT A 1/4" AMPLITUDE (±) IS ACHIEVED BETWEEN HIGH AND LOW SPOTS OF THE ROUGHENED SURFACE. THE SURFACE SHALL BE CLEAN AND FREE OF LAITANCE
- BOTH FACES OF CONCRETE WALLS, EDGES OF CONCRETE FOUNDATIONS, AND OTHER FORMED CONCRETE SURFACES WHERE THE CONCRETE COVER IS SPECIFIED AS LESS THAN 3 INCHES, SHALL BE PLACED AGAINST FORMWORK WHICH COMPLIES WITH THE PROJECT SPECIFICATIONS. CONCRETE FOR THESE ELEMENTS SHALL NOT BE CAST AGAINST EARTH.

STEEL NOTES

- ALL WIDE FLANGE MEMBERS SHALL BE IN ACCORDANCE WITH A.S.T.M. A992. ALL OTHER STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE ASTM A36 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. SPECIAL INSPECTION SHALL BE PROVIDED FOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH CBC SECTION 1705.2.1, UNLESS FABRICATION IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION, IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTION 1704.2.5.2 OF THE 2019 CBC. AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE CITY BUILDING OFFICIAL OR OWNER IF THE PROJECT IS NOT UNDER THE JURISDICTION OF A BUILDING DEPARTMENT) AND TO THE ENGINEER STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- STEEL TUBES SHALL CONFORM TO A.S.T.M. A500, GRADE B OR BETTER, UNLESS NOTED OTHERWISE.
- STEEL PIPES SHALL CONFORM TO A.S.T.M. A53, GRADE B.
- BOLTS SHALL CONFORM TO A.S.T.M. A307 OR BETTER, UNLESS NOTED OTHERWISE.
- HOLES FOR BOLTS IN STEEL SHALL BE OF SAME DIAMETER AS BOLT +1/16" MAXIMUM.
- ALL WELDING SHALL BE SHIELDED ARC TYPE AND SHALL BE PERFORMED BY A CERTIFIED WELDER IN A FABRICATION SHOP REGISTERED AND APPROVED IN ACCORDANCE WITH NOTE 1 ABOVE. CONTINUOUS INSPECTION IS REQUIRED OF ALL FIELD WELDING IN ACCORDANCE WITH AWS D1.1.
- NO STRUCTURAL STEEL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED AND APPROVED BY STRUCTURAL ENGINEER.
- ALL NON-STAINLESS STEEL EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153, AS APPLICABLE. REPAIR OF DAMAGED GALVANIZED COATING SHALL BE IN ACCORDANCE WITH ASTM A780. ALL OTHER NON-STAINLESS STEEL SHALL BE COATED WITH TWO COATS OF SHOP APPLIED PRIMER.
- WELDING EQUIPMENT SHALL BE CHECKED PRIOR TO WELDING AS REQUIRED BY AISC 360-16 TABLE N5.4-1.
- PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED SHALL BE PERFORMED AS REQUIRED BY AISC 360-16 TABLE N5.6-1

MASONRY NOTES

- CONCRETE MASONRY UNITS (CMU) SHALL BE HOLLOW CELLULAR CONCRETE BLOCKS AND SHALL BE MEDIUM-WEIGHT UNITS CONFORMING TO A.S.T.M. C90. SOLID GROUT ALL CELLS (f_m = 1500 PSI). MASONRY UNITS SHALL BE EITHER SINGLE OR DOUBLE OPEN END BLOCKS AND SHALL INTERLOCK AT ALL WALL CORNERS AND INTERSECTIONS, UNLESS SHOWN OTHERWISE.
- CONCRETE MASONRY UNITS (CMU) SHALL BE HOLLOW CELLULAR CONCRETE BLOCKS AND SHALL BE MEDIUM UNITS CONFORMING TO A.S.T.M. C90, GRADE N. SOLID GROUT ONLY CELLS CONTAINING STEEL (f_m = 1350 PSI). MASONRY UNITS SHALL BE EITHER SINGLE OR DOUBLE OPEN END BLOCKS AND SHALL INTERLOCK AT ALL WALL CORNERS AND INTERSECTIONS.
- CEMENT FOR MASONRY SHALL BE SAME AS THAT FOR CONCRETE.
- SAND SHALL CONFORM TO A.S.T.M. C144.
- MORTAR SHALL CONFORM TO A.S.T.M. C270 AND ARTICLES 2.1 AND 2.6A OF ACI 530.1
- MORTAR MIX SHALL BE 1 PART CEMENT, 3.75 PARTS SAND, AND 0.25 HYDRATED LIME (BY VOLUME). AS AN ALTERNATE, THE INGREDIENTS FOR MORTAR MAY BE PROVIDED IN PRE-MEASURED BAGS OR CONTAINERS. THE MORTAR MIX SHALL PRODUCE A MORTAR TYPE S, ONLY REQUIRE THE ADDITION OF WATER AND BE IN CONFORMANCE WITH A.S.T.M. C-270. THE PROPORTIONING OF THE MIX SHALL MEET THE REQUIREMENTS OF A.S.T.M. C270 TABLE SC-1 FOR CEMENT-LIME OR MORTAR CEMENT.
- GROUT MIX SHALL BE 1 PART CEMENT, 3 PARTS SAND, AND 2 PARTS PEA GRAVEL (BY VOLUME) AND SHALL HAVE A MINIMUM ULTIMATE STRENGTH OF 2000 PSI AT 28 DAYS. GROUT SHALL CONFORM TO ARTICLE 2.2 OF ACI 530.1
- METAL BAR POSITIONERS SHALL BE USED TO ENSURE THE CORRECT PLACEMENT OF THE VERTICAL WALL REINFORCING.

STEEL DECK NOTES

- REFER TO STEEL DECK SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- DECK ERECTION CONTRACTOR SHALL CUT DECK TO SUIT DETAILS AT ALL FRAMED OPENINGS AS INDICATED ON THE DRAWINGS.
- THE OPENINGS SHOWN ON THE FRAMING PLANS INDICATE THE GENERAL ARRANGEMENT AND LOCATION ONLY. VERIFY OUTING LENGTH OF DECK WITH ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.
- ALL LIGHT GAGE STEEL DECKING AND FLASHING SHALL BE FABRICATED OF SHEET METAL CONFORMING TO A.S.T.M. A-446.
- DECKING SHALL BE GALVANIZED PER COATING DESIGNATION G60 IN ACCORDANCE WITH ASTM A653, UNLESS NOTED OTHERWISE.
- EDGE OF PERIMETER CLOSURE SHALL BE HELD WITHIN ±1/2" OF THE DIMENSIONS REQUIRED ON THE ARCHITECTURAL DRAWINGS. CONFIRM THE LOCATION OF THE BEAM AND COLUMN CENTER LINES FROM FIXED REFERENCE EDGE LINES.
- MINIMUM DECK SECTION PROPERTIES SHALL BE AS FOLLOWS:

GAUGE DEPTH (IN) +S(IN) -(IN)

FIBERGLASS REINFORCED PLASTIC

- STRUCTURAL SHAPES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 30 KSI PER A.S.T.M. D638, SHORT BEAM SHEAR STRENGTH OF 4.5 KSI PER A.S.T.M. D2344 AND A MINIMUM FLEXURAL MODULUS OF 1,750 KSI PER A.S.T.M. D790. THE COEFFICIENT OF EXPANSION SHALL BE LESS THAN 0.000009 IN./IN./F.
- ALL FINISHED SURFACES OF MATERIAL AND FABRICATIONS SHALL BE SMOOTH, RESIN-FREE, FREE OF VOIDS AND WITHOUT DRY SPOTS, CRACKS, CRAZES OR UNREINFORCED AREAS. ALL GLASS FIBERS SHALL BE WELL COVERED WITH RESIN TO PROTECT AGAINST THEIR EXPOSURE DUE TO WEAR OR WEATHERING.
- ALL SHOP CUTS OR DRILLING SHALL BE COATED WITH VINYL ESTER RESIN TO PROVIDE CORROSION RESISTANCE. ALL FIELD FABRICATED CUTS AND DRILLING SHALL BE COATED SIMILARLY BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- CONNECTIONS OF FRP MEMBERS SHALL BE WITH STAINLESS STEEL TYPE 316, BOLTS AND NUTS, UNLESS SPECIFICALLY NOTED OTHERWISE.
- FOR FRP MEMBERS WITHOUT A SIZE INDICATED, CONTRACTOR SHALL BE RESPONSIBLE DETERMINING MEMBER SIZES BASED UPON THE LOADS STATED HEREIN AND WHERE NOT SPECIFICALLY STATED, IN ACCORDANCE WITH THE GOVERNING CODE AND STANDARDS.
- THE CONTRACTOR SHALL SUBMIT COMPLETE CALCULATIONS AND SHOP DRAWINGS FOR THE FRP FLOOR GRATING SYSTEM. THE SYSTEM SHALL BE DESIGNED FOR A LIVE LOAD OF 250 POUNDS PER SQUARE FOOT. THE DESIGN SHALL CONSIDER ALL APPLICABLE SEISMIC LOADS. THE FLOOR GRATING SYSTEM SHALL INCLUDE ALL STANCIONS, BOLTS, CLIPS, ETC. REQUIRED FOR A COMPLETE FLOOR SYSTEM INSTALLATION. THE CALCULATIONS SHALL BE SEALED, SIGNED AND DATED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN CALIFORNIA. GRATING COLOR SHALL BE OSHA APPROVED SAFETY YELLOW. GRATING SHALL BE TEXTURED WITH A SLIP-RESISTANT SAFETY SURFACE

ADHESIVE ANCHORS (SIMPSON)

- ADHESIVE ANCHORS SHALL BE "SIMPSON" ADHESIVE ANCHORS, MANUFACTURED BY SIMPSON STRONG-TIE.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH I.C.C. EVALUATION REPORT No. 1772.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF LOS ANGELES RESEARCH REPORT 25257.
- SPECIAL INSPECTION PER CHAPTER 17 OF THE CALIFORNIA BUILDING CODE SHALL BE PROVIDED DURING ANCHOR INSTALLATION.
- SPECIAL INSPECTION PER CHAPTER 17A AND TENSION TESTING PER SECTION 1911 OF THE CALIFORNIA BUILDING CODE SHALL BE PROVIDED DURING ANCHOR INSTALLATION.
- AN ALTERNATIVE ADHESIVE ANCHOR PRODUCT MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PROVIDED THAT IT HAS A CURRENT I.C.C. EVALUATION REPORT APPROVAL.
- ALL ABANDONED HOLES SHALL BE FILLED WITH A DRYPACK GROUT A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. THE FILLED HOLE(S) SHALL BE PREPARED AND CLEANED AS REQUIRED BY THE GROUT MANUFACTURER.
- LOCATE EXISTING REINFORCING USING A NON-DESTRUCTIVE METHOD (PACHOMETER OR OTHER), PRIOR TO STEEL FABRICATION OF THE AFFECTED COMPONENTS AND PRIOR TO DRILLING HOLES FOR ANCHORS. MAINTAIN A MINIMUM CLEARANCE OF 1" BETWEEN THE REINFORCEMENT AND THE ANCHOR. NOTIFY ENGINEER IF ADHESIVE ANCHORS CANNOT BE INSTALLED DUE TO REBAR INTERFERENCE(S) SO STRUCTURAL STEEL DETAILING SHOWN HEREON CAN BE MODIFIED TO ACCOMMODATE.

DESIGN CRITERIA

DESIGN CODES AND REFERENCES:
-CALIFORNIA BUILDING CODE, 2019 EDITION
-ASCE/SEI 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES
-ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
-AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION - ANSI/AISC 360-16
-STEEL JOIST INSTITUTE 44TH EDITION STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS

BUILDING LOADING:
BLDG. ROOF DL = 20 PSF (INCLUDED 3 PSF ALLOWANCE FOR FUTURE SOLAR PANELS ADDITION)
BUILDING ROOF LL = 20 PSF (REDUCIBLE)
BUILDING FLOOR AND WETWELL ROOF LL = 3 TON FORKLIFT WHEEL LOAD

MATERIAL PROPERTIES:
STRUCTURAL CONCRETE f_c = 5000 PSI
REINFORCING f_y = 60 KSI
STRUCTURAL STEEL f_y = 50 KSI MINIMUM
STEEL BOLTS f_y = 36 KSI, A307 UNLESS NOTE OTHERWISE
SPECIAL INSPECTION YES (SEE SHEET S-0003)

SEISMIC DESIGN PARAMETERS:
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
LOCATION: LAT. 33.24743 N. LONG. 117.33105 W
OCCUPANCY CATEGORY: III
SITE CLASS: D
SEISMIC DESIGN CATEGORY: D

S_s = 1.067 S₁ = 0.415
F_a = 1.074 F_v = 1.585
SDS = 0.763 SD1 = 0.439
I_e = 1.25
R = 4 (INTERMEDIATE PRECAST SHEAR WALLS) - PROCESS BUILDING
R = 1 (ORDINARY MOMENT FRAMES OF STEEL WITH UNLIMITED HEIGHT) - BLOWER CANOPY
R_i = 2.0 (NON SLIDING BASE REINFORCED CONCRETE FLAT-BOTTOM GROUND
R_c = 1.0 SUPPORTED TANKS) - WET WELLS AND DIVISION STRUCTURE

WIND LOAD DESIGN PARAMETERS:
BASIC WIND SPEED: 115 MPH
EXPOSURE CATEGORY: C
WIND DIRECTIONAL FACTOR, K_d = 0.85
I_w = 1.0

SOIL DESIGN PARAMETERS:
ALLOWABLE SOIL BEARING = 3000 PSF FOR MAT FOUNDATIONS (MAT BE INCREASED BY 1/3 FOR TRANSIENT LOADING CONDITIONS)

SOIL FRICTION COEFFICIENT = 0.35
SOIL ACTIVE = 79° PCF (UP TO 15 FEET)
87° PCF (15 TO 32 FEET)
*(TRIANGULAR DISTRIBUTION OF PRESSURE. INCLUDES HYDROSTATIC PRESSURE. TO BE COMBINED w/ DYNAMIC EARTH PRESSURE)
SOIL AT-REST = 97 PCF (TRIANGULAR DISTRIBUTION OF PRESSURE. INCLUDES HYDROSTATIC PRESSURE.)
TRAFFIC SURCHARGE = 1 FT OF SOIL
SOIL PASSIVE PRESSURE = 250 PCF

MISCELLANEOUS CONVENTIONAL FOUNDATIONS SOIL BEARING = 1500 PSF

ACTIVE SOIL PRESSURE (E.F.P.)
AT-REST WALL = 95 PCF AT LEVEL BACKFILL
CANTILEVERED WALL = 85 PCF AT LEVEL BACKFILL
PASSIVE SOIL PRESSURE = 375 PCF AT LEVEL BACKFILL
NEGLECT UPPER 1 FOOT OF SOIL UNLESS WALL IS NOT DISTURBED BY EXCAVATION
FRICTION COEFFICIENT = 0.35 BETWEEN WALL FOOTING AND UNDERLYING SOIL
REDUCED BY 50% WHEN COMBINED WITH PASSIVE RESISTANCE

DESIGN SOIL DENSITY = 135 PCF

SUBGRADE MODULUS = 150 PCI

REVISIONS			<div>CALL BEFORE YOU DIG</div> <div></div> <div>CALL: 811</div> <div>TWO WORKING DAYS BEFORE YOU DIG</div>		CITY OF ORANGE		
No.	DATE	DESCRIPTION			OFFICE OF THE CITY ENGINEER		
				GENERAL STRUCTURAL NOTES			
				225 W MAPLE AVE, ORANGE CA 92866			
SCALE:		HORIZ. AS NOTED VERT. AS NOTED		S-1		SHEET OF SHEETS	

60% SUBMITTAL - NOT FOR CONSTRUCTION

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SPECIAL INSPECTIONS REQUIRED

SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH C.B.C. CHAPTER 17. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN APPROVED INSPECTION AGENCY U.N.O., EMPLOYED BY THE OWNER.

THE SPECIAL INSPECTOR SHALL BE CERTIFIED BY THE INTERNATIONAL CODE COUNCIL (I.C.C.) TO PERFORM INSPECTION FOR THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND/OR THE ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE STRUCTURAL ENGINEER AND TO THE BUILDING OFFICIAL.

THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THIS CODE.

IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE AT LEAST 48 HOURS ADVANCE NOTICE TO THE OWNER/OWNER'S REPRESENTATIVE WHEN HIS WORK IS READY FOR ANY REQUIRED SPECIAL INSPECTIONS.

SHOP INSPECTION OF STEEL CONSTRUCTION IS NOT REQUIRED WHEN THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

CONTRACTOR RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

OWNER OR OWNER'S REPRESENTATIVE SHALL BE SYNONYMOUS WITH 'BUILDING OFFICIAL' IN THE FOREGOING IF THE PROJECT IS NOT UNDER THE JURISDICTION OF A BUILDING DEPARTMENT

SPECIAL INSPECTION SHALL BE PROVIDED FOR THE FOLLOWING TYPES OF WORK PERFORMED IN THE FIELD, OR NOT PERFORMED IN AN APPROVED FABRICATION SHOP AS DEFINED ABOVE, UNLESS NOTED AS "N/A".

SPECIAL INSPECTIONS REQUIRED (■ YES □ NO)			
CONT	PERIODIC	N/A	
REQUIRED VERIFICATION AND INSPECTION OF SOILS (TO BE PERFORMED BY A LICENSED GEOTECHNICAL ENGINEER):			
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	■	□	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	■	□	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	■	□	
4. PERFORM CLASSIFICATION AND TESTING OF NATIVE SOILS TO VERIFY ANY SOIL PROPERTIES ASSUMED AS PART OF DESIGN FOR THIS PROJECT IN THE ABSENCE OF A SOILS REPORT (SEE SOIL PROPERTIES ON THIS DRAWING). THIS TESTING SHALL BE PERFORMED IN ADVANCE OF ANY CONSTRUCTION. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE ASSUMED VALUES ARE NOT VALID.	■	□	
5. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	■	□	
6. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	■	□	
CONCRETE CONSTRUCTION:			
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT	■	□	
2. REINFORCING BAR WELDING:	■	□	
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	■	□	
B. INSPECT SINGLE-PASS FILLET WELD, MAXIMUM 5/16", AND	■	□	
C. INSPECT ALL OTHER WELDS.	■	□	
3. INSPECTION OF ANCHORS CAST IN CONCRETE.	■	□	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	■	□	
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	■	□	
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	■	□	
5. VERIFYING USE OF REQUIRED DESIGN MIX.	■	□	
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	■	□	
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	■	□	
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	■	□	
9. INSPECT PRESTRESSED CONCRETE FOR:	■	□	
A. APPLICATION OF PRESTRESSING FORCES; AND	■	□	
B. GROUTING OF BONDED PRESTRESSING TENDONS.	■	□	
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	■	□	
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	■	□	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.	■	□	

CONT	PERIODIC	N/A	
MASONRY CONSTRUCTION (LEVEL B, FOR RISK CATEGORY I, II AND III):			
1. PRIOR TO CONSTRUCTION, VERIFY CERTIFICATES OF COMPLIANCE USED IN MASONRY CONSTRUCTION.	■	□	
2. VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT.	■	□	
3. VERIFICATION OF FPA AND FPAAC IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.	■	□	
4. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS.	■	□	
5. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:	■	□	
A. PROPORTIONS OF SITE-PREPARED MORTAR.	■	□	
B. CONSTRUCTION OF MORTAR JOINTS.	■	□	
C. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES.	■	□	
D. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES.	■	□	
E. PRESTRESSING TECHNIQUE.	■	□	
F. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY.	■	□	
6. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:	■	□	
A. GROUT SPACE.	■	□	
B. GRADE, TYPE, SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES.	■	□	
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES.	■	□	
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.	■	□	
E. CONSTRUCTION OF MORTAR JOINTS.	■	□	
7. VERIFY DURING CONSTRUCTION:	■	□	
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	■	□	
B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.	■	□	
C. WELDING OF REINFORCEMENT.	■	□	
D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) HOT WEATHER OR (TEMPERATURE ABOVE 90°F (32.2°C)).	■	□	
E. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	■	□	
F. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE.	■	□	
G. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS.	■	□	
8. OBSERVE PREPARATION OF ANY GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.	■	□	

STEEL CONSTRUCTION (STRUCTURAL STEEL):

R- INSPECT THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS
C- INSPECT THESE ITEMS ON A CONTINUOUS BASIS

C	R	N/A	
1. INSPECTION TASKS PRIOR TO WELDING			
A. WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS.	■	□	□
B. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE.	■	□	□
C. MANUFACTURERS CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE.	■	□	□
D. MATERIAL IDENTIFICATION (TYPE/GRADE).	■	□	□
E. WELDER IDENTIFICATION SYSTEM.	■	□	□
F. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY).	■	□	□
- JOINT PREPARATION	■	□	□
- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	■	□	□
- CLEANLINESS (CONDITION OF STEEL SURFACES)	■	□	□
- TACKING (TACK WELD QUALITY AND LOCATION)	■	□	□
- BACKING TYPE AND FIT (IF APPLICABLE)	■	□	□
G. FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K- JOINTS WITHOUT BACKING.	■	□	□
(INCLUDING JOINT GEOMETRY)	■	□	□
- JOINT PREPARATIONS	■	□	□
- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	■	□	□
- CLEANLINESS (CONDITION OF STEEL SURFACES)	■	□	□
- TACKING (TACK WELD QUALITY AND LOCATION)	■	□	□
H. CONFIGURATION AND FINISH OF ACCESS HOLES.	■	□	□
I. FIT-UP OF FILLET WELDS	■	□	□
- DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	■	□	□
- CLEANLINESS (CONDITION OF STEEL SURFACES)	■	□	□
- TACKING (TACK WELD QUALITY AND LOCATION)	■	□	□
2. INSPECTION TASKS DURING WELDING	■	□	□
A. CONTROL AND HANDLING OF WELDING CONSUMABLES.	■	□	□
- PACKAGING	■	□	□
- EXPOSURE CONTROL	■	□	□
B. NO WELDING OVER CRACKED TACK WELDS.	■	□	□
C. ENVIRONMENTAL CONDITIONS	■	□	□
- WIND SPEED WITHIN LIMITS	■	□	□
- PRECIPITATION AND TEMPERATURE	■	□	□
D. WPS FOLLOWED	■	□	□
- SETTINGS ON WELDING EQUIPMENT	■	□	□
- TRAVEL SPEED	■	□	□
- SELECTED WELDING MATERIALS	■	□	□
- SHIELDING GAS TYPE/FLOW RATE	■	□	□
- PREHEAT APPLIED	■	□	□
- INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)	■	□	□
- PROPER POSITION (F, V, H, OH)	■	□	□
E. WELDING TECHNIQUES	■	□	□
- INTERPASS AND FINAL CLEANING	■	□	□
- EACH PASS WITHIN PROFILE LIMITATIONS	■	□	□
- EACH PASS MEETS QUALITY REQUIREMENTS	■	□	□
F. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS.	■	□	□
3. INSPECTION TASKS AFTER WELDING	■	□	□
A. WELDS CLEANED	■	□	□
B. SIZE, LENGTH AND LOCATION OF WELDS	■	□	□
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA.	■	□	□
- CRACK PROHIBITION	■	□	□
- WELD/BASE-METAL FUSION	■	□	□
- CRATER CROSS SECTION	■	□	□
- WELD PROFILES	■	□	□
- WELD SIZE	■	□	□
- UNDERCUT	■	□	□
- POROSITY	■	□	□
D. ARC STRIKES.	■	□	□
E. K-AREA	■	□	□
- WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75 MM) OF THE WELD	■	□	□
F. WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES.	■	□	□
- AFTER ROLLED HEAVY SHAPES (SEE AISC SECTION A3.1C) AND BUILT-UP SHAPES (SEE AISC SECTION A3.1D) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS	■	□	□
G. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED).	■	□	□
H. REPAIR ACTIVITIES	■	□	□
I. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	■	□	□
J. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR.	■	□	□

C	R	N/A	
STEEL CONSTRUCTION (STRUCTURAL STEEL CONT.):			
4. INSPECTION TASKS PRIOR TO BOLTING	■	□	□
A. MANUFACTURER'S CERTIFICATION AVAILABLE FOR FASTENER MATERIALS.	■	□	□
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	■	□	□
C. CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	■	□	□
D. CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL.	■	□	□
E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	■	□	□
F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED.	■	□	□
G. PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	■	□	□
5. INSPECTION TASKS DURING BOLTING	■	□	□
A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS ARE POSITIONED AS REQUIRED	■	□	□
B. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	■	□	□
C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FOR ROTATING	■	□	□
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.	■	□	□
6. INSPECTION TASKS AFTER BOLTING	■	□	□
A. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS.	■	□	□
7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT	■	□	□
A. PLACEMENT AND INSTALLATION OF STEEL DECK.	■	□	□
B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	■	□	□
C. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	■	□	□

REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS:

C	PERIODIC	N/A	
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.	■	□	□
A. END CONNECTIONS - WELDING OR BOLTED.	■	□	□
B. BRIDGING - HORIZONTAL OR DIAGONAL.	■	□	□
1. STANDARD BRIDGING	■	□	□
2. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1	■	□	□

STEEL CONSTRUCTION (OTHER THAN STRUCTURAL STEEL):

C	PERIODIC	N/A	
1. INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT			
A. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	■	□	□
B. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES.	■	□	□
2. INSPECTION OR EXECUTION TASKS AFTER TO DECK PLACEMENT	■	□	□
A. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS.	■	□	□
B. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS.	■	□	□
C. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES.	■	□	□
3. INSPECTION OR EXECUTION TASKS PRIOR TO WELDING	■	□	□
A. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE.	■	□	□
B. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	■	□	□
C. MATERIAL IDENTIFICATION (TYPE/GRADE)	■	□	□
D. CHECK WELDING EQUIPMENT	■	□	□
4. INSPECTION OR EXECUTION TASKS DURING WELDING	■	□	□
A. USE OF QUALIFIED WELDERS	■	□	□
B. CONTROL AND HANDLING OF WELDING CONSUMABLES	■	□	□
C. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	■	□	□
D. WPS FOLLOWED	■	□	□
5. INSPECTION OR EXECUTION TASKS AFTER WELDING	■	□	□
A. VERIFY SIZE LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS.	■	□	□
B. WELDS MEET VISUAL ACCEPTANCE CRITERIA.	■	□	□
C. VERIFY REPAIR ACTIVITIES	■	□	□
D. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS.	■	□	□
6. INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING	■	□	□
A. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	■	□	□
B. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	■	□	□
C. PROPER STORAGE FOR MECHANICAL FASTENERS	■	□	□
7. INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING	■	□	□
A. FASTENERS ARE POSITIONED AS REQUIRED	■	□	□
B. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	■	□	□
8. INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING	■	□	□
A. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	■	□	□
B. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	■	□	□
C. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	■	□	□
D. VERIFY REPAIR ACTIVITIES	■	□	□
E. DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	■	□	□

ADHESIVE ANCHORS:

CONT	PERIODIC	N/A	
1. VERIFY ANCHOR TYPE:	■	□	□
2. VERIFY ADHESIVE IDENTIFICATION AND EXPIRATION DATE	■	□	□
3. VERIFY ANCHOR DIMENSIONS:	■	□	□
4. VERIFY CONCRETE TYPE:	■	□	□
5. VERIFY CONCRETE COMPRESSIVE STRENGTH.	■	□	□
6. VERIFY HOLE DRILLING METHOD.	■	□	□
7. VERIFY HOLE DIMENSIONS	■	□	□
8. VERIFY HOLE CLEANING PROCEDURES.	■	□	□
9. VERIFY ANCHOR SPACING	■	□	□
10. VERIFY EDGE DISTANCES	■	□	□
11. VERIFY CONCRETE THICKNESS.	■	□	□
12. VERIFY ANCHOR EMBEDMENT.	■	□	□
13. VERIFY TIGHTENING TORQUE	■	□	□
14. VERIFY ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS	■	□	□

THE SPECIAL INSPECTOR MUST VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ADHESIVE ANCHOR INSTALLED BY THE CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL MAY BE PERMITTED, WITH THE APPROVAL OF THE ENGINEER AND THE SPECIAL INSPECTOR, TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. ANY CHANGE IN THE ANCHOR PRODUCT BEING INSTALLED OR THE PERSONNEL PERFORMING THE INSTALLATION REQUIRES AN INITIAL INSPECTION. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE PRODUCT. THE SPECIAL INSPECTOR SHALL INFORM THE ENGINEER OF THE FREQUENCY OF THE PERIODIC ANCHOR INSPECTIONS. THE ENGINEER MAY REQUEST ADDITIONAL INSPECTIONS AT ANY TIME.

STRUCTURAL OBSERVATION

THE STRUCTURAL ENGINEER, OR ANOTHER ENGINEER DESIGNATED BY THE STRUCTURAL ENGINEER SHALL BE RETAINED BY THE OWNER TO PERFORM STRUCTURAL OBSERVATION AS REQUIRED BY C.B.C. CHAPTER 17. STRUCTURAL OBSERVATION SHALL BE PROVIDED DURING THE STAGES OF CONSTRUCTION LISTED BELOW. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AT LEAST 48 HOURS ADVANCE NOTICE TO THE STRUCTURAL ENGINEER WHEN HIS WORK IS READY FOR STRUCTURAL OBSERVATION FOR EACH OF THESE STAGES.

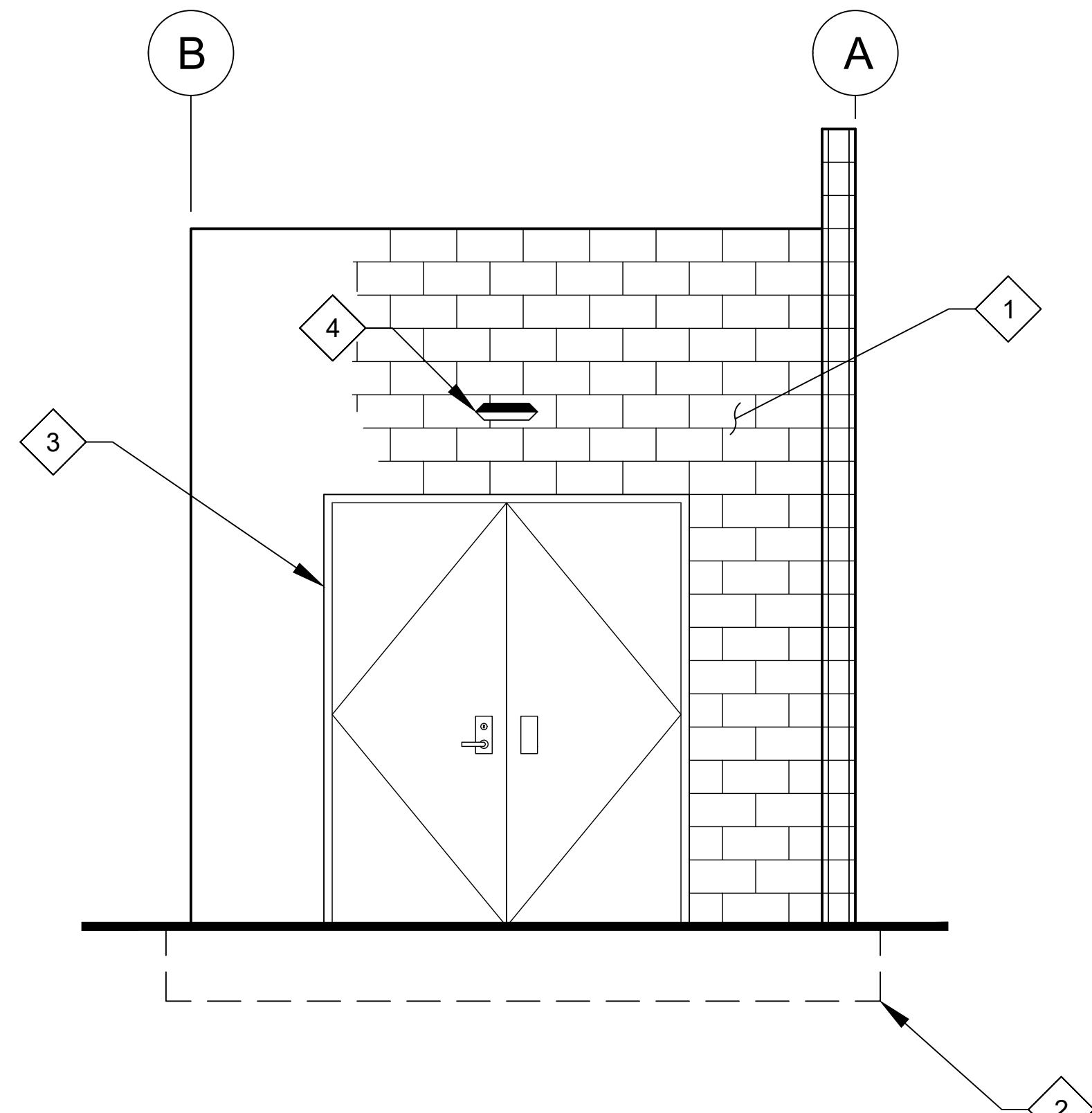
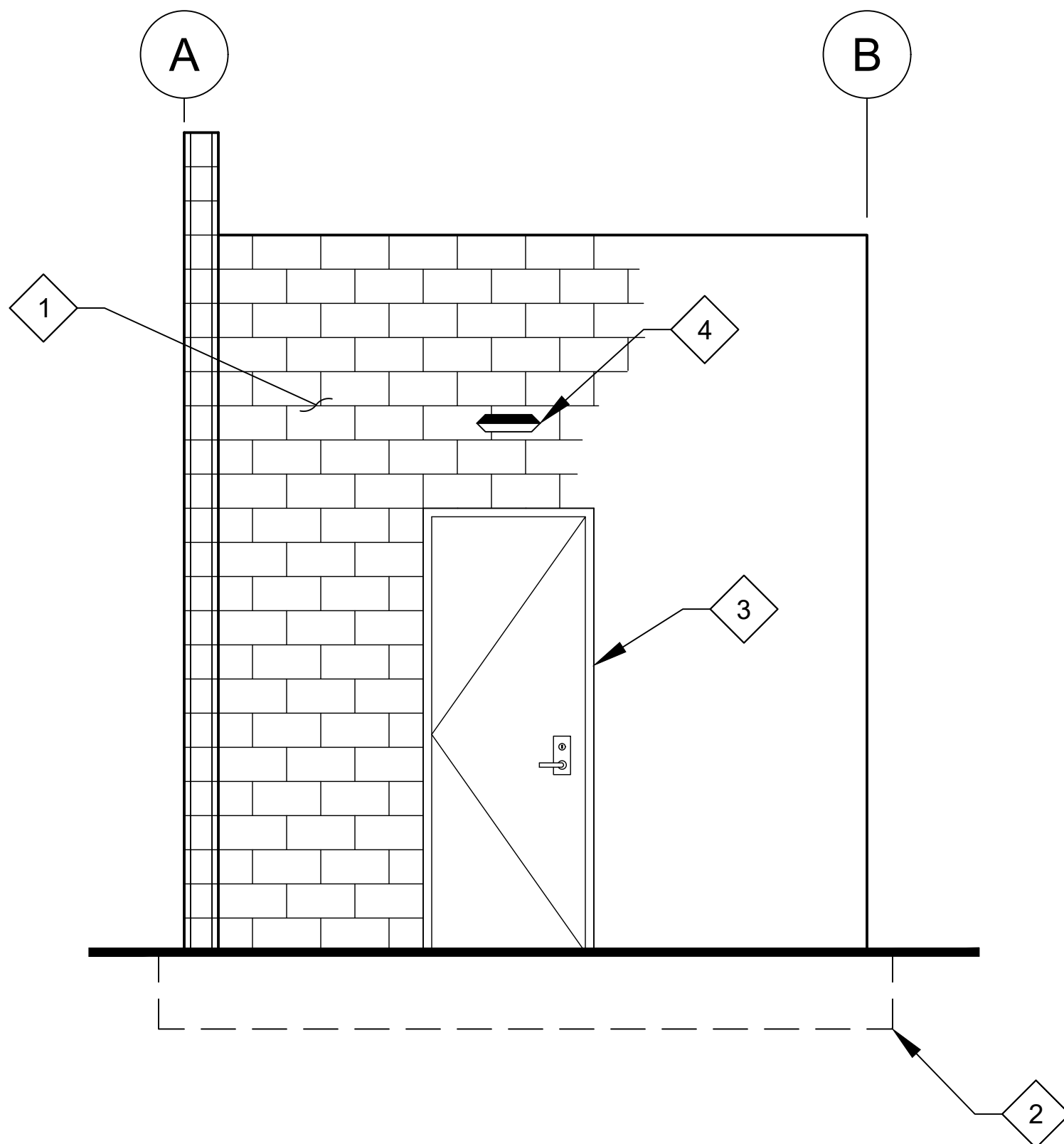
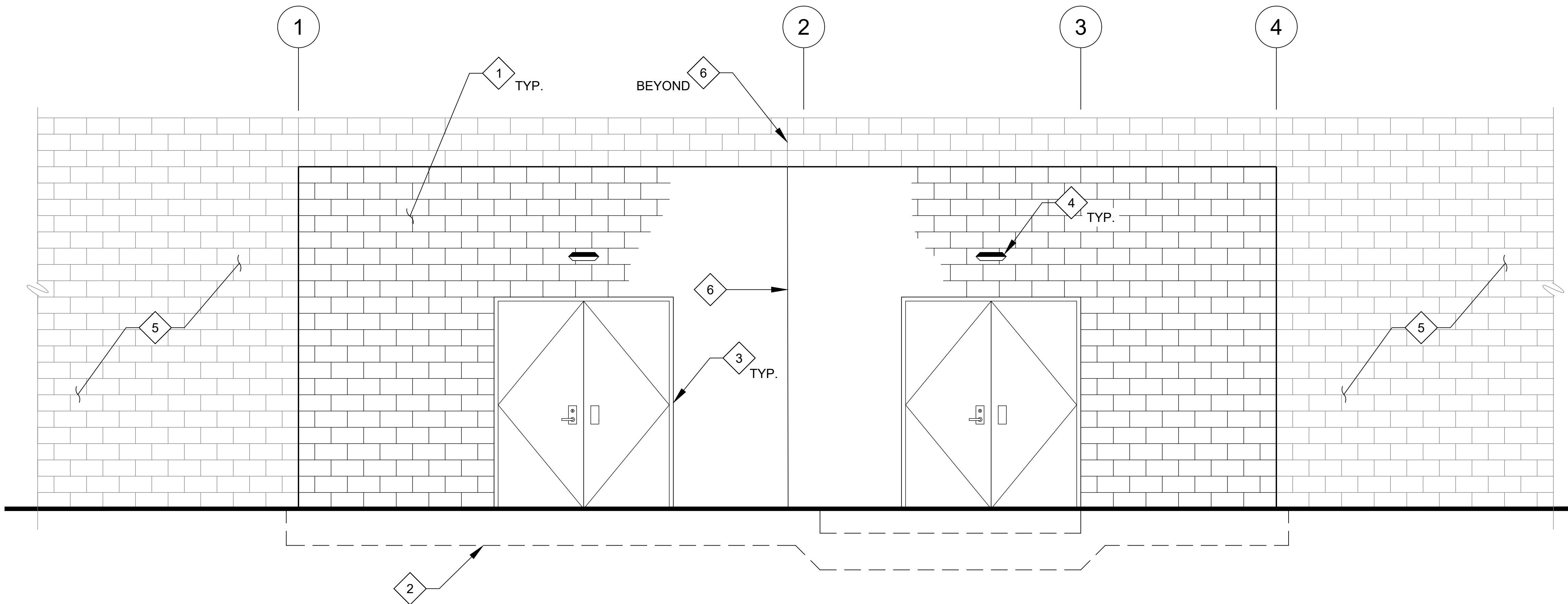
CONT	PERIODIC	N/A		STRUCTURAL OBSERVATIONS REQUIRED (■ YES □ NO)
1. CONCRETE: REINFORCING STEEL AND EMBEDDED STRUCTURAL ANCHORAGES PRIOR TO PLACEMENT OF CONCRETE FOR THE FOLLOWING:				
A. FOUNDATIONS	■	□	□	
B. SLABS-ON-GRADE (EXCEPT SITE PAVING AND FLATWORK)	■	□	□	
C. WALLS	■	□	□	
D. STRUCTURAL FLOOR SLABS AND BEAMS NOT SUPPORTED ON-GRADE	■	□	□	
E. ROOF SLABS AND BEAMS	■	□	□	
2. MASONRY: A. REINFORCING STEEL AND EMBEDDED STRUCTURAL ANCHORAGES PRIOR TO GROUTING OF MASONRY WALLS				
	■	□	□	
3. STRUCTURAL STEEL: A. ERECTED COLUMN, BEAMS AND GIRDERS, PRIOR TO INSTALLATION OF ROOF AND FLOOR JOISTS, TRUSSES AND DECKING				
	■	□	□	N/A
4. WOOD FRAMING: A. ROOF, FLOOR AND WALL FRAMING AND MEMBER CONNECTIONS, AND STRUTS AND CHORDS PRIOR TO INSTALLATION OF SHEATHING OR ANY COVERING THAT WOULD CONCEAL THE STRUCTURAL FRAME				
	■	□	□	N/A
B. PLYWOOD ROOF, FLOOR AND WALL SHEATHING PRIOR TO INSTALLATION OF ROOFING AND ANY OTHER BUILDING MATERIALS THAT WOULD CONCEAL THE NAILING				
	■	□	□	N/A

DEFERRED SUBMITTALS/CERTIFICATIONS

CONT	PERIODIC	N/A		SUBMITTALS REQUIRED (■ YES □ NO)
1. OFF-SITE FABRICATION: FABRICATORS SHALL BE CITY, COUNTY AND/OR C.B.C. APPROVED FABRICATORS. FABRICATORS				
FOR ALL OFFSITE FABRICATION OF THE ITEMS LISTED BELOW:				
A. TRUSSES	■	□	□	N/A
B. GLU-LAMINATED MEMBERS	■	□	□	N/A
C. PRECAST CONCRETE	■	□	□	N/A
D. STRUCTURAL STEEL (MILL REPORTS AND IDENTIFICATION OF STEEL, AFFIDAVIT OF COMPLIANCE)	■	□	□	N/A
E. OTHER:				
2. DEFERRED SUBMITTALS: SUBMITTAL DOCUMENTS FOR THE DEFERRED SUBMITTAL ITEMS LISTED BELOW SHALL BE DESIGNED BY A LICENSED PE OR SE AND SUBMITTED BY THE CONTRACTOR TO THE BUILDING DEPARTMENT/APPROVAL AGENCY AND STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.				
A. PREFABRICATED TRUSSES	■	□	□	N/A
B. PRECAST VAULTS	■	□	□	N/A
C. CONCRETE MIX	■	□	□	N/A
D. OTHER: PRECAST CONC. PILES	■	□	□	N/A

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KEYNOTES:

1. CONCRETE MASONRY WALL (PRECISION BLOCK)
2. CONCRETE MAT FOUNDATION
3. HOLLOW METAL DOOR AND FRAME, TYP.
4. LIGHT FIXTURE
5. CONCRETE MASONRY SCREEN WALL BEYOND
6. FULL HEIGHT CONTROL JOINT

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OFFICE OF THE CITY ENGINEER

STRUCTURAL ELEVATIONS
225 W MAPLE AVE, ORANGE CA 92866

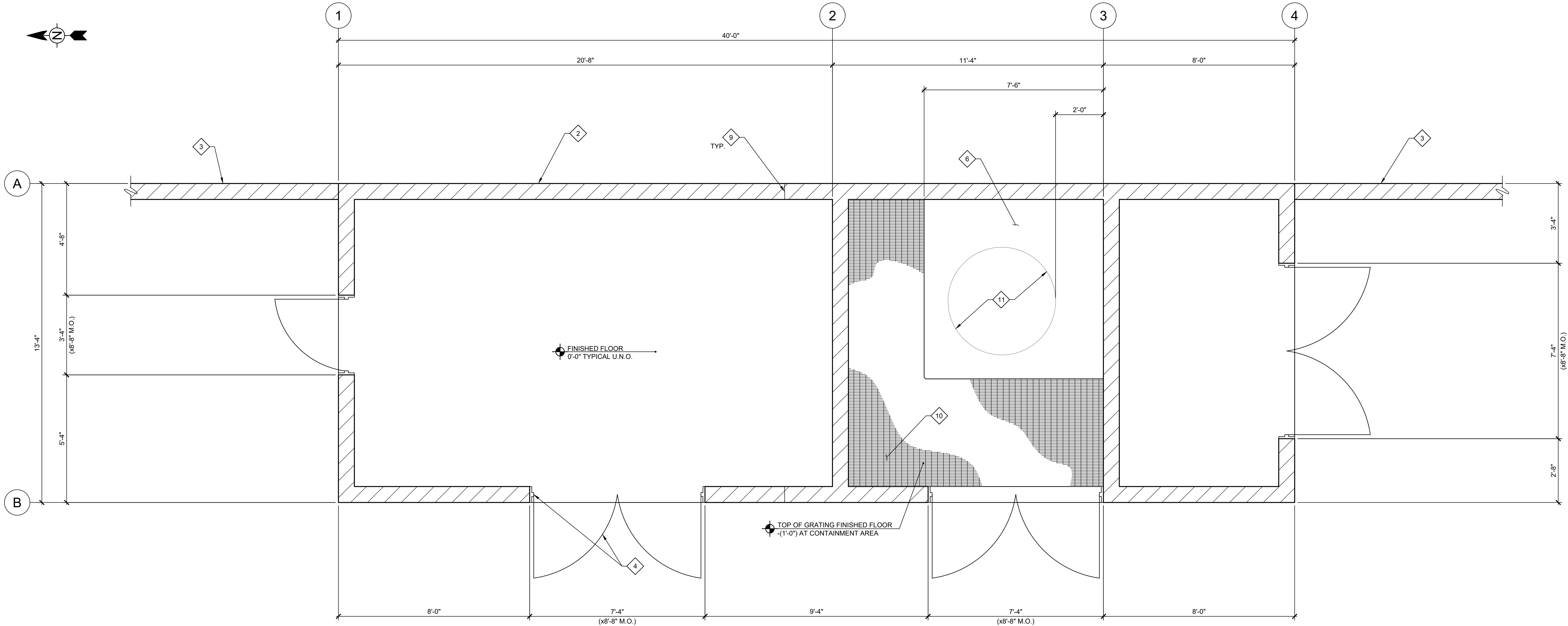
SCALE: HORIZ. AS NOTED
VERT. AS NOTED

S-3

SHEET OF SHEETS

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FOUNDATION PLAN

SCALE: 1/2"=1'-0"

KEYNOTES:

1. 18" THICK CONCRETE MAT FOUNDATION w/ #6 @ 12" EACH WAY TOP AND BOTTOM. LOCATE REINFORCING 2" CLEAR FROM FINISH FLOOR SURFACE. PLACE SLAB ON A 2" THICK BLANKET OF CLEAN SAND. PROVIDE LIGHT BROOM FINISH IN DISINFECTION ROOM AND SMOOTH TROWEL FINISH ELSEWHERE.

2. 8" THICK (NOMINAL) REINFORCED CONCRETE BLOCK WALL. REFER TO THE MASONRY NOTES ON SHEET S-1 FOR ADDITIONAL REQUIREMENTS. REFER TO MASONRY SCHEDULE FOR REINFORCMENT.

3. FREESTANDING WALL

4. HOLLOW METAL DOOR AND FRAME. REFER TO SHEET S-201 FOR DOOR SCHEDULE

5. RAISED LEVEL CONCRETE HOUSEKEEPING PAD FOR ELECTRICAL CABINETS. SET TOP OF PAD AT +0'-4"

6. LEVEL CONCRETE HOUSEKEEPING PAD FOR STORAGE TANK. SET TOP OF PAD AT +0'-0" - SEE DETAIL 11 ON SHEET S-5XX
7. CONCRETE CONTAINMENT CURB

8. SODIUM HYPOCHLORITE STORAGE TANK 53" DIAMETER x 56" TALL, 350 GALLON CAPACITY FRP TANK

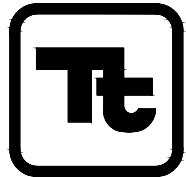
9. CONTROL JOINT IN CONCRETE BLOCK WALL

10. FRP FLOOR GRATING SYSTEM. CONTRACTOR SHALL PROVIDE CALCULATIONS, FABRICATION DRAWINGS AND ALL COMPONENTS (GRATING, REBATE ANGLES, STANCHIONS, CLIPS, ETC.) REQUIRED FOR THE INSTALLATION OF A COMPLETE FLOOR GRATING SYSTEM THAT CAN CARRY A LIVE LOAD OF 250 PER SQUARE FOOT (GRATING PACIFIC, FIBERGRATE OR APPROVED EQUAL). SET TOP OF GRATING AT 0'-0".

BUILDING REINFORCING SCHEDULE

REINFORCING	SIZE AND SPACING	LOCATION	REMARKS
VERTICAL	#5 @ 16"	TYPICAL U.N.O.	LOCATE VERTICAL BARS AT CENTERLINE OF WALL
HORIZONTAL	#4 CONT. @ 24" 2-#5 CONT. AT TOP OF WALL	TYPICAL U.N.O.	LOCATE HORIZONTAL BARS ADJACENT TO VERTICAL BARS TOWARDS EXTERIOR FACE
HORIZONTAL CHORD BARS	2-#5 CONT.	+14'-0", +13'-4", +12'-8", +12'-0"	AT ALL EXTERIOR WALLS, CENTERED
LINTELS	1-#6 BAR	AT BOTTOM	LOCATE BAR AT CENTERLINE OF WALL; REF. DTL 4 ON S-12
VERTICAL	#5 @ 8"	AT CROSS HATCHED AREAS (SEE KEYNOTE 10)	LOCATE BARS AT CENTERLINE OF WALL

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FOUNDATION PLAN
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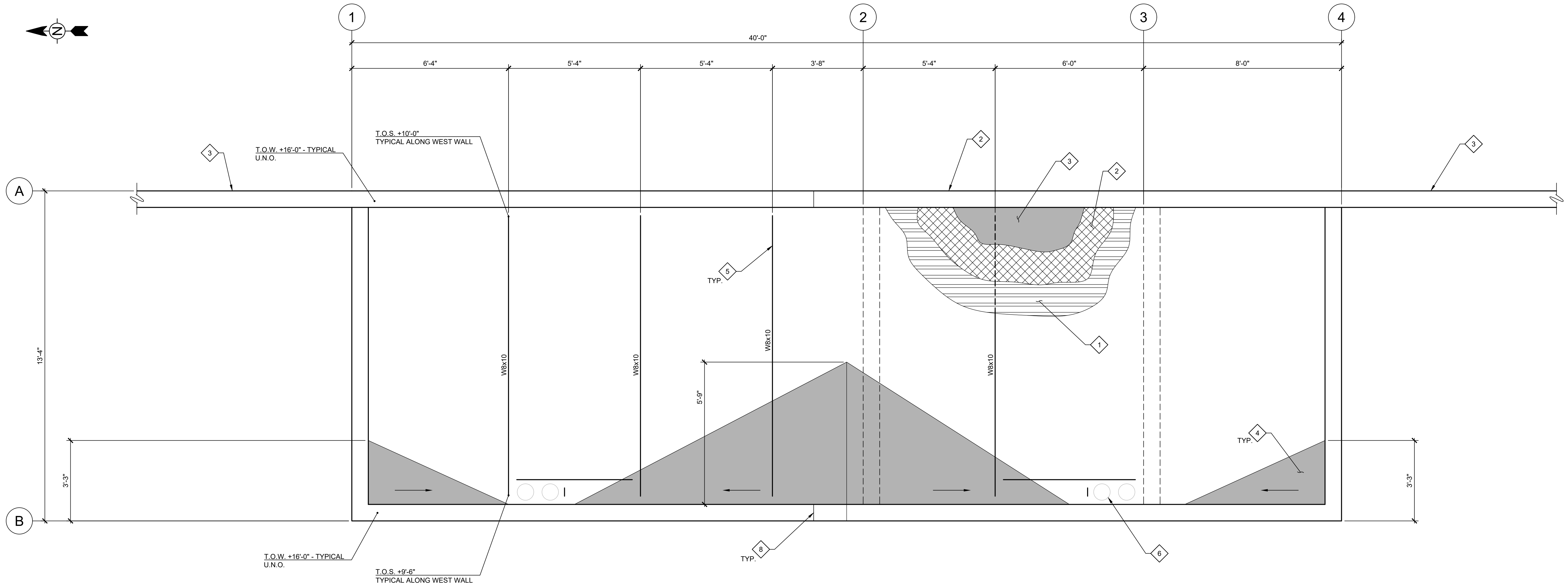
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S-4

SHEET OF SHEETS

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ROOF FRAMING PLAN
SCALE: 1/2"=1'-0"

KEYNOTES:

1. 1 1/2" DEEP, 20 GAUGE CORRUGATED GALVANIZED STEEL ROOF DECK, VERO PLB-36 OR AN APPROVED EQUIVALENT WITH AN ICC EVALUATION SERVICE REPORT
2. 3" THICK EXPANDED POLYSTYRENE INSULATION.
3. 60 MIL SINGLE PLY PVC ROOFING APPLIED OVER 5/8" THICK UNDERLAYMENT BOARD, SIKI SARNAFIL ROOFING OVER DENS DECK BOARDS, OR APPROVED EQUIVALENT.
4. TAPERED EXPANDED POLYSTYRENE CRICKETS. SLOPE 1/4" PER FOOT MINIMUM TOWARD ROOF DRAINS.
5. STEEL ROOF FRAMING.
6. ROOF DRAIN AND OVERFLOW ASSEMBLY.
7. CONCRETE MASONRY WALL.
8. 8. FULL HEIGHT CONTROL JOINT IN MASONRY WALL.

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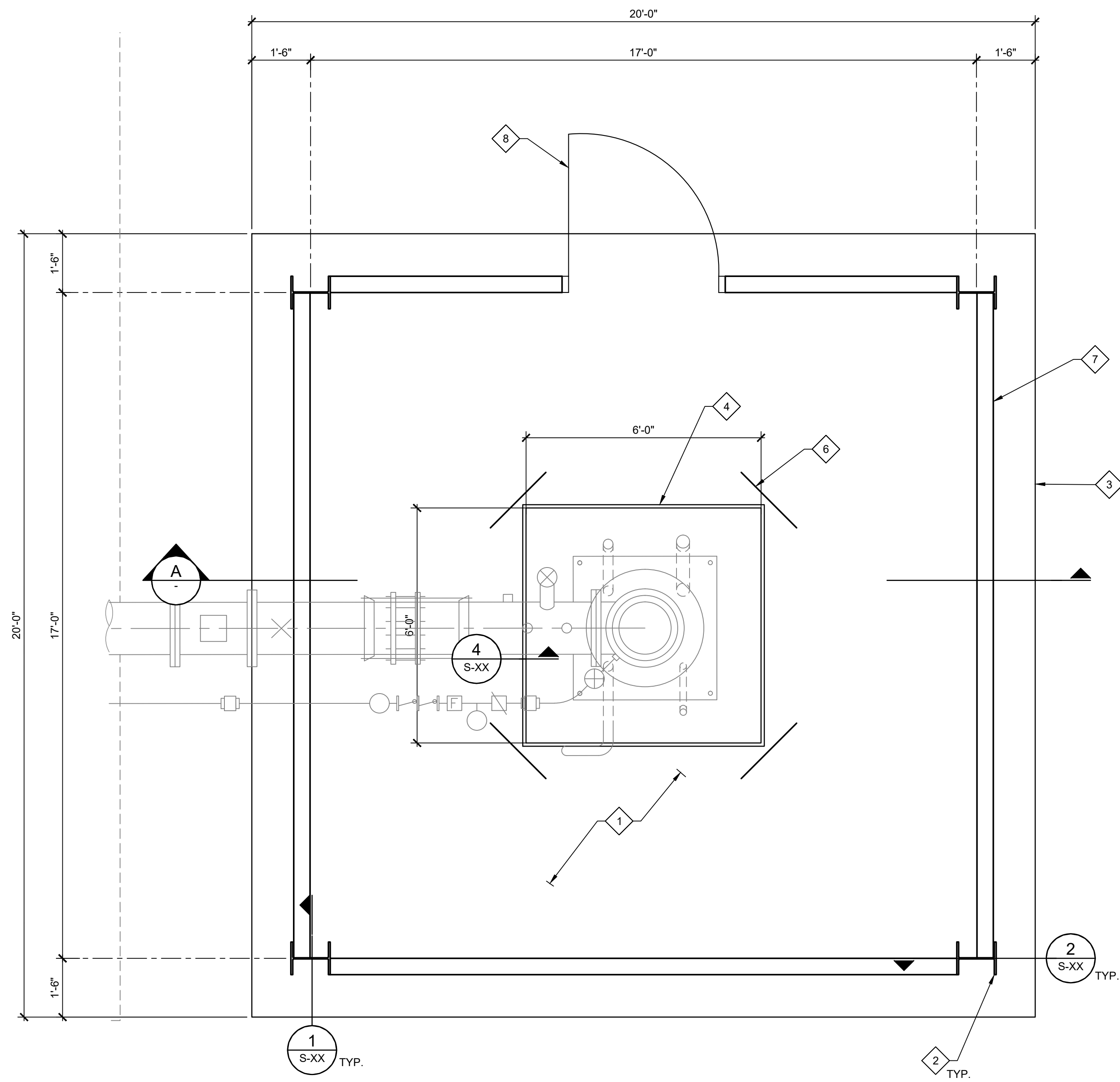
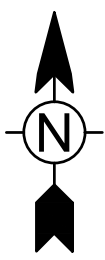
ROOF FRAMING PLAN
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

S-5

SHEET OF SHEETS

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KEYNOTES:

- 24" THICK MAT FOUNDATION #7 @ 12", EACH WAY, TOP & BOTTOM.
- COLUMN DESIGNED & PROVIDED BY ACOUSTICAL ENCLOSURE MANUFACTURER. COLUMN SIZES, QUANTITIES AND CONFIGURATIONS ARE AS DETERMINED BY THE ENCLOSURE MANUFACTURER
- EDGE OF MAT FOUNDATION
- CONCRETE WELL BASE
- VERTICAL TURBINE PUMP - SEE MECHANICAL SHEETS
- #4 (x2'-0") DIAGONAL TOP AND BOTTOM.
- ACOUSTICAL ENCLOSURE PANELS (BY ACOUSTICAL ENCLOSURE MANUFACTURER)
- SOUND INSULATED STEEL DOOR, FRAME AND STEEL SUPPORT MEMBERS BY ACOUSTICAL ENCLOSURE MANUFACTURER. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL HARDWARE, TRIM, SEALANTS, ETC. REQUIRED FOR A COMPLETE, WEATHER-TIGHT, SECURE DOOR INSTALLATION.

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WELL ENCLOSURE FOUNDATION PLAN
225 W MAPLE AVE, ORANGE CA 92866

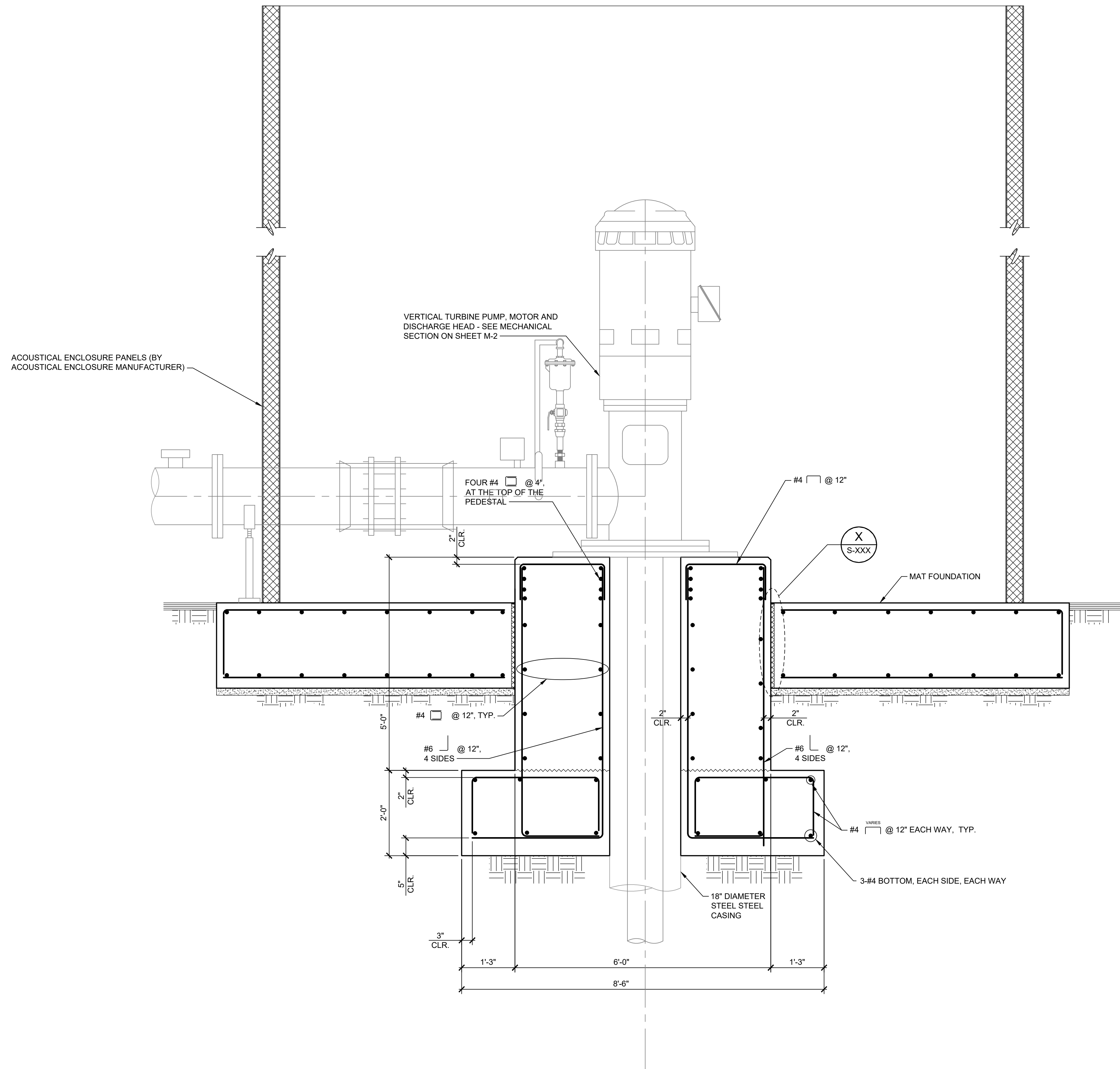
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S-6

SHEET OF SHEETS

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A
SECTION
SCALE: 3/4"=1'-0"

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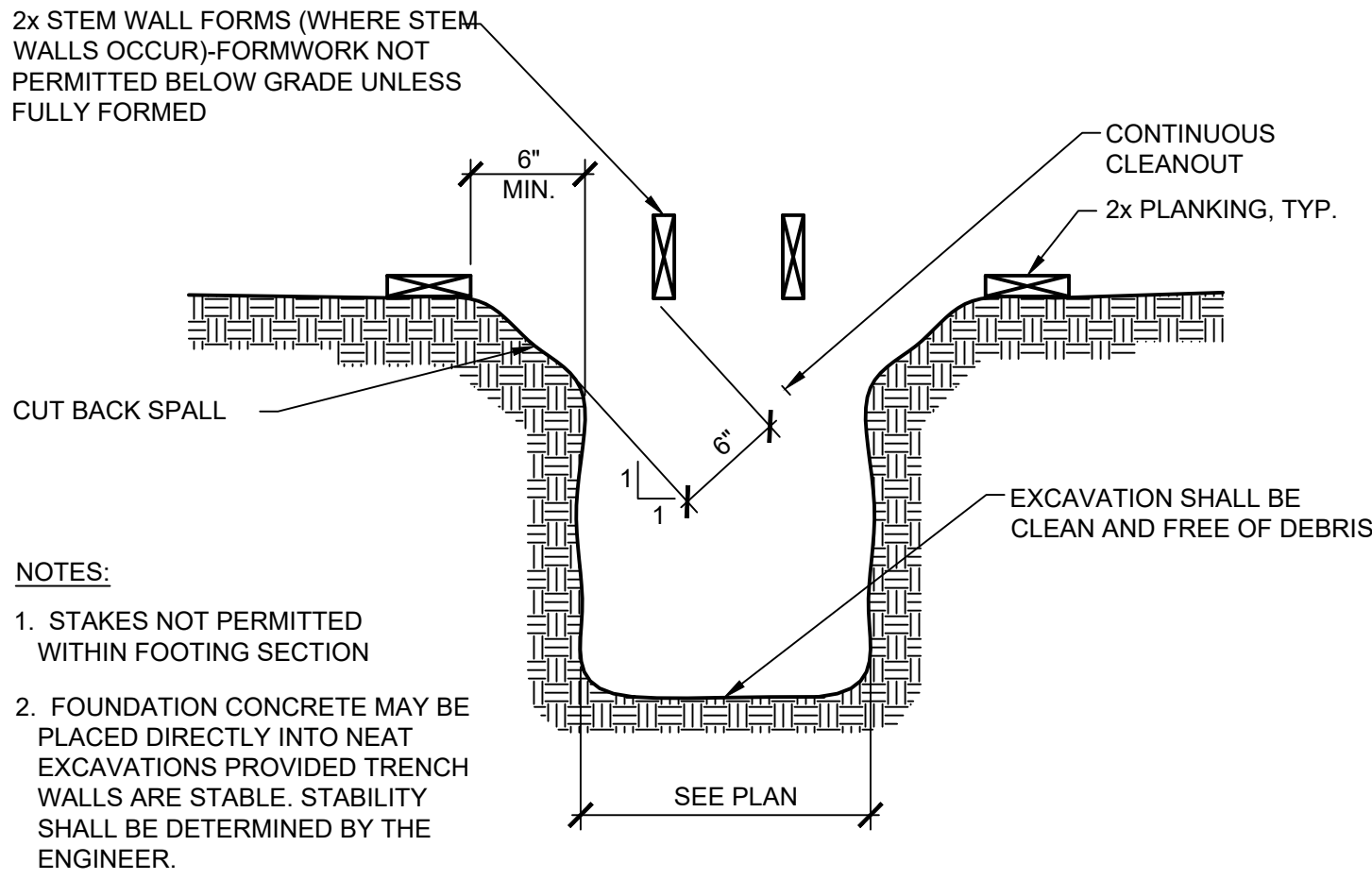
WELL ENCLOSURE SECTION
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SCALE: HORIZ. AS NOTED
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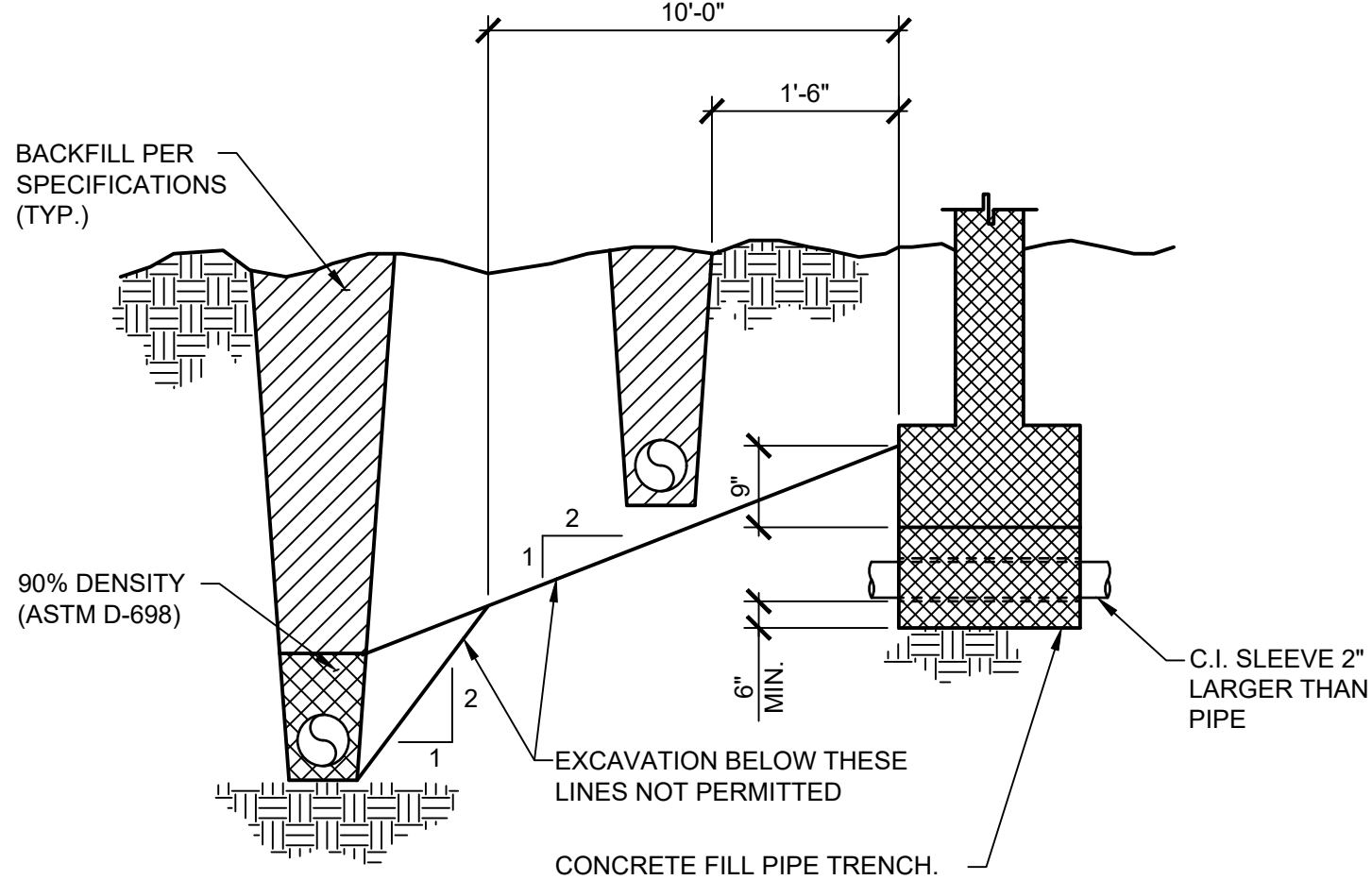
S-7

SHEET OF SHEETS

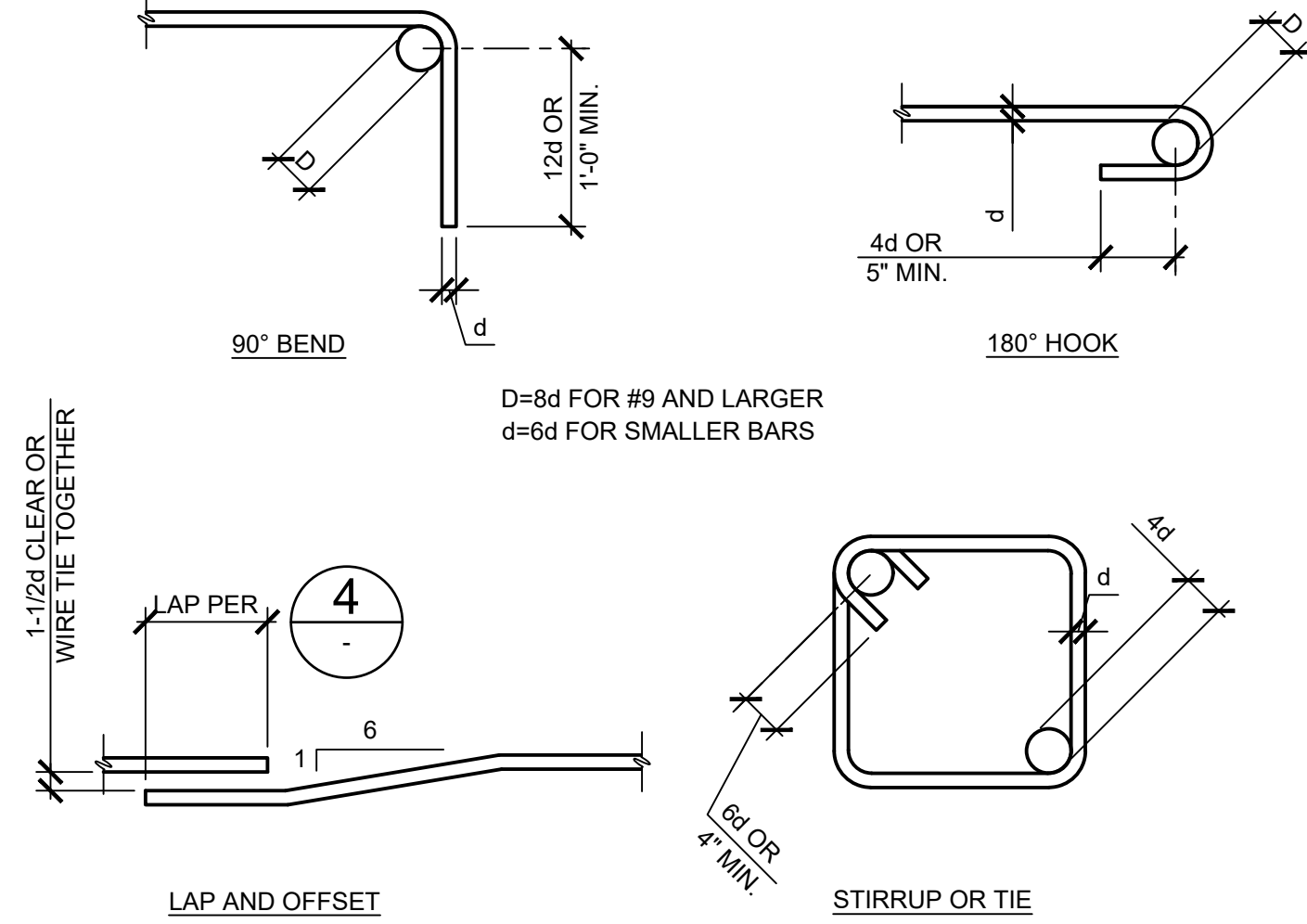
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1 TYPICAL FOOTING EXCAVATION
SCALE: N.T.S.

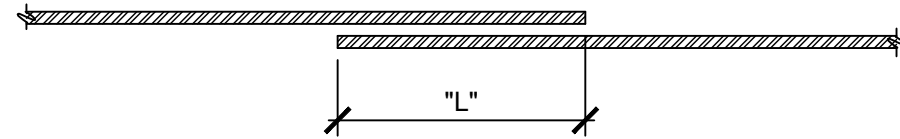


2 SLEEVE THRU FOOTING AND PIPE TRENCH LOCATION
SCALE: N.T.S.



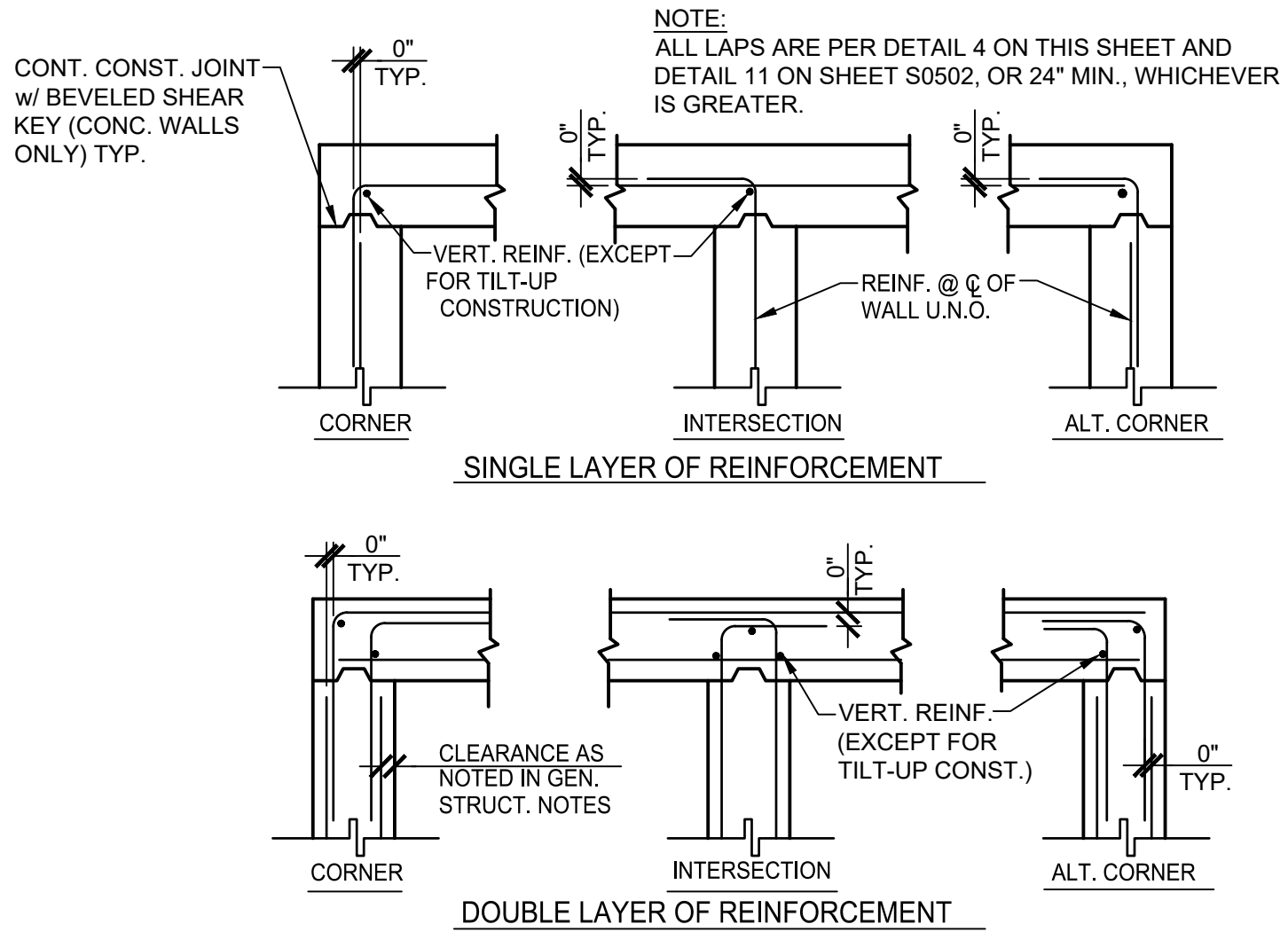
3 TYPICAL BAR BENDS
SCALE: N.T.S.

REINFORCING LAP SPLICE SCHEDULE				
BAR	f _c =2500	f _c =3000	f _c =4000	f _c =5000
	L (inches)	L (inches)	L (inches)	L (inches)
3	24	22	19	17
4	32	29	25	23
5	39	36	31	28
6	47	43	37	34
7	69	63	54	49
8	78	72	62	56
9	88	81	70	63

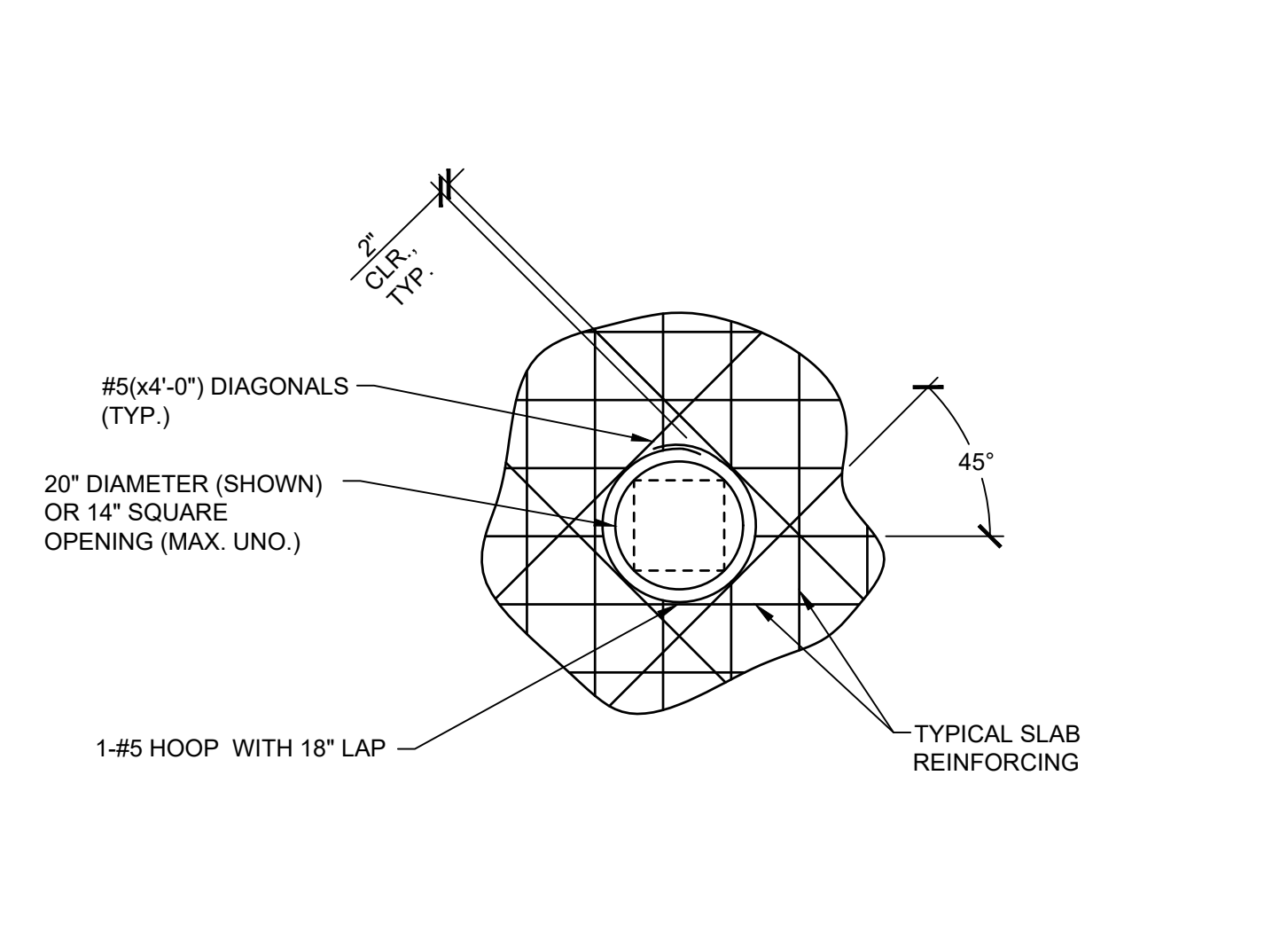


- NOTES:
- LAPS SHOWN IN THIS TABLE ARE CLASS B, CATEGORY 3 TYPE SPLICES. LAP LENGTH IS BASED UPON SMALLER OF TWO BARS BEING SPLICED WHEN NOT THE SAME SIZE.
 - INCREASE LAP LENGTHS BY A FACTOR OF 1.3 FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THIS REINFORCEMENT.

4 REINFORCING LAP SPLICE SCHEDULE
SCALE: N.T.S.



5 WALL & FOOTING REINF. AT CORNERS & INTERSECTIONS
SCALE: N.T.S.



6 TYP. REINF. FOR OPENINGS THRU NON-STRUCT FLOOR SLABS SUPPORTED ON-GRADE
SCALE: N.T.S.

7 NOT USED
SCALE:

8 NOT USED
SCALE: 1/4"=1'-0"

9 NOT USED
SCALE:

10 NOT USED
SCALE:

11 NOT USED
SCALE:

12 NOT USED
SCALE:

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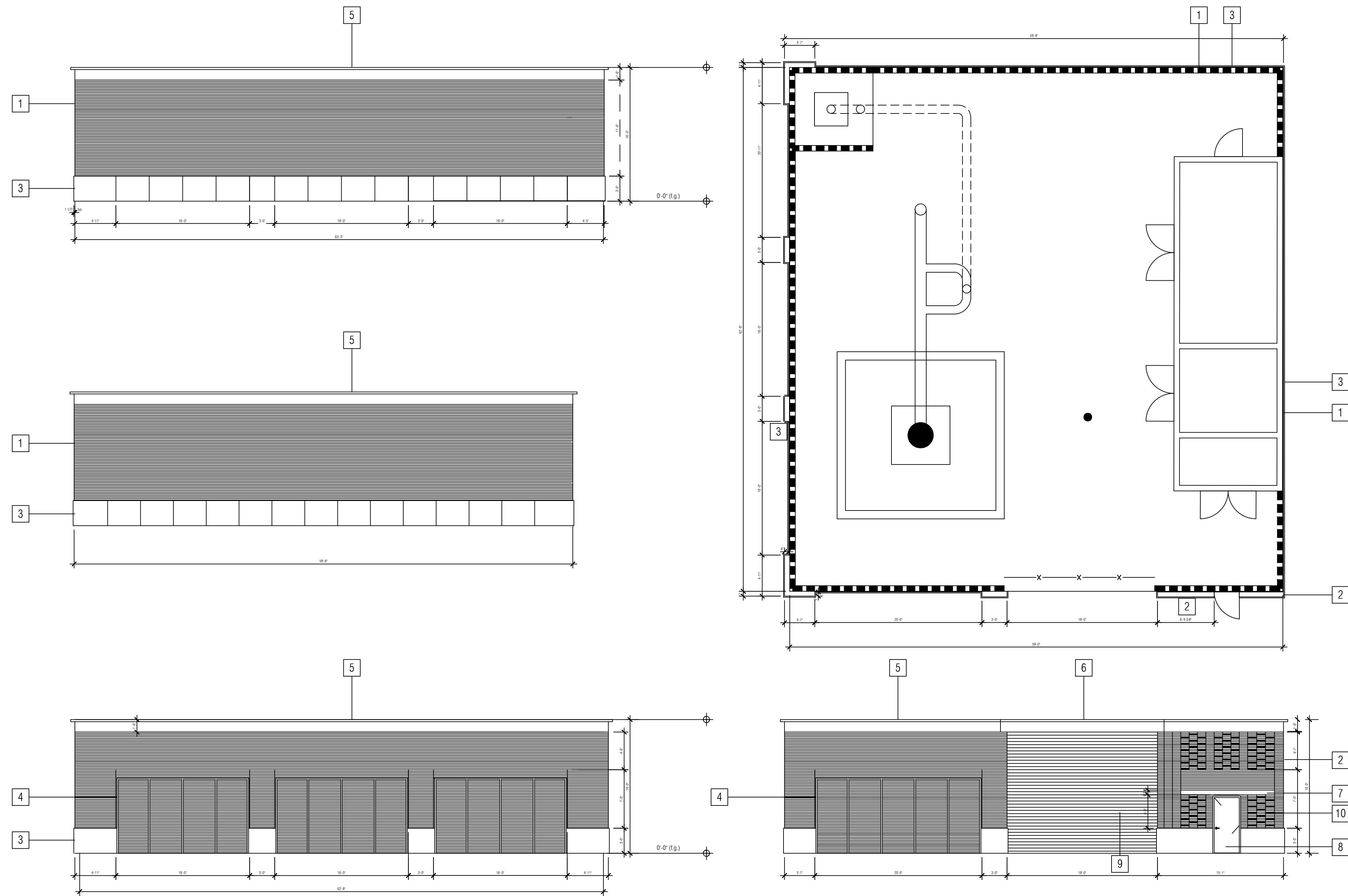
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TYPICAL STRUCTURAL DETAILS
225 W MAPLE AVE, ORANGE CA 92866

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S-8
SHEET OF SHEETS

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plan notes

- 1 brick; pacific clay products, yankee hill brick, 2-1/4"x7-3/4" thin brick
- 2 brick; pacific clay products, yankee hill brick, 2-1/4"x7-3/4" standard thickness
- 3 concrete bulkhead. see detail 3
- 4 metal trellis
- 5 precast concrete cornice. see detail 1
- 6 removable cornice
- 7 concrete lintel. see detail 2
- 8 metal man door, paint (colorlife) CL 3207N "mascara"
- 9 metal louvered sliding door, paint (colorlife) CL3207N "mascara"
- 10 recessed brick; see detail xx
- 11
- 12

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secoyarchitects

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tel. 714.639.4367

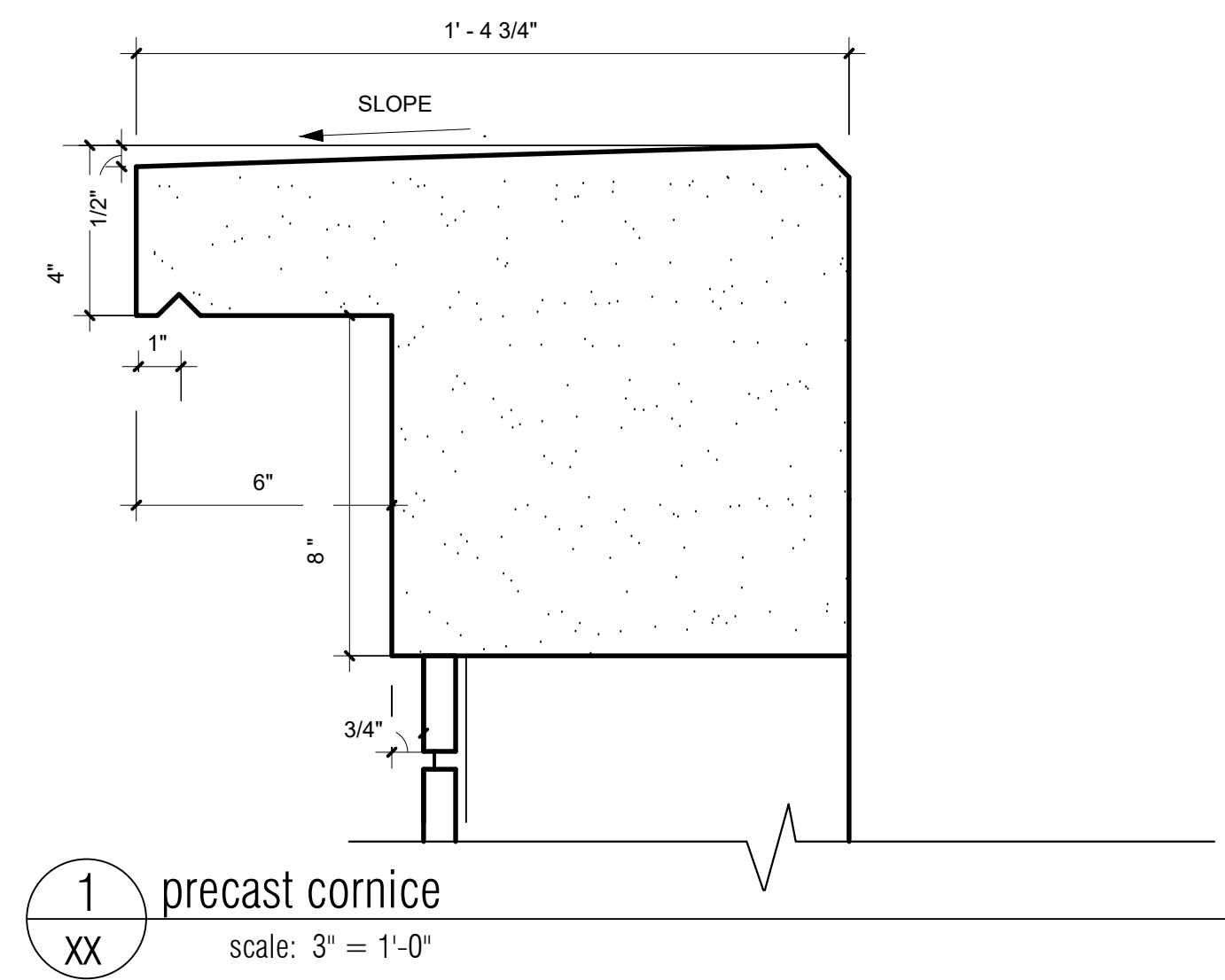
orange, california 92866
susan@secoyarchitects.com

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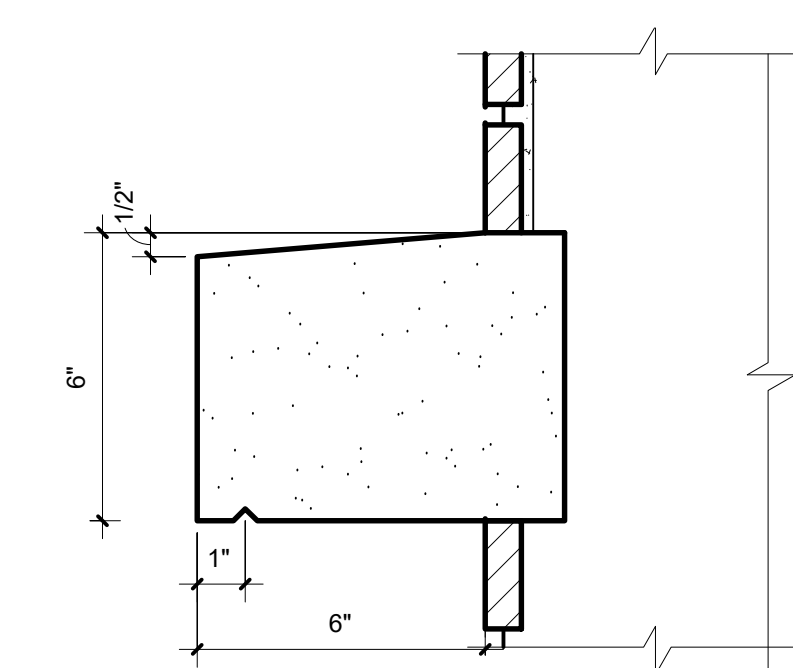
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SCALE: HORIZ. AS NOTED
VERT. AS NOTED

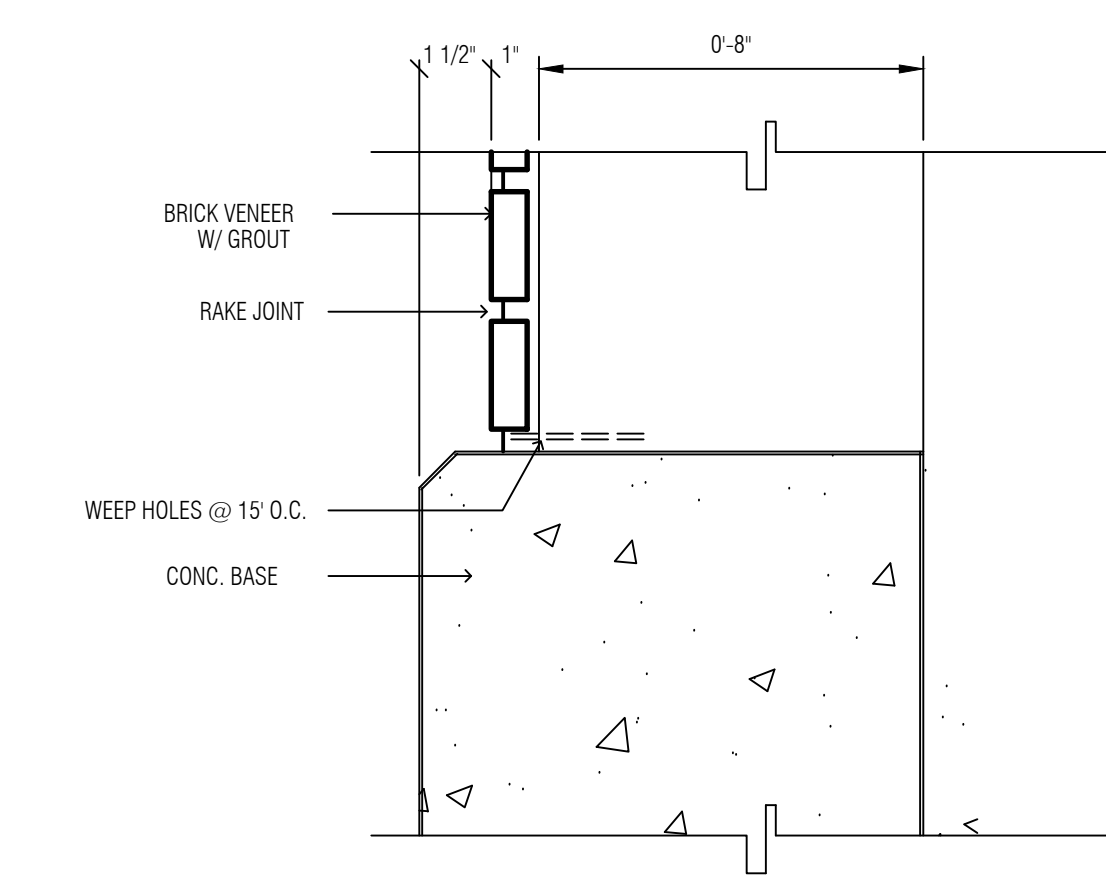
SHEET OF SHEETS



1 precast cornice
scale: 3" = 1'-0"



2 trim detail
scale: 3" = 1'-0"



3 brick detail @ concrete base
scale: 3" = 1'-0"

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SCALE:	HORIZ. AS NOTED VERT. AS NOTED	SHEET OF SHEETS
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ELECTRICAL SYMBOLS - PLANS	
SYMBOL	SYMBOL DESCRIPTION
	DUPLEX RECEPTACLE (WP, GFCI AS INDICATED)
	QUAD RECEPTACLE (WP, GFCI AS INDICATED)
	JUNCTION BOX
	SWITCH (3 = 3-WAY SWITCH, 4 = 4-WAY SWITCH, ETC.)
	LIGHTING LUMINAIRE CONTROLLED BY SWITCH a
	LIGHTING LUMINAIRE CONTROLLED BY SWITCH a W/ EMERGENCY BATTERY PACK
	EMERGENCY LIGHT
	WALL MOUNTED LUMINAIRE
	EXIT LIGHT
	POLE MOUNTED LUMINAIRE
	LUMINAIRE TYPE LAMP WATTAGE
	CONDUIT REFERENCE A = ANALOG SIGNAL C = CONTROL D = DATA LINK F = FIBER OPTIC P = POWER T = TELEPHONE
	CONDUIT OR DUCT BANK IN SLAB OR UNDERGROUND
	EXPOSED CONDUIT
	GROUNDING CONDUCTOR 30" BELOW GRADE
	HOMERUN TO PANEL "A", CIRCUIT 3
	CONDUIT STUBBED AND CAPPED
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	FLEXIBLE CONDUIT CONNECTION (FROM COUPLING/STUB-UP OR JBOX)
	PANELBOARD
	DISCONNECT SWITCH
	COMBINATION STARTER & DISCONNECT SWITCH
	HANDHOLE OR PULL BOX
	DUCT SMOKE DETECTOR
	SMOKE DETECTOR
	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM STROBE
	TELEPHONE OUTLET
	DATA OUTLET
	VOIP/DATA OUTLET
	CONDUIT SEAL
	CONDUIT & WIRE FOR FIRE ALARM SYSTEM
	CONDUIT & WIRE FOR ELECTRONIC KEY PAD TO PLC
	ELECTRONIC KEYPAD
	FIRE ALARM CONTROL PANEL
	LOCAL CONTROL SWITCH
	THERMOSTAT
	INTRUSION SWITCH
	MOTOR (NUMBER INDICATES HORSEPOWER)

ELECTRICAL SYMBOLS - SCHEMATIC DIAGRAMS		
NORMALLY OPEN	NORMALLY CLOSED	SYMBOL DESCRIPTION
		CONTACT
		TIMED CONTACT, CONTACT ACTION REVERSES ON ENERGIZATION (ON DELAY)
		TIMED CONTACT, CONTACT ACTION REVERSES ON DE-ENERGIZATION (OFF DELAY)
		LEVEL SWITCH
		PRESSURE SWITCH
		TEMPERATURE SWITCH
		LIMIT SWITCH
		FLOW SWITCH
		PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT
		SELECTOR SWITCH HOA: HAND-OFF-AUTO (HOA SHOWN IN HAND MODE) HO: HAND-OFF HOR: HAND-OFF-REMOTE R-O: REMOTE-OFF SEE SYMBOLE NOTE 2.
		MOTOR OVERLOAD DEVICE CONTACTS
		PILOT LIGHT A= AMBER, G= GREEN, R= RED, W= WHITE
		CONTROL RELAY
		TIME DELAY RELAY
		MOTOR OR STARTER COIL. NUMBER INDICATE HP
		SOLENOID OPERATED VALVE
		ELAPSED TIME METER
		FUSE
		CONTROL POWER TRANSFORMER
		GROUND
		MOTOR SPACE HEATER
		THERMISTOR

SYMBOL NOTES

- THIS DRAWING CONTAINS INDUSTRY STANDARD SYMBOLS. NOT ALL SYMBOLS SHOWN ARE USED ON THIS PROJECT.
- FOR HOA SWITCHES, "XOO" INDICATES THAT THE TOP CONTACT IS CLOSED WHEN THE SWITCH IS SET TO HAND MODE, AND ALL OTHER SWITCH CONTACTS ARE OPEN; "OXO" INDICATES THAT THE MIDDLE CONTACT IS CLOSED WHEN THE SWITCH IS SET TO OFF MODE, AND ALL OTHER SWITCH CONTACTS ARE OPEN; "OOX" INDICATES THAT THE BOTTOM CONTACT IS CLOSED WHEN SWITCH IS IN AUTO MODE. ALL OTHER SWITCH CONTACTS ARE OPEN.

ANSI/IEEE C37.2 STANDARD DEVICE NUMBERS

THE FOLLOWING IS A LIST OF TYPICAL DEVICE NUMBERS. SEE ANSI/IEEE C37.2 FOR A COMPLETE LIST OF DEVICES.

- | | |
|----|--|
| 11 | MULTI-FUNCTION DEVICE |
| 27 | UNDERVOLTAGE RELAY |
| 32 | DIRECTIONAL POWER RELAY OR REVERSE POWER RELAY |
| 37 | UNDERCURRENT OR UNDERPOWER RELAY |
| 42 | RUNNING CIRCUIT BREAKER |
| 47 | PHASE SEQUENCE OR PHASE-BALANCE VOLTAGE RELAY |
| 50 | INSTANTANEOUS OVERCURRENT RELAY |
| 51 | AC INVERSE TIME OVERCURRENT RELAY |
| 52 | AC CIRCUIT BREAKER |
| 55 | POWER FACTOR RELAY |
| 57 | SHORT-CIRCUITING OR GROUNDING DEVICE |
| 59 | OVERVOLTAGE RELAY |
| 67 | AC DIRECTIONAL OVERCURRENT RELAY |
| 86 | LOCKOUT RELAY |
| 87 | DIFFERENTIAL PROTECTIVE RELAY |

ELECTRICAL SYMBOLS - SINGLE LINE DIAGRAM	
DEVICE	SYMBOL DESCRIPTION
	DRY TYPE TRANSFORMER
	IRON CORE TRANSFORMER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER
	FUSE
	MOTOR, 40 HORSEPOWER
	GROUNDING ELECTRODE
	LOW VOLTAGE CIRCUIT BREAKER MCCB UON
	MEDIUM VOLTAGE CIRCUIT BREAKER, DRAW-OUT TYPE SEE ANSI/IEEE C37.2 STANDARD DEVICE NUMBERS LIST THIS SHEET
	FUSED DISCONNECT SWITCH WITH CURRENT LIMITING FUSES
	VARIABLE FREQUENCY DRIVE
	SOLID STATE STARTER (SOFT STARTER)
	SURGE PROTECTION DEVICE
	POWER QUALITY MONITOR
	SOLID STATE TRIP
	MOTOR PROTECTION RELAY
	NON-FUSED DISCONNECT SWITCH, 30A/3P UON
	FUSED DISCONNECT SWITCH, 30A/3P UON
	VALVE MOTOR AND ACTUATOR
	MOTOR OVERLOAD HEATER
	MAGNETIC MOTOR STARTER FVNR1 = FULL VOLTAGE NON-REVERSING, NEMA SIZE 1 RV2S2W = REDUCED VOLTAGE 2-SPEED, 2-WINDING
	PROTECTION RELAY SEE ANSI/IEEE C37.2 STANDARD DEVICE NUMBERS LIST
	METER, ELECTRIC UTILITY GRADE UON
	ELECTRIC VEHICLE CHARGER

ELECTRICAL ABBREVIATIONS

(D)	DEMOLISH
(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATE
A	AMPERES, ANALOG SIGNAL
AC	ALTERNATING CURRENT
AF	AMPERES FRAME
AFB	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AT	AMPERES TRIP
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BFG	BELOW FINISHED GRADE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CORRELATED COLOR TEMPERATURE
CO	CONDUIT ONLY
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DSB	DISTRIBUTION SWITCHBOARD
EF	EXHAUST FAN
ELEV	ELEVATION
ETM	ELAPSED TIME METER
FCB	FEDER CIRCUIT BREAKER
FIT	FLOW INDICATING TRANSMITTER
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FPP	FIBER OPTIC PATCH PANEL
FPR	FEDER PROTECTION RELAY
FVNR	FULL VOLTAGE NON-REVERSING STARTER
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
H	HALOGEN
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND / OFF / AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SWITCH
INCAND	INCANDESCENT
JB, JBOX	JUNCTION BOX
KAIC	KILOAMPERES INTERRUPTING CAPACITY
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR
LED	LIGHT EMITTING DIODE
LCP	LOCAL CONTROL PANEL
LIT	LEVEL INDICATING TRANSMITTER
LOS	LOCKOUT STOP SWITCH
LSLL	LEVEL SWITCH LOW-LOW
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
MH	METAL HALIDE, MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MPR	MOTOR PROTECTION RELAY
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
P	POLE
PB	PUSHBUTTON, PULLBOX
PCS	PVC COATED STEEL
PE	PHOTOELECTRIC
PFR	PHASE FAILURE RELAY
PH	PHASE
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PQM	POWER QUALITY MONITOR
PSH	PRESSURE SWITCH HIGH
PT	POTENTIAL TRANSFORMER
REC, RECEPT	RECEPTACLE
RIO	REMOTE I/O
RGS	RIGID GALVANIZED STEEL
SCCR	SHORT CIRCUIT CURRENT RATING
SCE	SOUTHERN CALIFORNIA EDISON
SPD	SURGE PROTECTION DEVICE
SSS	SOLID STATE STARTER (SOFT STARTER)
SWBD	SWITCHBOARD
TEMP	TEMPERATURE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WATT, WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL ELECTRICAL NOTES

- REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER DETAIL AS TO SCOPE, MATERIALS, AND EXECUTION OF ELECTRICAL WORK.
- ALL MEDIUM VOLTAGE WIRING DESIGN IS BASED ON 90 DEGREE C CONDITIONS FOR COPPER CONDUCTORS. ALL LOW VOLTAGE WIRING DESIGN IS BASED ON 75 DEGREE C CONDITIONS FOR COPPER CONDUCTORS OF TYPE THHN/THWN UNLESS OTHERWISE STATED.
- ELECTRICAL CONTRACTOR TO SIZE ALL WIRING NOT EXPLICITLY SHOWN ON DRAWINGS ACCORDING TO THE REQUIREMENTS OF NATIONAL ELECTRICAL CODE (NEC) FOR THE SPECIFIC APPLICATION AND CONDITIONS.
- ALL CONDUCTORS SHALL BE COPPER (MINIMUM SIZE #12 AWG UNLESS SPECIFICALLY NOTED OTHERWISE).
- CONTRACTOR SHALL SUBMIT SEISMIC ANCHORAGE CALCULATIONS IN CONFORMANCE WITH CODE REQUIREMENTS AND PROVIDE SEISMIC ANCHORAGE MEANS FOR EQUIPMENT IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
- THE ELECTRICAL CONTRACTOR SHALL CONFORM WITH ALL LOCAL CODES AND ORDINANCES, THE STATE OF CALIFORNIA ELECTRICAL SAFETY ORDERS, THE NATIONAL ELECTRICAL CODE AND ANY ADDITIONAL JURISDICTIONS RELATING TO THE WORK.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRE, SERVICES, SWITCHBOARDS, AND VFD'S REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM.
- IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR SPECIFICATIONS, OR WITH CODE REQUIREMENTS, THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR HIGHER STANDARD SHALL PREVAIL.
- ALL ELECTRICAL EQUIPMENT EXPOSED TO THE CLIMATE SHALL BE WEATHERPROOF.
- ALL ELECTRICAL EQUIPMENT IN THIS PROJECT SHALL BE U.L. LISTED.
- ALL UNDERGROUND CONDUIT SHALL BE INSTALLED AT 24" BELOW FINISHED GRADE MINIMUM OTHERWISE NOTED.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UNDERGROUND FACILITIES AND PROTECTING THESE FACILITIES FROM DAMAGE.
- THE ELECTRICAL CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY FIELD CONDITIONS AND PER N.E.C.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UNDERGROUND FACILITIES.
- CONTRACTOR SHALL PROVIDE ALL NEEDED CHANNELS, ANGLES, AND ANY OTHER MATERIALS REQUIRED TO SUPPORT LUMINAIRES, CONDUIT, AND ELECTRICAL EQUIPMENT IN THE LOCATIONS SHOWN ON THE DRAWINGS.
- CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBERS OR USE ANY ATTACHMENTS THAT WOULD IMPAIR THEIR STRENGTH.
- CONTRACTOR SHALL DESIGN SUPPORTS IN BETWEEN THE STRUCTURAL SUPPORT MEMBERS AND SUBMIT THE DESIGN AS A SHOP DRAWING SUBMITTAL.
- INSTRUMENTATION IS SHOWN IN THE GENERAL VICINITY OF THE INTENDED LOCATION AND MAY NOT NECESSARILY MATCH LOCATIONS ON THE PLANS. VERIFY ACTUAL LOCATIONS OF INSTRUMENTS AND RUN ASSOCIATED CONDUITS AS REQUIRED.

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ELECTRICAL SYMBOLS AND ABBREVIATIONS
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

E-1

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

- PUMP SOFT STARTER
- ELECTRICAL ROOM
- SWITCHBOARD "SWBD"
- CHEMICAL STORAGE ROOM
- MAIN SWITCHBOARD "MSB"
- SCE PAD MOUNTED TRANSFORMER

[illegible]

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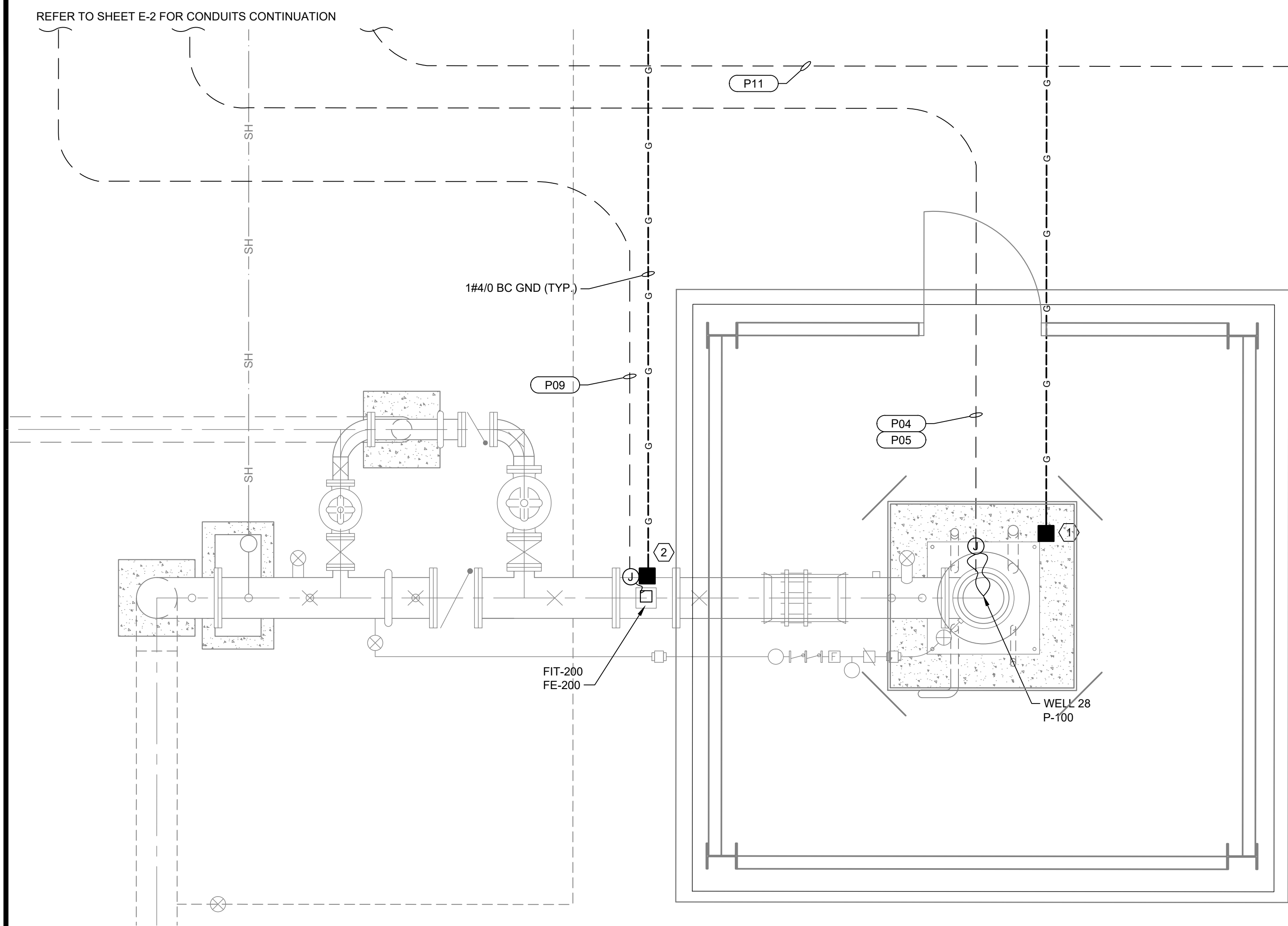
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OVERALL SITE PLAN
225 W MAPLE AVE, ORANGE CA 92866

SCALE:	HORIZ. AS NOTED VERT. AS NOTED	E-2	SHEET	OF	SHEETS
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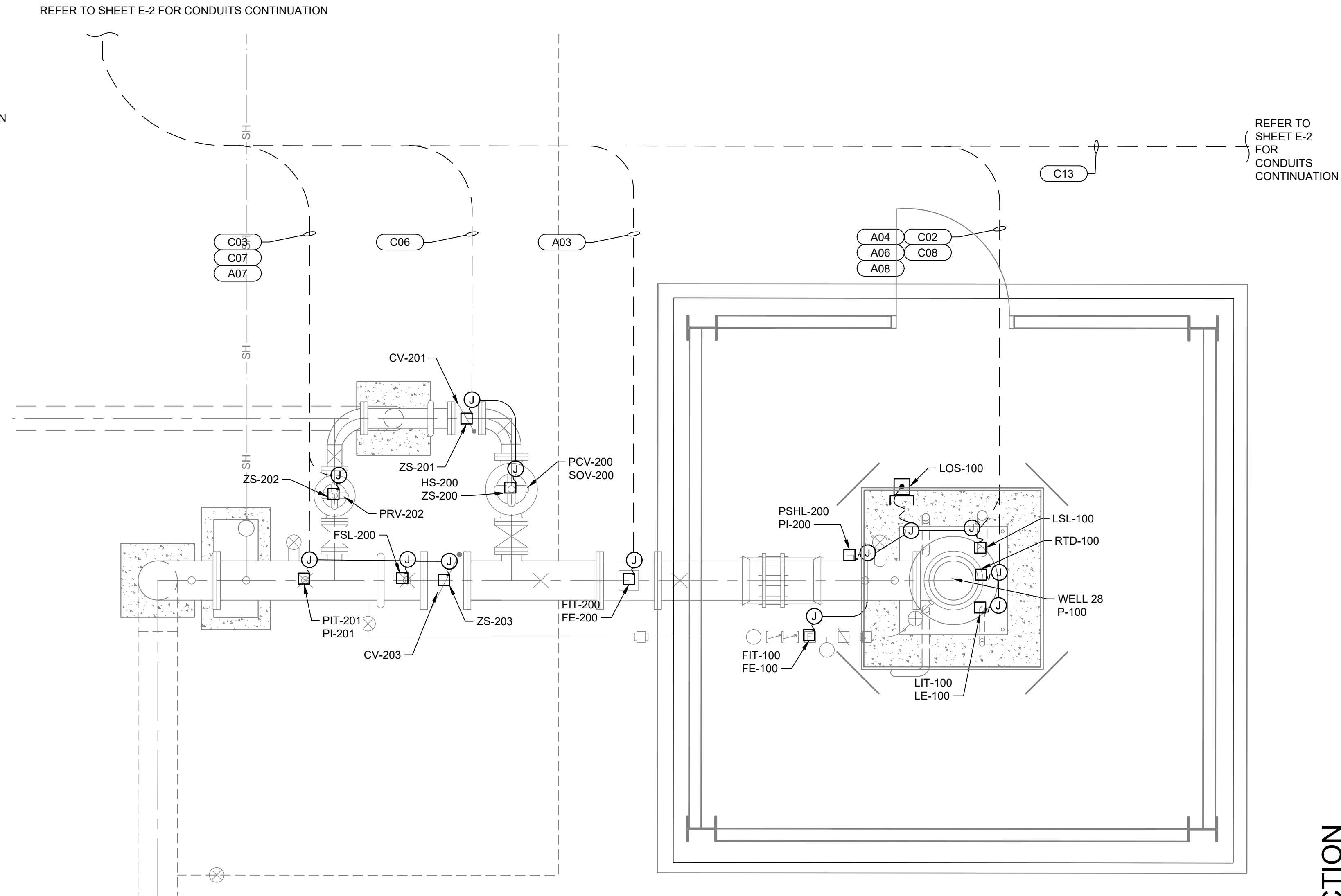
12/14/2020 9:17:17 AM - O:\PROJECTS\IRVINE\09394\200-09394-1900\1\CAD\SHEETFILES\E-3_WELL POWER AND C PLAN DWG - CABANERO, ERIN



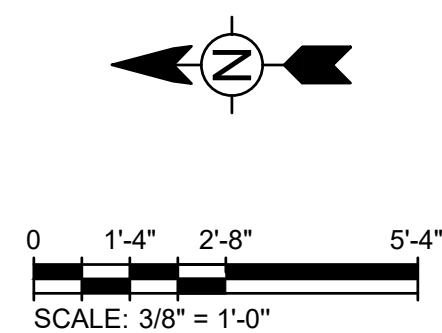
1 WELL 28 POWER PLAN
SCALE: 3/8"=1'-0"

CONSTRUCTION NOTES

- ① ROUTE #4/0 BC GND CONDUCTOR TO MOTOR FRAME.
- ② ROUTE #4/0 BC GND CONDUCTOR TO FLOW METER. CONNECT PER MANUFACTURER'S RECOMMENDATION.



2 WELL 28 INSTRUMENTATION AND CONTROL PLAN
SCALE: 3/8"=1'-0"



REVISIONS		DESCRIPTION
No.	DATE	



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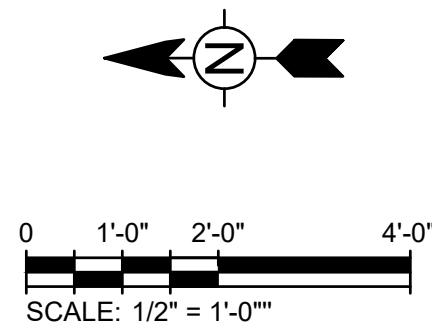
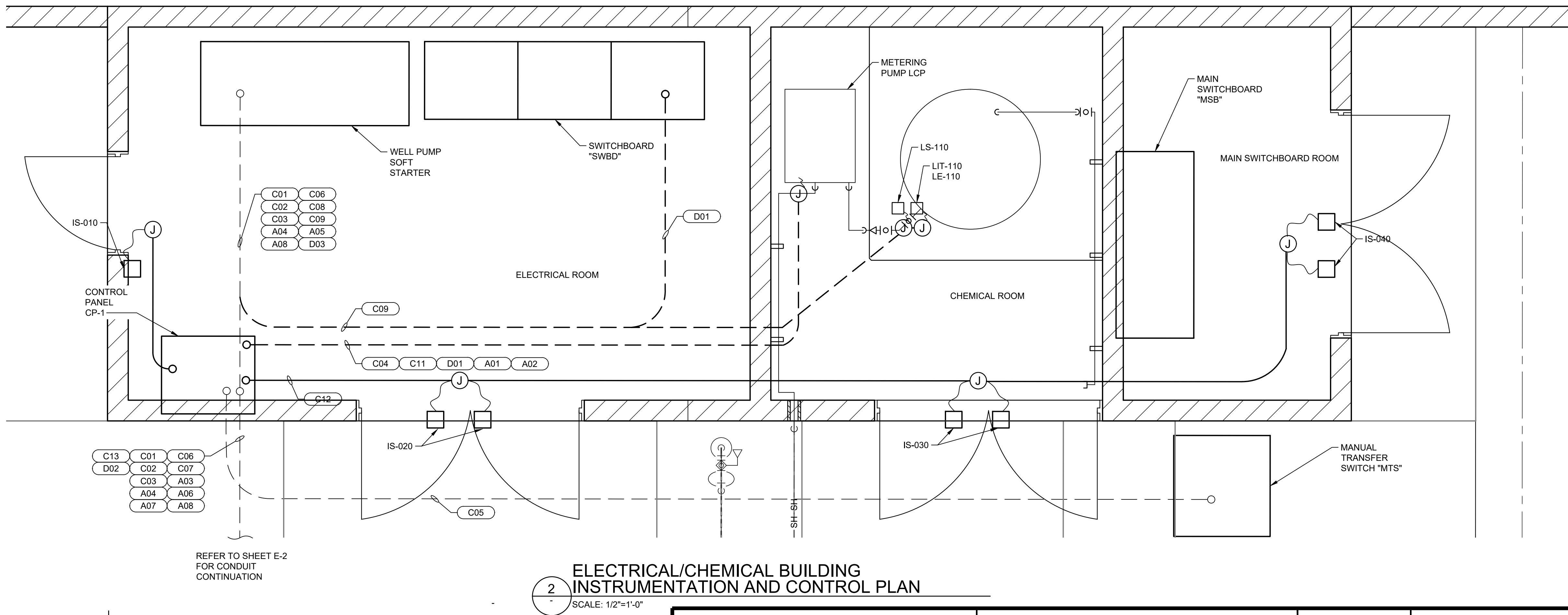
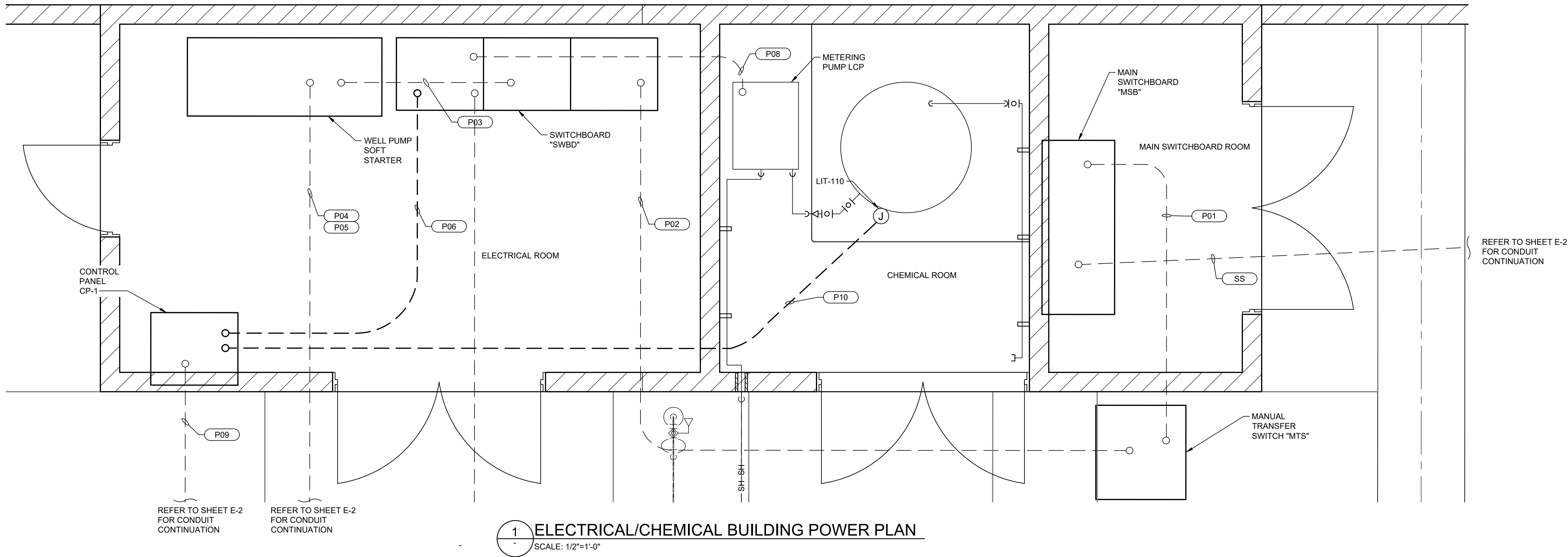
WELL ELECTRICAL PLAN
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

E-3

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION



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ELECTRICAL CHEMICAL BUILDING
ELECTRICAL PLAN
225 W MAPLE AVE, ORANGE CA 92866

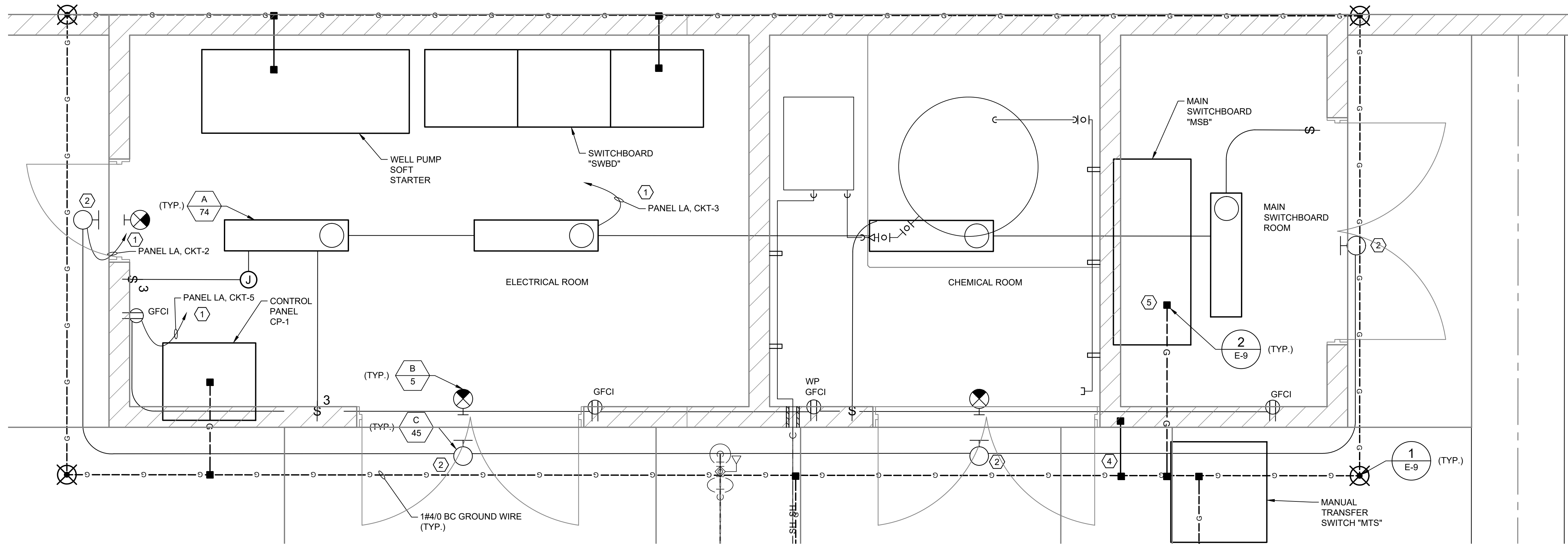
SCALE: HORIZ. AS NOTED
VERT. AS NOTED

E-4

SHEET OF SHEETS

60% SUBMITTAL - NOT FOR CONSTRUCTION

12/14/2020 9:18:31 AM - O:\PROJECTS\IRVINE\09394\200-09394-19001\CAD\SHEETFILES\E-5_ELECTRICAL CHEMICAL BLDG LTG PLN.DWG - CABANERO, ERIN



CONSTRUCTION NOTES

- 1 3/4"C-2#12+1#12G
- 2 CENTER OF FIXTURE SHALL BE IN ALIGNMENT WITH CENTER OF BENEATH DOOR. ALL WALL FIXTURE SHALL BE MOUNTED ON THE SAME ELEVATION.
- 3 EXHAUST FAN AND DISCONNECT/COMBINATION STARTER TO BE ROOF MOUNTED. COMBINATION STARTER SHALL BE PROVIDED WITH NEMA 3R WEATHERPROOF ENCLOSURE.
- 4 ROUTE #4/0 BC GND CONDUCTOR TO BUILDING STRUCTURAL STEEL REBAR.
- 5 ROUTE #4/0 BC GND CONDUCTOR TO EQUIPMENT GROUND BUS.

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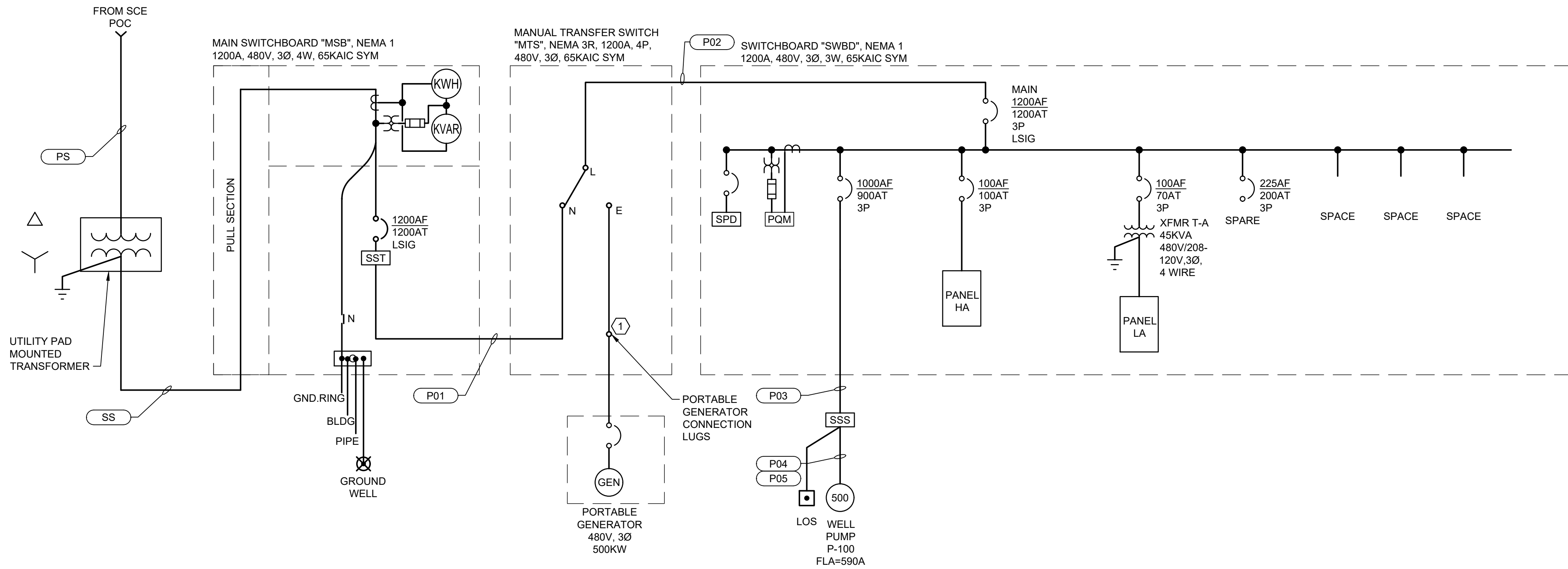
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ELECTRICAL CHEMICAL BUILDING
LIGHTING AND GROUNDING PLAN
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

E-5

SHEET OF SHEETS

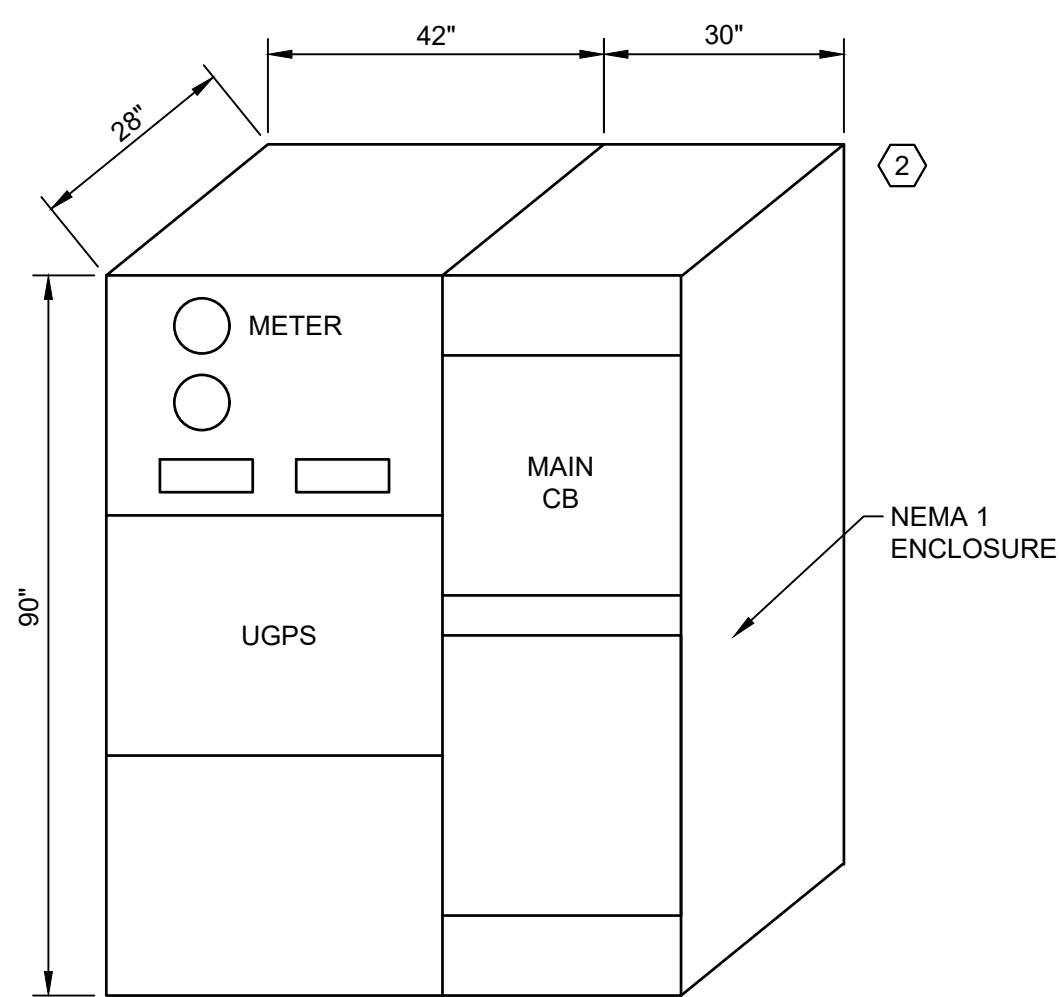


1 SINGLE LINE DIAGRAM
NTS

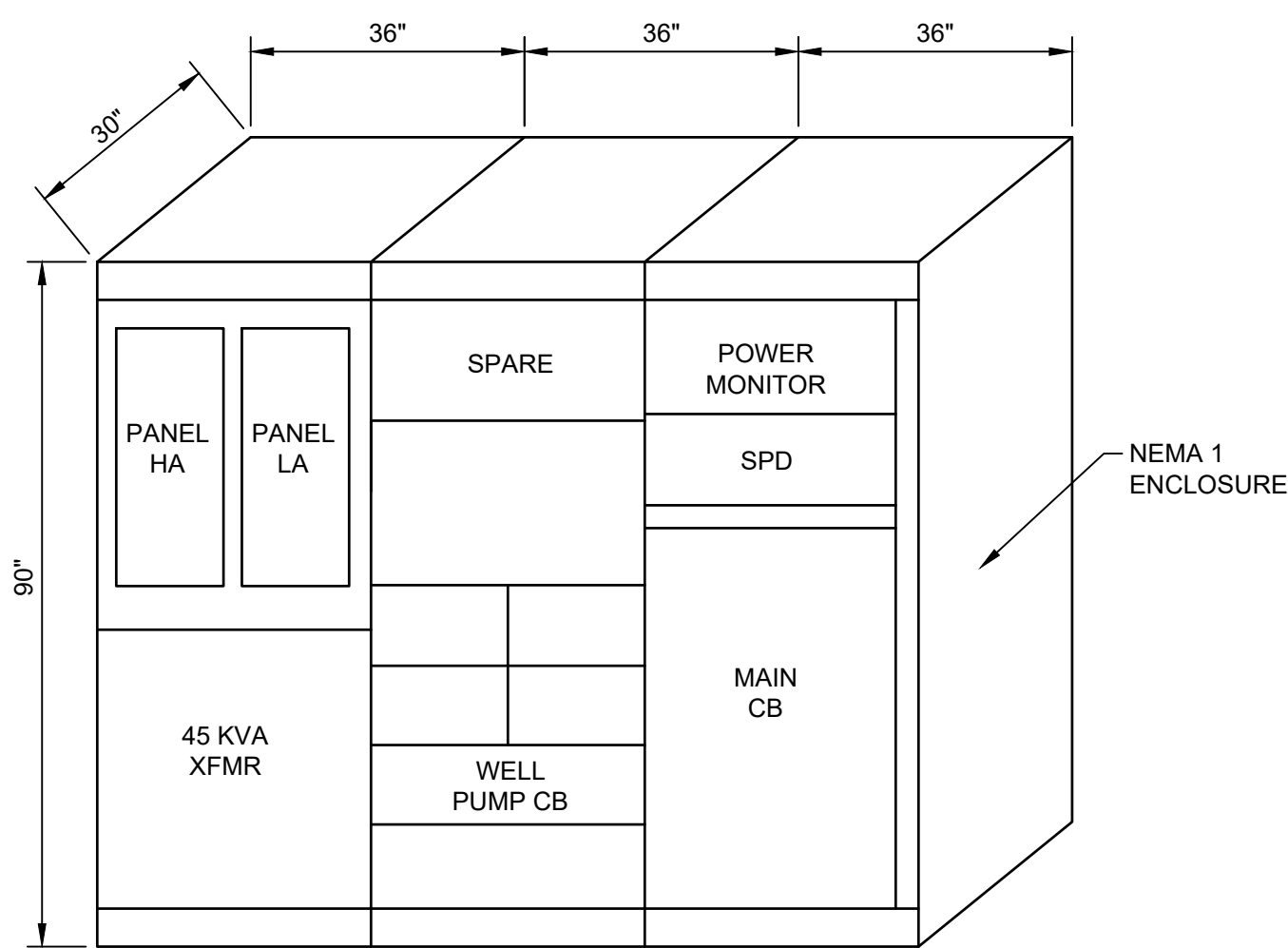
(N) SWBD LOAD SCHEDULE				
ITEM NO.	LOAD DESCRIPTION	KVA	HP	AMP
1	WELL PUMP		500	590
2	PANEL HA			40.0
3	45KVA XFMR T-A			30
4	25% LARGEST MOTOR			148
	TOTAL LOAD			808

NOTES

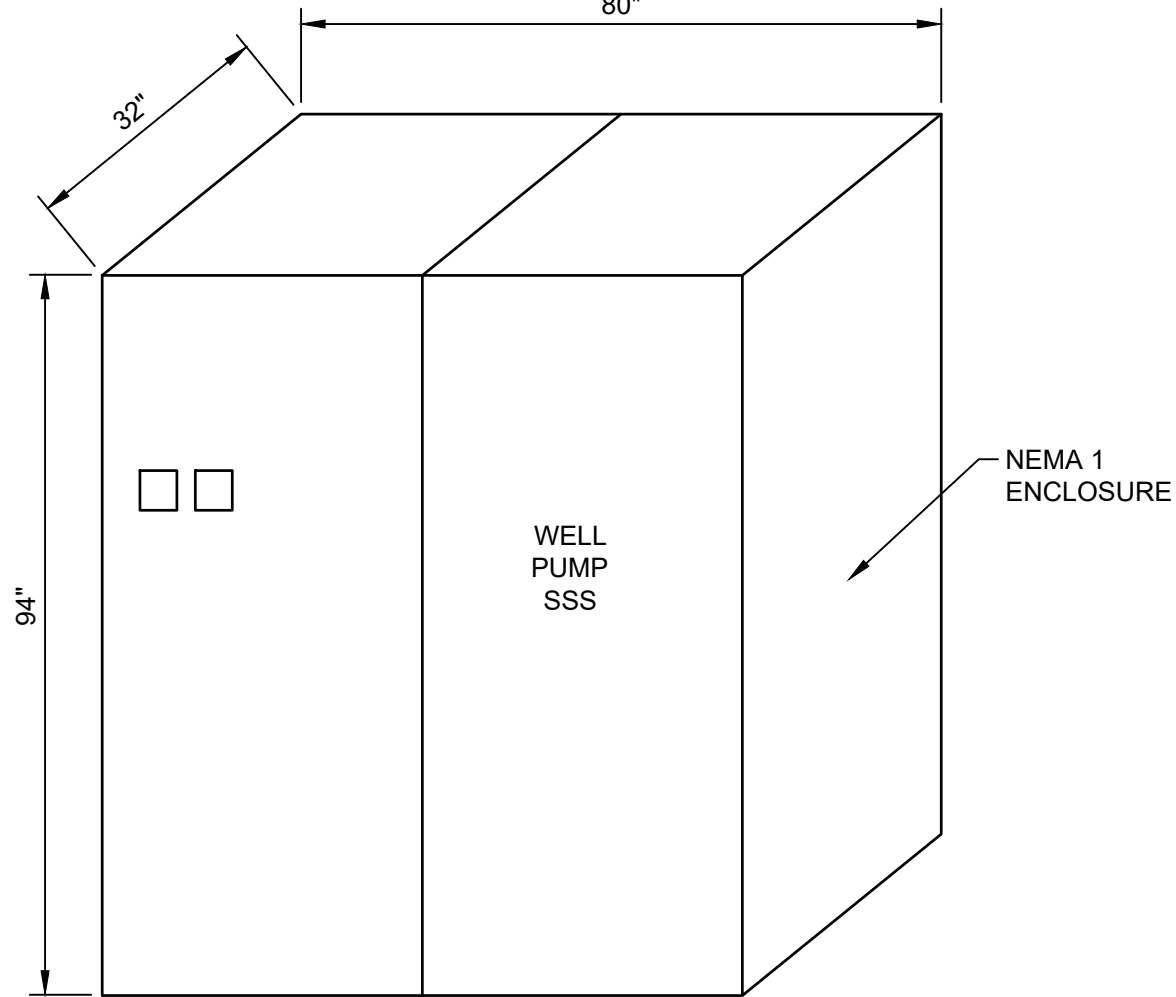
- MANUAL TRANSFER SWITCH SHALL HAVE PORTABLE GENERATOR CONNECTION PORT.
- ACTUAL SIZE OF DIMENSION MAY CHANGE DEPENDING ON MANUFACTURER BEING SELECTED.
- REFER TO STRUCTURAL SHEET FOR CONCRETE PAD/FOUNDATION DETAIL.
- CLEARANCE IN FRONT OF MTS SHALL PER MANUFACTURER'S RECOMMENDATION.



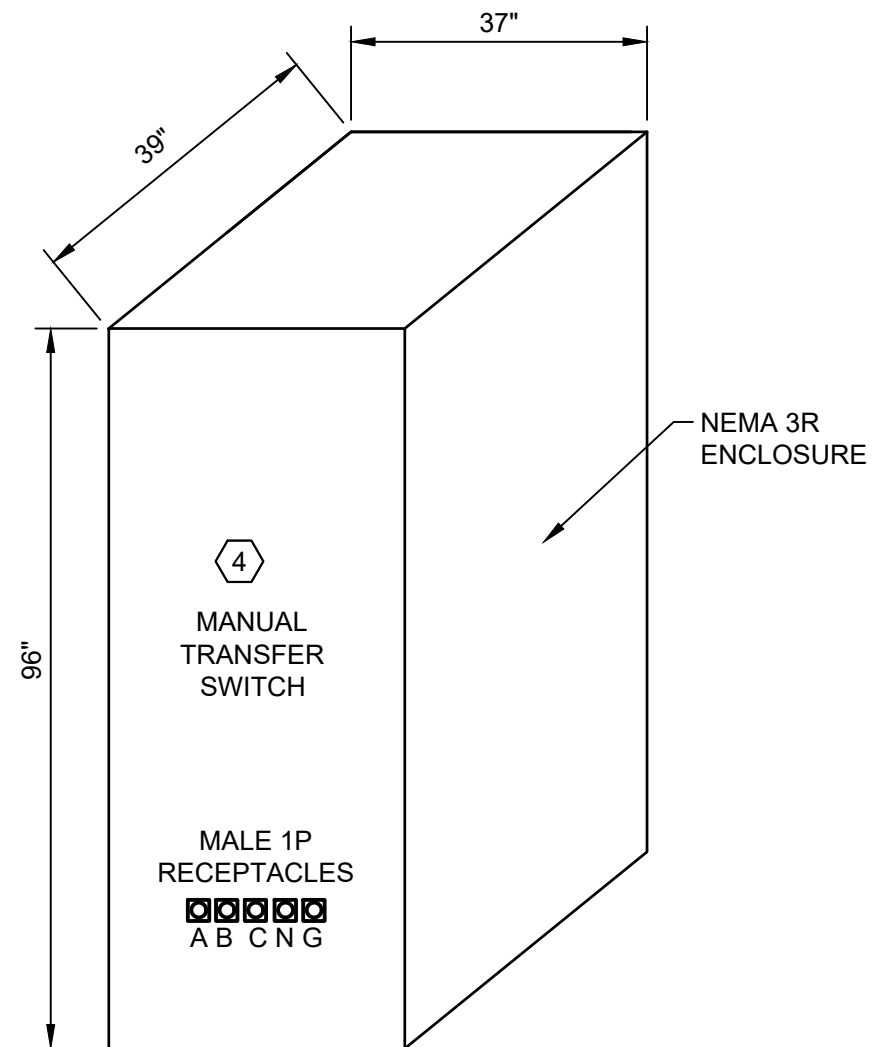
2 MAIN SWITCHBOARD 'MSB' ELEVATION
NTS



3 SWITCHBOARD 'SWBD' ELEVATION
NTS



4 SOFT STARTER ELEVATION
NTS



5 MANUAL TRANSFER SWITCH ELEVATION
NTS

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SINGLE LINE DIAGRAM
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED
E-6
SHEET OF SHEETS

12/14/2020 9:19:13 AM - O:\PROJECTS\IRVINE\09394200-09394-19001\CAD\SHEETFILES\E-7_CONDUIT_SCHEDULE.DWG - CABANERO, ERIN

POWER CONDUIT SCHEDULE							
REF.	CONDUIT		CONDUCTORS		FROM	TO	REMARKS
	QTY	SIZE	QTY & SIZE	GND			
PS	1	5"	CONDUIT ONLY		SCE POC	SCE TRANSFORMER	PER SCE REQUIREMENTS. CABLE BY SCE
SS	4	4"	CONDUIT ONLY		SCE TRANSFORMER	MAIN SWITCHBOARD "MSB"	PER SCE REQUIREMENTS. CABLE BY SCE
P01	4	3"	4#350KCMIL	1#3/0	MAIN SWITCHBOARD "MSB"	MANUAL TRANSFER SWITCH "MTS"	
P02	4	3"	3#350KCMIL	1#3/0	MANUAL TRANSFER SWITCH "MTS"	SWITCHBOARD "SWBD"	
P03	3	3"	3#400KCMIL	1#2/0	SWITCHBOARD "SWBD"	WELL PUMP SOFT STARTER	
P04	3	3"	3#400KCMIL	1#2/0	WELL PUMP SOFT STARTER	P-100 PUMP MOTOR	
P05	1	1"	2#12	1#12	WELL PUMP SOFT STARTER	P-100 MOTOR SPACE HEATER	
P06	1	1"	6#12	3#12	PANEL "LA"	CP-1	GENERAL LOAD, UPS, INSTRUMENTS
P07	1	1"	2#12	1#12	PANEL "LA"	EF-1	
P08	1	1"	2#12	1#12	PANEL "LA"	METERING PUMP LCP	
P09	1	1"	2#12	1#12	CP-1	FIT-200	
P10	1	1"	2#12	1#12	CP-1	LIT-110	
P11	1	1"	2#10	1#12	PANEL "LA"	GATE OPERATOR	
P12							
CONTROL CONDUIT SCHEDULE							
C01	1	2"	38#14		WELL PUMP SOFT STARTER	CP-1	26#14, 12#14 SPARE
C02	1	1"	12#14		WELL PUMP SOFT STARTER	LOS-100, LSL-100	4#14 SPARE
C03	1	1"	4#14		WELL PUMP SOFT STARTER	FSL-200	2#12 SPARE
C04	1	1"	4#14		CP-1	LS-110	2#14 SPARE
C05	1	1"	16#14		CP-1	MTS	8#14, 8#14 SPARE
C06	1	1"	6#14		WELL PUMP SOFT STARTER	HS-200, ZS-200	4#14, 2#14 SPARE
C07	1	1"	12#14		CP-1	ZS-201, ZS-202, ZS-203	6#14, 6#14 SPARE
C08	1	1"	4#14		WELL PUMP SOFT STARTER	PSHL-200	
C09	1	1"	8#14		WELL PUMP SOFT STARTER	METERING PUMP LCP	
C10	1	1"	4#14		METERING PUMP LCP	PSH-110, PSL-110	
C11	1	1"	18#14		CP-1	METERING PUMP LCP	8#14 SPARE
C12	1	1"	12#14		CP-1	INTRUSION SWITCH	4#14 SPARE
C13	1	2"	24#14		CP-1	GATE OPERATOR	CARD READER, KNOX BOX, GATE CONTROL
ANALOG CONDUIT SCHEDULE							
A01	1	1"	1#16 TSP		CP-1	LIT-110	
A02	1	1"	2#16 TSP		CP-1	METERING PUMP LCP	METER PUMP SPEED SETTING & INDICATION
A03	1	1"	1#16 TSP		CP-1	FIT-200	
A04	1	2"	8#16 TST		WELL PUMP SOFT STARTER	P-100 PUMP MOTOR (RTDs)	
A05	1	1"	1#16 TSP		CP-1	WELL PUMP SOFT STARTER	
A06	1	1"	1#16 TSP		CP-1	LIT-100	
A07	1	1"	1#16 TSP		CP-1	PIT-201	
A08	1	1"	1#16 TSP		CP-1	FIT-100	
DATA CONDUIT SCHEDULE							
D01	1	1"	CAT6		CP-1	PQM (IN SWBD)	
D02	1	2"	ANTENNA CABLE		CP-1	ANTENNA	
D03	1	1"	CAT6		CP-1	WELL PUMP SOFT STARTER	


Panel:	LA				3	Phase		Location:										ELECTRICAL ROOM								Main:	100A			
Volts:	208Y/120				4	Wire		Enclosure:										NEMA 1								Bus:	100A			
							Mounting:										SWBD								SCCR:	10,000A				
Description	Volt-Amps			LTG	REC	Misc	Breaker Amp	Pole	Circuit		Circuit	Pole	Breaker Amp	LTG	REC	Misc	Volt-Amps			Description										
	A	B	C														A	B	C											
EXIT LTG	20			3			20	1	1		2	1	20	4			284			EXTERIOR BLDG LIGHTS										
BUILDING INTERIOR LIGHTING		284		4			20	1	3		4	1	20			1		150		METERING PUMP LCP										
BUILDING RECEPT			720	4			20	1	5		6	1	20							SPARE										
CP-1 GENERAL	500						20	1	7		8	1	20			1	700			EF-1										
CP-1 UPS		1,000					20	1	9		10	2	30					1,000		GATE OPERATOR										
CP-1 INSTRUMENT			600				20	1	11	12											1,000									
SPARE							20	1	13		14									SPACE										
SPARE							20	1	15		16									SPACE										
SPARE							20	1	17		18									SPACE										
SPACE							20	1	19		20									SPACE										
SPACE									21		22									SPACE										
SPACE									23		24									SPACE										
SPACE									25		26									SPACE										
SPACE									27		28									SPACE										
SPACE									29		30									SPACE										
VOLT-AMPS SUBTOTAL																		984	1,150	1,000										
								A	B	C																				
							LCL:	250	313	313	Panel Volt-Amps =						7,134													
				Total Volt-Amps:			1,754	2,747	2,633	FLA =						19.8			A @208V											

LIGHTING FIXTURE SCHEDULE														
FIXTURE I.D.	FIXTURE				VOLTS	LAMPS		FIXTURE				DESCRIPTION AND VARIATIONS	MANUFACTURER AND CATALOG NO.	
	INCAND.	FLUOR.	H.P.S.	MET. HAL. LED		NO	WATTS AND TYPE	RECESS SURFACE	PEND.	WALL	POLE			
<div>A</div> <div>79</div>				●	120	1	79	●				STAINLESS STEEL SURFACE MOUNTING. LINEAR HIGH EFFICIENCY LUMINAIRE WITH 5000K COLOR TEMPERATURE. VANDAL RESISTANT LED LINEAR LUMINAIRE.	HOLOPHANE EVT4-4000LM-FST-MD-MVOLT-GZ10-50K OR APPROVED EQUAL.	
<div>B</div> <div>5</div>				●	120	1	5	●				ENGINEERING GRADE THERMOPLASTIC HOUSING, LED MOUNTED ON PRINTED CIRCUIT BOARDS, 90 MINUTES NICKEL CADMUIM BATTERY. UL LISTED FOR WET LOCATION. VANDAL RESISTANT LED LUMINAIRE.	LITHONIA LV-S-W-1-R-120/277 OR EQUAL	
<div>C</div> <div>45</div>				●	120	1	45			●		LED WALL PACK. PRISMATIC GLASS LENS. UL LISTED FOR WET LOCATION. EQUIPPED WITH PHOTOCELL.	LITHONIA TWP- LED-20C-700-50K-T3M-MVOLT-PE OR EQUAL	

REVISIONS

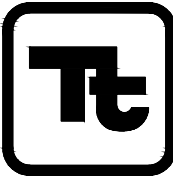
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CONDUIT, PANEL AND LIGHTING SCHEDULE

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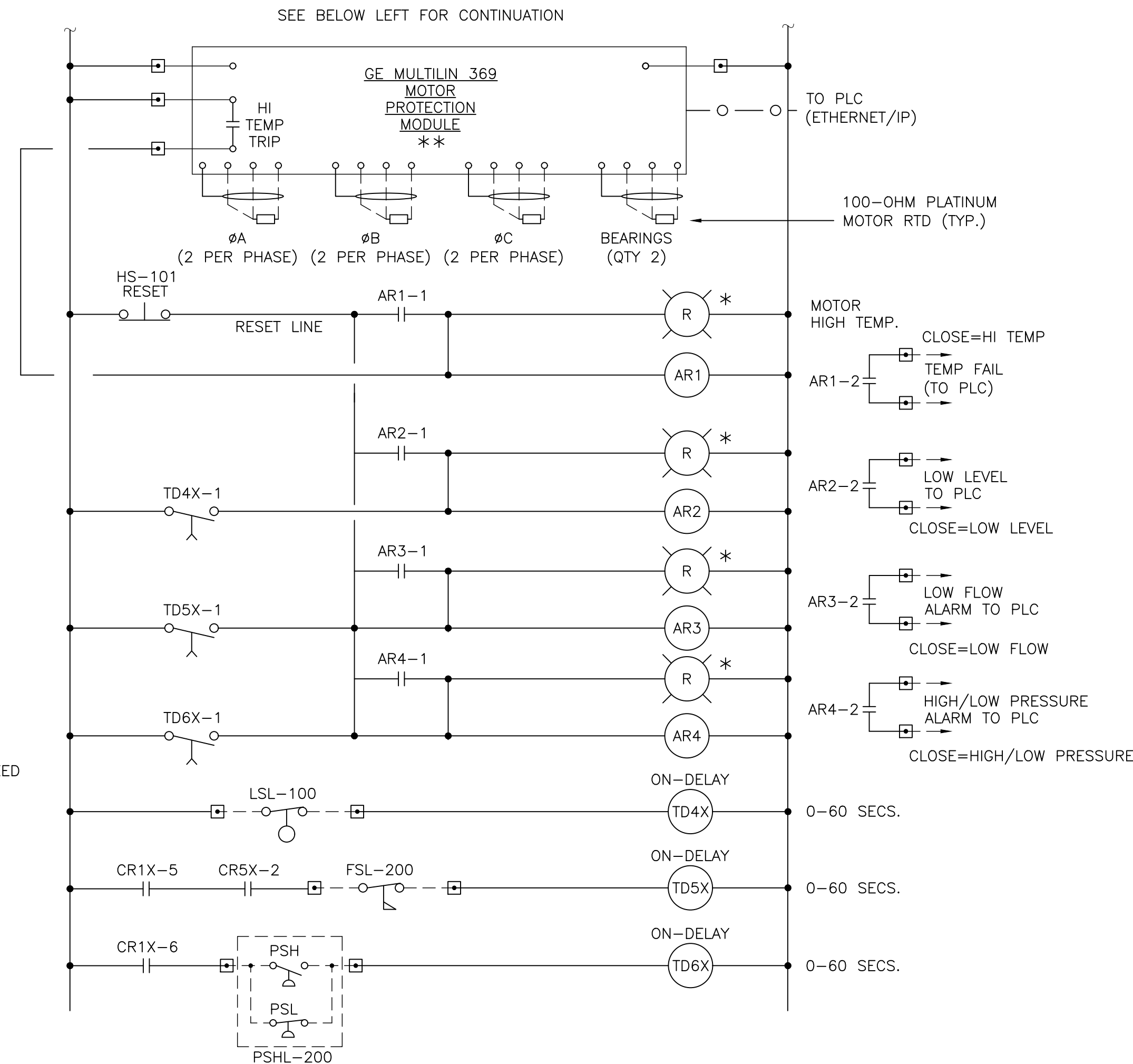
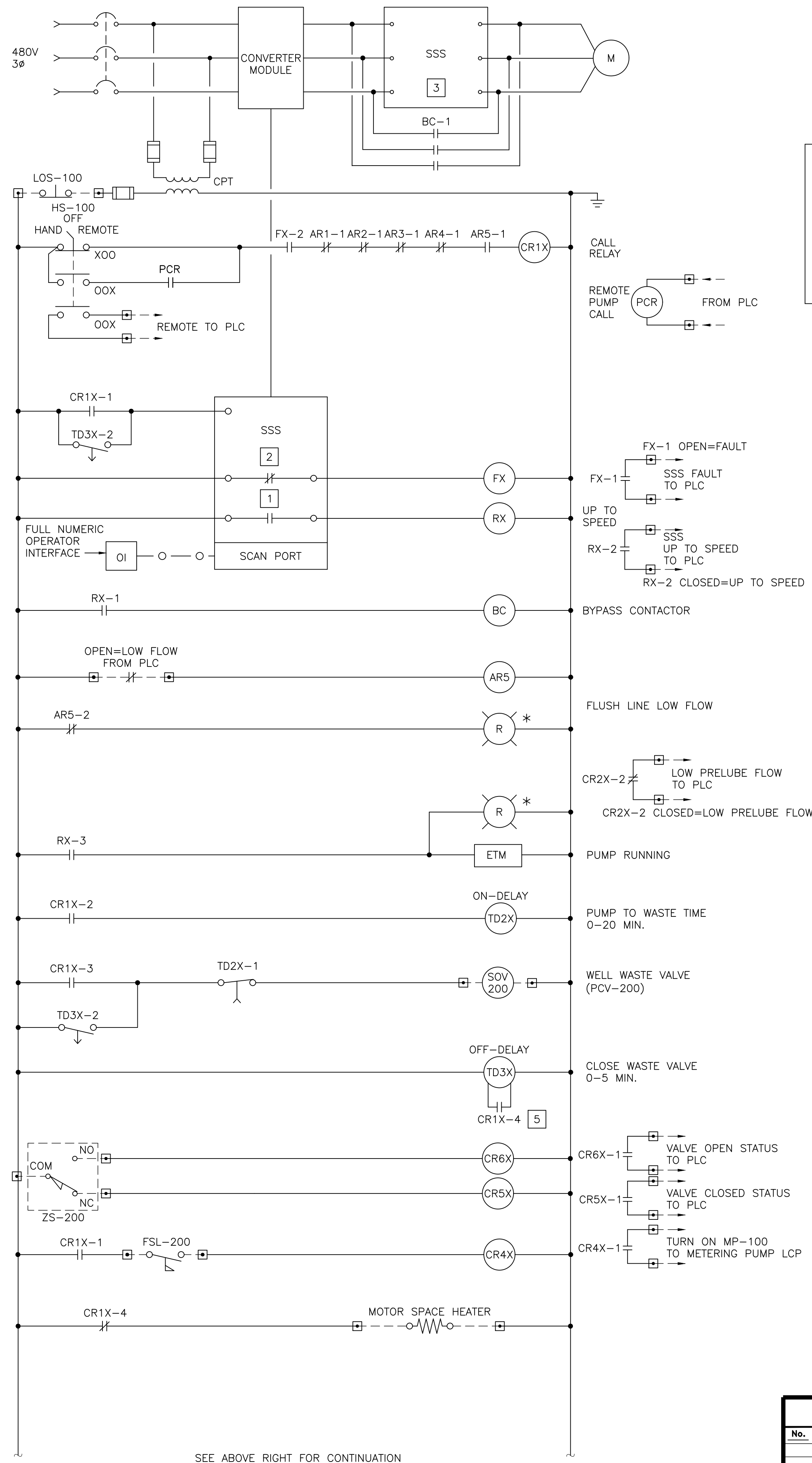
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VERT. AS NOTED

E-7

SHEET OF SHEETS

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12/14/2020 9:15:33 AM - O:\PROJECTS\IRVINE\09394\200-09394-19001\CAD\SCHEMATIC-SSS.DWG - CABANERO, ERIN



WELL PUMP CONTROL SCHEMATIC

N.T.S.

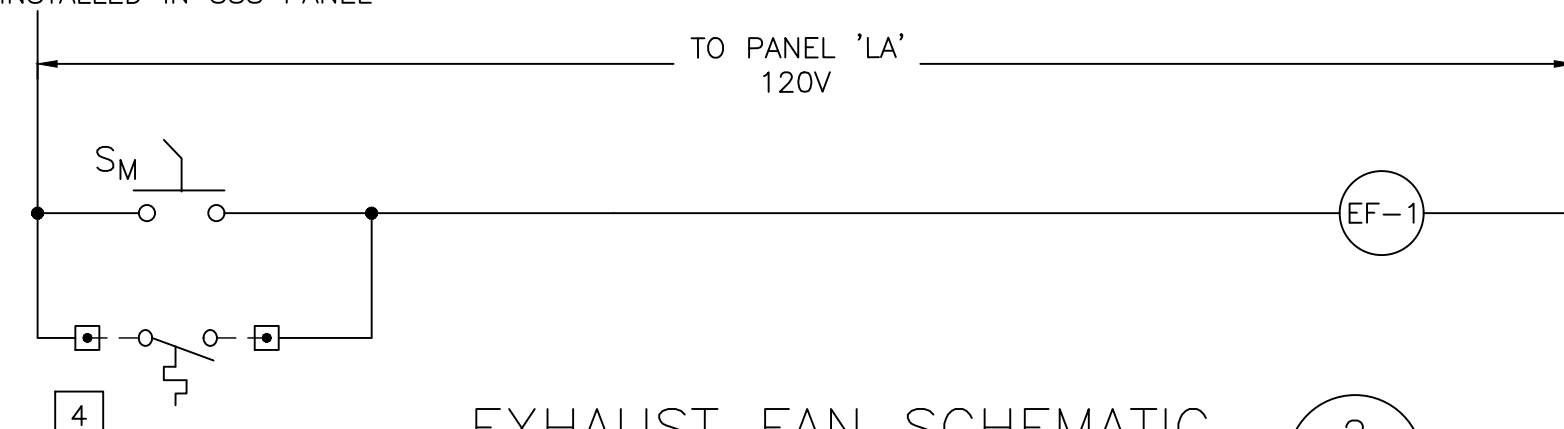
NOTES:

- 1 DEVICE RUNNING
- 2 PROGRAMMABLE CONTACT. SET FOR DEVICE FAULTED=OPEN.
- 3 CURRENT, VOLTAGE AND POWER FACTOR SHALL BE MONITORED BY INTERNAL METERING DEVICE AND DISPLAYED ON OPERATOR INTERFACE.
- 4 WALL MOUNTED THERMOSTAT. HONEYWELL MDL# T6031A1136 OR EQUAL.
- 5 CONTACT PROVIDES TRIGGER SIGNAL FOR OFF-DELAY RELAY.
- 6 SEE DWG EI-1 FOR OPERATIONAL DESCRIPTION.

* PUSH TO TEST

** MOUNTED NEAR/IN MOTOR J-BOX

** INSTALLED IN SSS PANEL



EXHAUST FAN SCHEMATIC

EF-1 LA-8

N.T.S.

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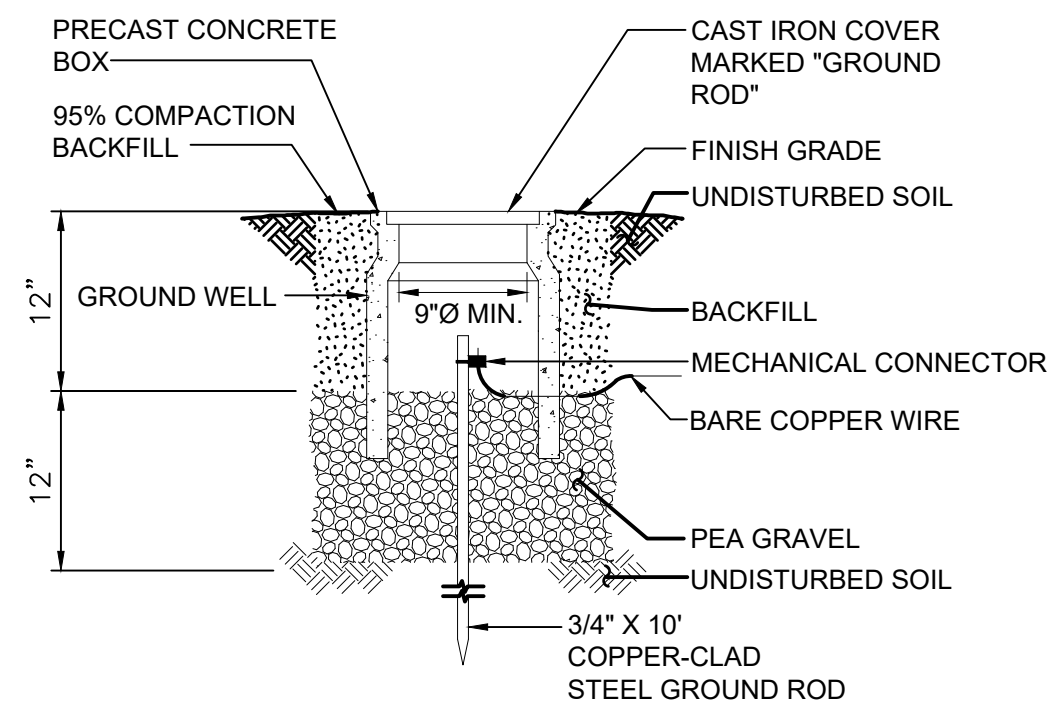
PUMP CONTROL SCHEMATIC - SSS
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

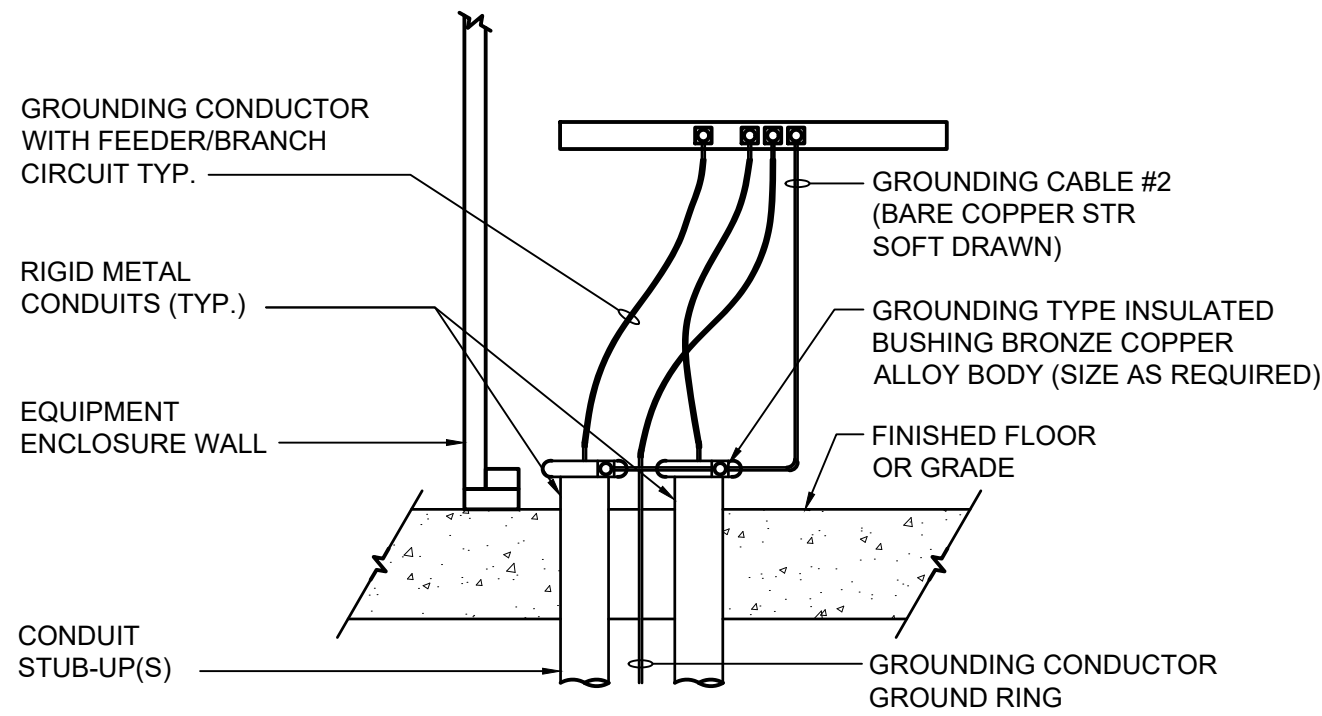
E-8

SHEET OF SHEETS

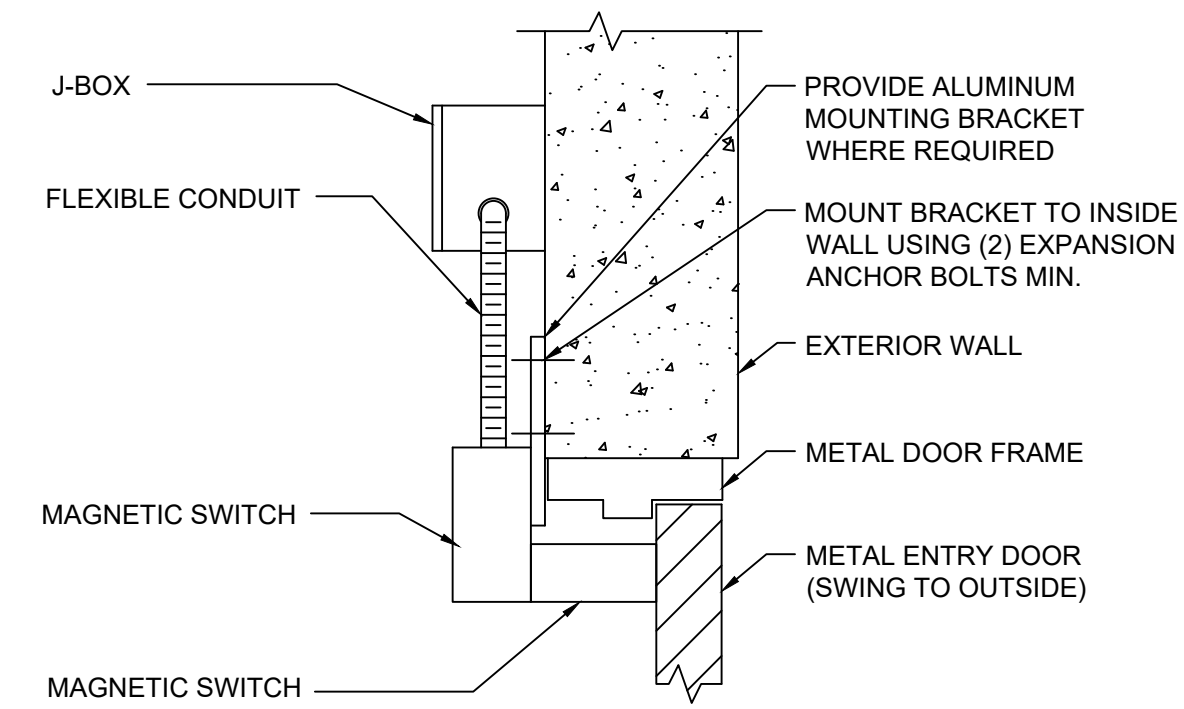
60% SUBMITTAL - NOT FOR CONSTRUCTION



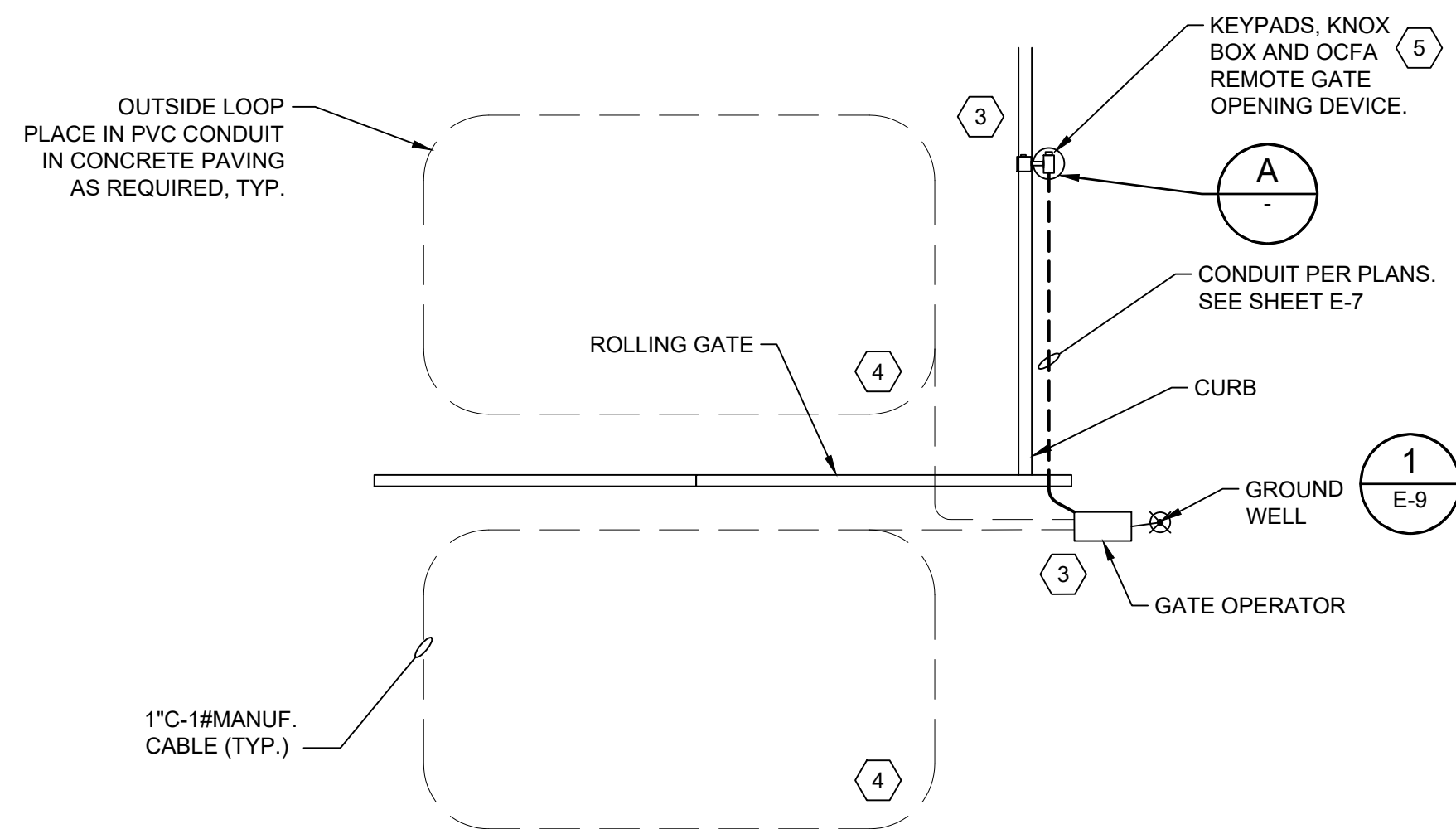
1 GROUND ROD
SCALE: N.T.S.



2 ELECTRICAL EQUIPMENT GROUNDING
SCALE: N.T.S.



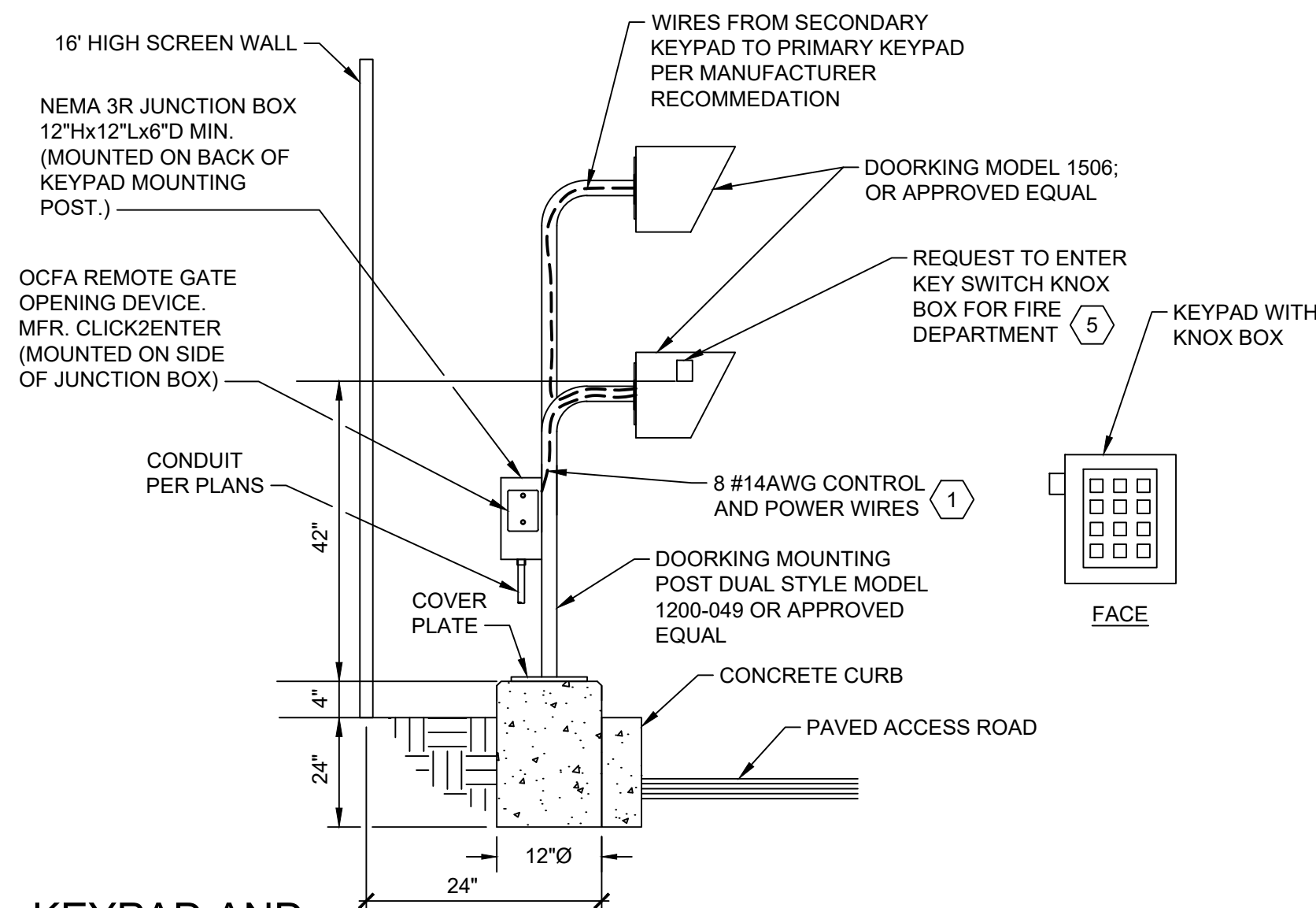
3 DOOR INTRUSION DETAIL
SCALE: N.T.S.



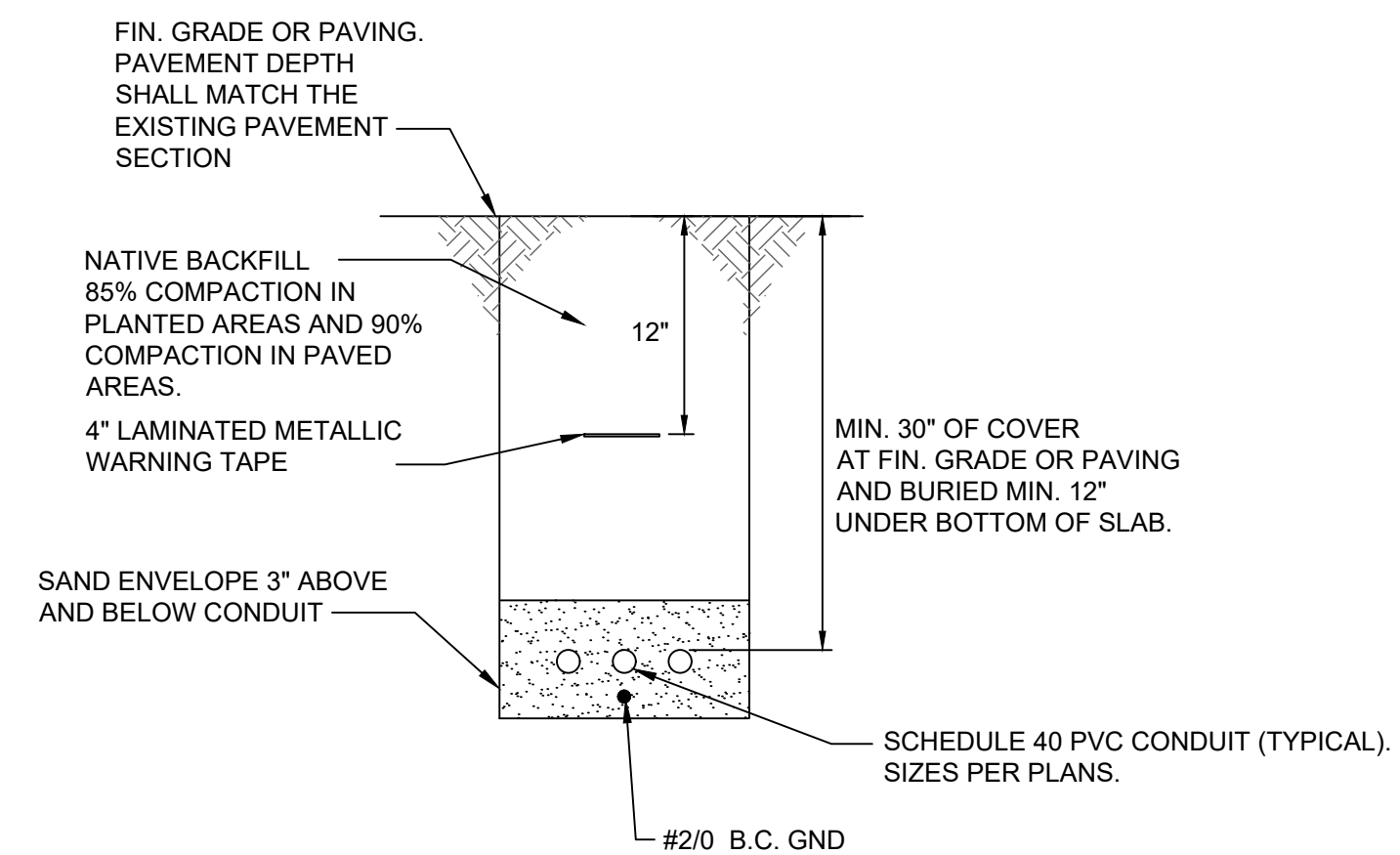
CONSTRUCTION NOTES:

- ALL WIRING AND INSTALLATION SHALL BE COORDINATED WITH MANUFACTURER.
- COORDINATE EXACT LOCATION OF THE GATE OPERATOR AND ALL OTHER DEVICES PER MANUFACTURER RECOMMENDATION AND CITY OF ORANGE REQUIREMENTS.
- SEE DRAWINGS E-101/103 FOR CONDUIT ROUTING AND TERMINATIONS BETWEEN KEYPAD AND GATE OPERATORS.
- VERIFY EXACT LENGTH OF LOOP WIRES.
- ORDER KNOX KEY SWITCH THROUGH THE LOCAL FIRE DEPARTMENT.

4 GATE CONTROLLER DETAIL
SCALE: N.T.S.



A KEYPAD AND OCFA REMOTE GATE OPENING DEVICE MOUNTING
SCALE: N.T.S.



5 TYPICAL TRENCH DETAIL
SCALE: N.T.S.

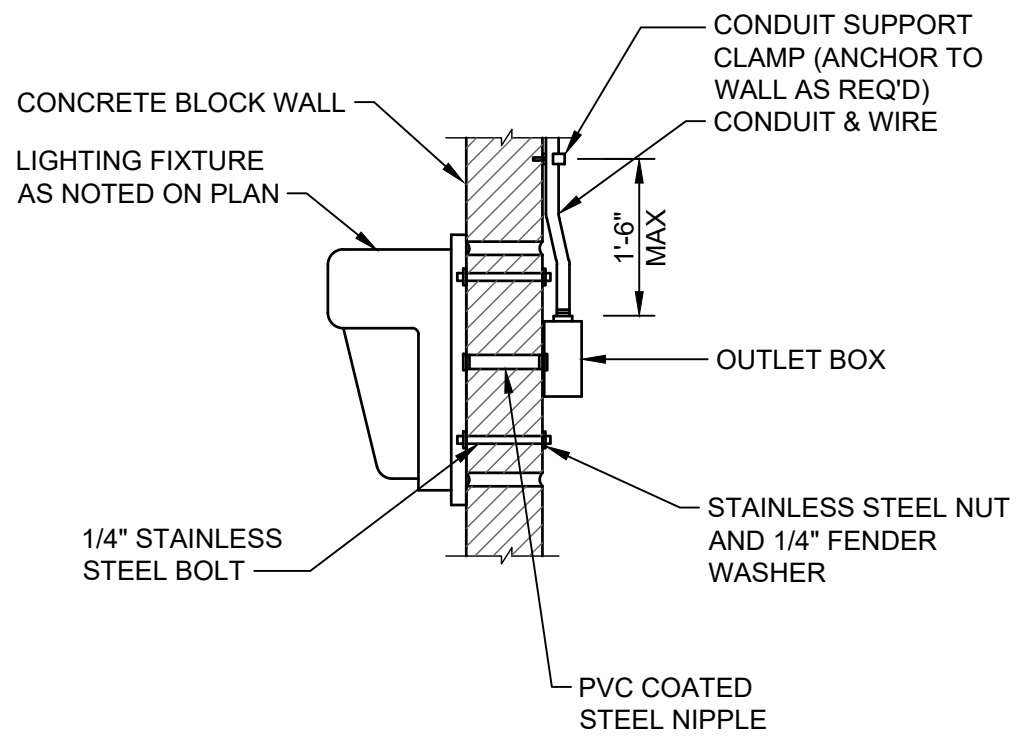
REVISIONS		
No.	DATE	DESCRIPTION



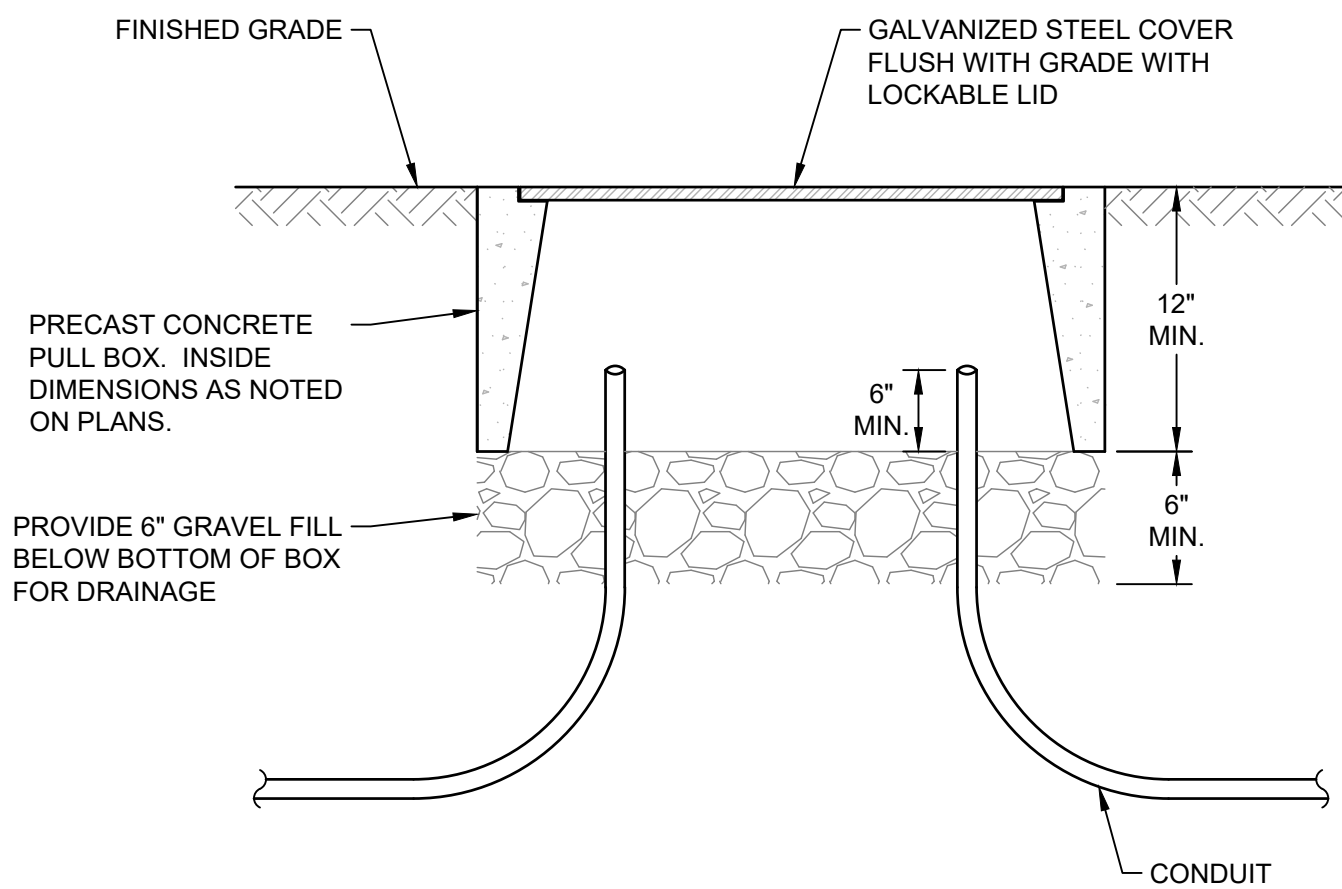
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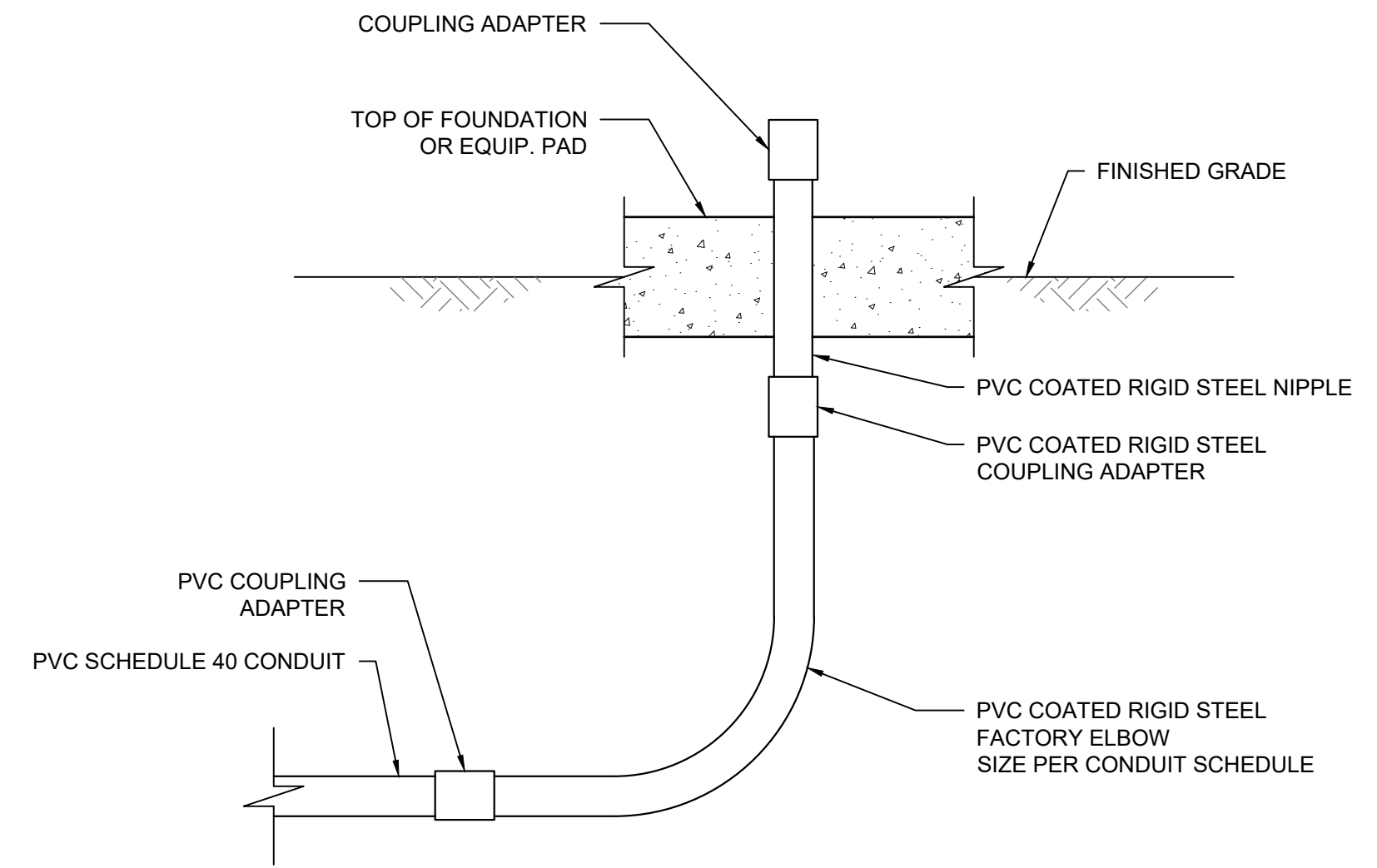
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225 W MAPLE AVE, ORANGE CA 92866
SCALE: HORIZ. AS NOTED VERT. AS NOTED
E-9 SHEET OF SHEETS



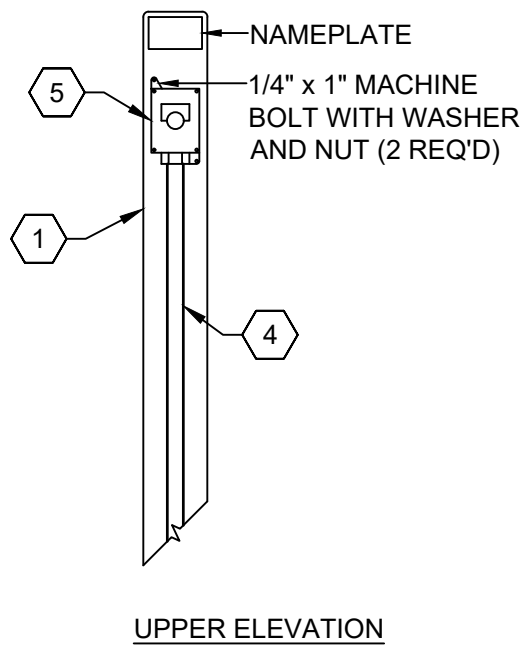
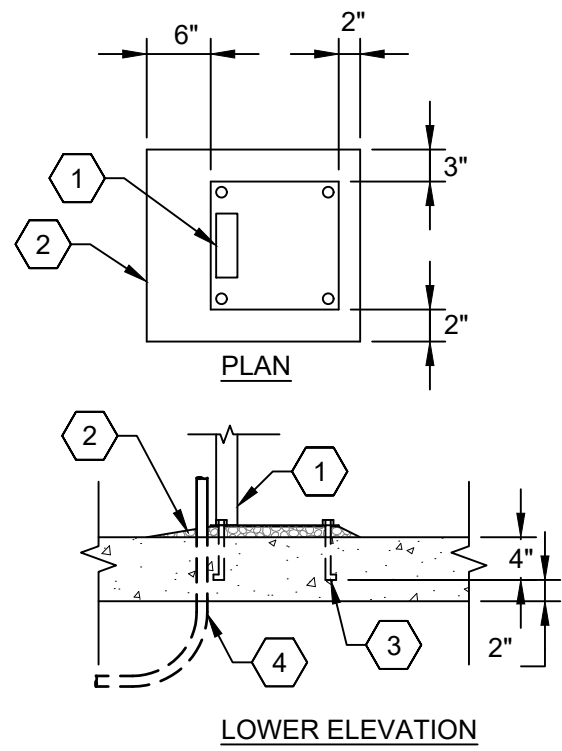
6 LIGHT FIXTURE DETAIL
SCALE: N.T.S.



7 PULL BOX
SCALE: N.T.S.



8 CONDUIT STUB-UP
NTS



9 LOS MOUNTING DETAIL
SCALE: N.T.S.

NOTES

- 1 STANCHION, STAINLESS STEEL CHANNEL, 1 5/8" x 1 5/8".
- 2 1" GROUT. SLOPE AWAY FROM STANCHION BASE PLATE AND CONDUIT.
- 3 1/2"Ø STAINLESS STEEL ANCHOR BOLT AND WASHERS (4 REQUIRED). 4" MINIMUM EMBEDMENT.
- 4 SEE PLAN AND SCHEDULE FOR SIZE AND QUANTITY OF CONDUIT AND CONDUCTORS.
- 5 LOCKOUT-STOP (LOS) SWITCH.

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ELECTRICAL DETAILS-2
225 W MAPLE AVE, ORANGE CA 92866

SCALE: HORIZ. AS NOTED
VERT. AS NOTED

E-10

SHEET OF SHEETS

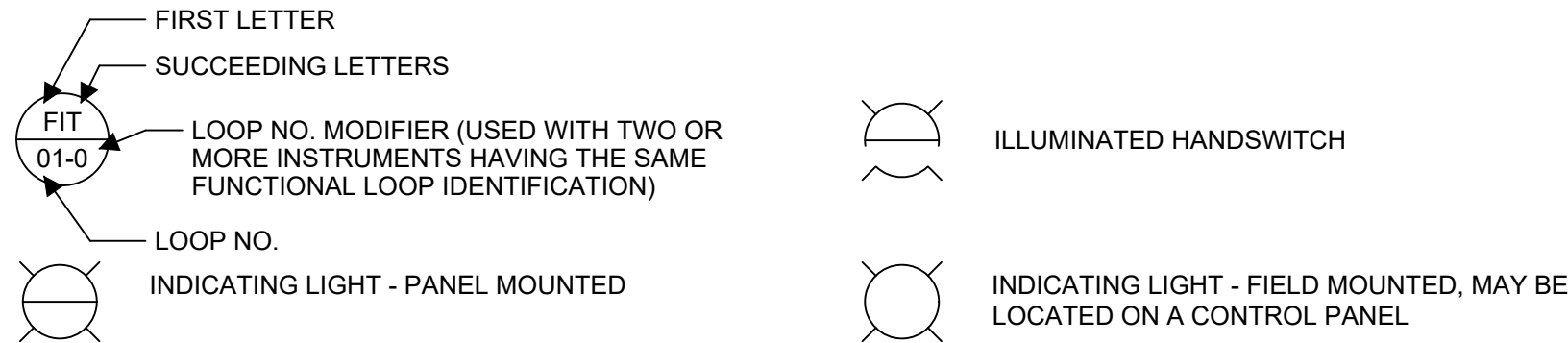
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INSTRUMENTATION, SYSTEMS, & AUTOMATION SOCIETY TABLE

IDENTIFICATION LETTERS

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	CLOSE, CLOSED
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		PLC/RTU INPUT	USER'S CHOICE	NORMAL
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN, OPENED
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED(*)	UNCLASSIFIED(*)	UNCLASSIFIED(*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT IDENTIFICATION

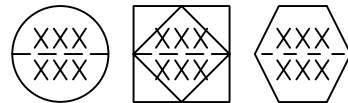


	PRIMARY LOCATION *** NORMALL ACCESSIBLE TO OPERATOR	FIELD MOUNTED
INSTRUMENTS	1	2
SHARED DISPLAY, SHARED CONTROL	3	4
PROGRAMMMABLE LOGIC CONTROL	5	6

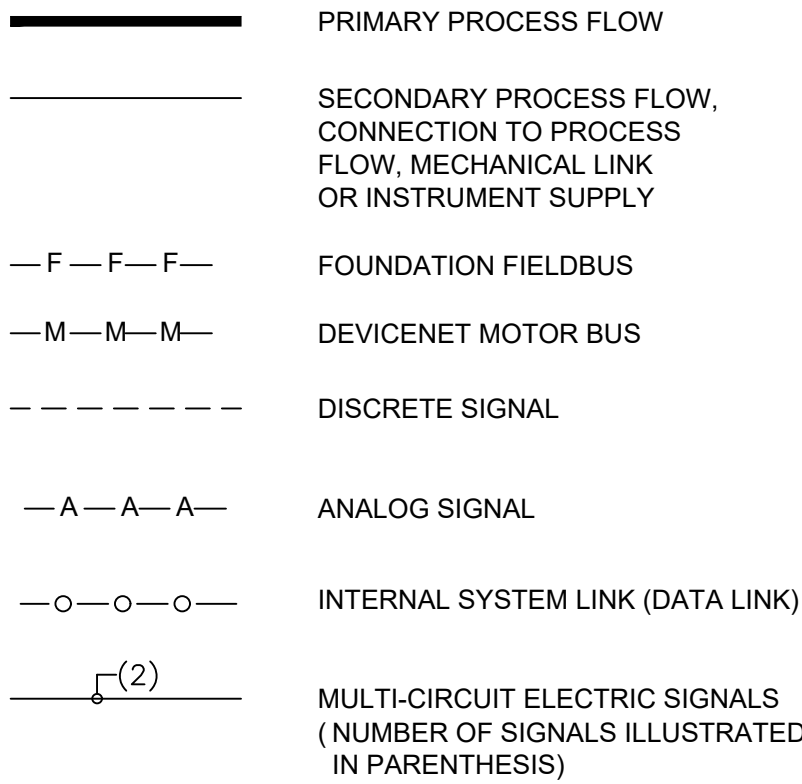
* SYMBOL SIZE MAY VARY ACCORDING TO THE USER'S NEEDS AND THE TYPE OF DOCUMENT. A SUGGESTED SQUARE AND CIRCLE SIZE FOR LARGE DIAGRAMS IS SHOWN ABOVE. CONSISTENCY IS RECOMMENDED.

** ABBREVIATIONS OF THE USER'S CHOICE SUCH AS DN (DATA ENTRY) ETC., MAY BE USED WHEN IT IS NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION LOCATION.

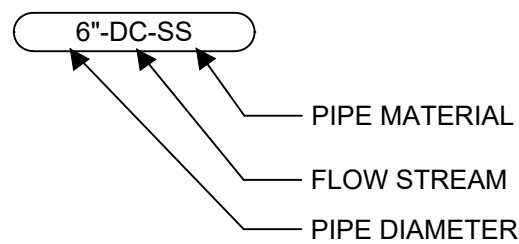
*** NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOL BUT WITH DASHED HORIZONTAL BARS, IE.



INSTRUMENT LINE SYMBOLS



PIPE TAG



PROCESS FLOW

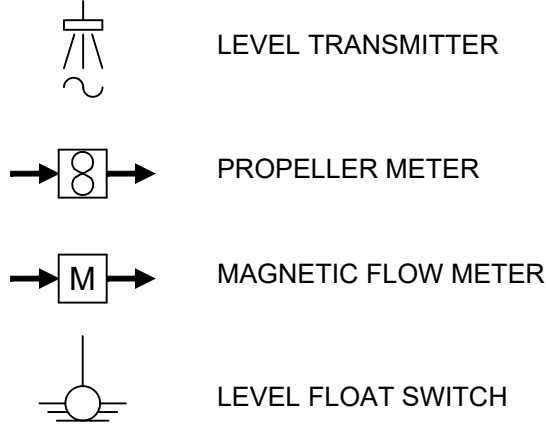
DC DISCHARGE

WBP WASTE BYPASS

ACTUATORS OR OPERATORS

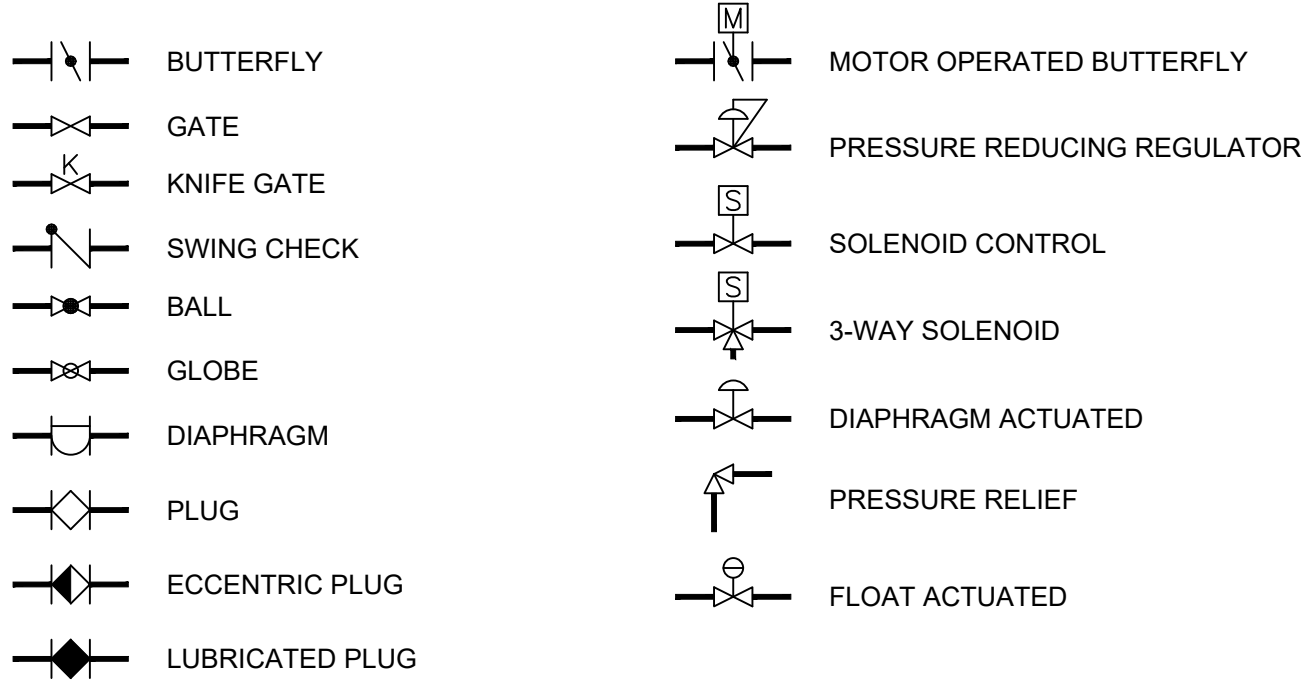


PRIMARY ELEMENTS



EQUIPMENT

VALVES & GATES



INSTRUMENT ABBREVIATIONS

AC	ALTERNATING CURRENT	NIC	NOT IN CONTRACT
AI	ANALOG INPUT	O	OPEN
AL	ALARM	OC	OPEN-CLOSE
AO	ANALOG OUTPUT	OCA	OPEN-CLOSE-AUTO
AMR	AUTO-MANUAL-REMOTE	OIT	OPERATOR INTERFACE TERMINAL
AVG	AVERAGE	OSC	OPEN-STOP-CLOSE
C	CLOSE		
CAT5E	CATEGORY 5E ETHERNET	P&ID	PROCESS & INSTRUMENTATION DIAGRAM
CPU	PROCESS CONTROLLER	PVC	POLYVINYL CHLORIDE, SCHEDULE 80
DC	DIRECT CURRENT		
DI	DISCRETE INPUT	PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
DN	DEVICENET INTERFACE	PRV	PRESSURE RELIEF VALVE
DO	DISCRETE OUTPUT	PS	POWER SUPPLY
E/F	ETHERNET-TO-FIBER CONVERTER	RTU	REMOTE TERMINAL UNIT
ETM	ELAPSED TIME METER		
FF	FOUNDATION FIELDBUS INTERFACE	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
FFH	FOUNDATION FIELDBUS HUB	SCS	SUPERVISORY CONTROL STATION
FFPC	FOUNDATION FIELDBUS POWER CONDITIONER	SP	SET POINT
FPP	FIBER OPTIC PATCH PANEL	SS	STAINLESS STEEL, TYPE 316
FPR	FEEDER PROTECTION RELAY	TEMP	TEMPERATURE
FS	FLOW SWITCH	TOT	TOTALIZATION
HL	HIGH-LOW	TSP	TWISTED SHIELDED PAIR
HOA	HAND-OFF-AUTO	UON	UNLESS OTHERWISE NOTED
I/O	INPUT/OUTPUT	UPS	UNINTERRUPTIBLE POWER SUPPLY
JB	JUNCTION BOX	VFD	VARIABLE FREQUENCY DRIVE
LOS	LOCK-OUT-STOP		
LOR	LOCAL-OFF-REMOTE		
LR	LOCAL-REMOTE		
MCC	MOTOR CONTROL CENTER		

WELL OPERATIONAL DESCRIPTION

PUMP START

- OPERATIONS INITIATES WELL START (LOCAL HAND MODE OR REMOTE CALL).
- VERIFY WATER FLUSH LINE FLOW
- SEND SIGNAL TO OPEN DEEP WELL WASTE VALVE (SOV/PCV-200).
- TURN ON PUMP (SOFT START) AND WATER WILL PUMP TO WASTE FOR PRE-SET TIME, ADJUSTABLE 0-20 MINUTES.
- AFTER PRE-SET TIME, ADJUSTABLE 0-5 MINUTES, DEEP WELL WASTE VALVE (SOV/PCV-200) WILL CLOSE AND WATER WILL DIVERT TO DISCHARGE LINE AND OPEN THE SILENT CHECK VALVE (CV-200) HYDRAULICALLY.
- TURN ON SODIUM HYPOCHLORITE METERING PUMP (MP-110).

PUMP STOP

- OPERATIONS SENDS SIGNAL TO STOP WELL (LOCAL OFF OR REMOTE).
- SEND SIGNAL TO OPEN DEEP WELL WASTE VALVE (SOV/PCV-200).
- TURN OFF SODIUM HYPOCHLORITE METERING PUMP (MP-110).
- AFTER PRE-SET TIME, PUMP WILL STOP, ADJUSTABLE 0-5 MINUTES.
- SEND SIGNAL TO CLOSE DEEP WELL WASTE VALVE AFTER WELL PUMP IS SHUT OFF.

AUTOMATIC PUMP SHUTDOWN

- PUMP WILL SHUT DOWN ON LOW WELL LEVEL (LSL-100), HIGH MOTOR TEMPERATURE (RTD-100), HIGH OR LOW DISCHARGE PRESSURE (PSHL-100), LOW DISCHARGE FLOW (FSL-200), OR LOW FLUSH LINE FLOW (AS DETERMINED BY THE PLC). THE LOW FLOW SWITCH (FSL-200) WILL ONLY SHUT DOWN THE WELL PUMP WHEN PCV-200 IS CLOSED AND THE WELL PUMP IS RUNNING.

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P&ID LEGENDS

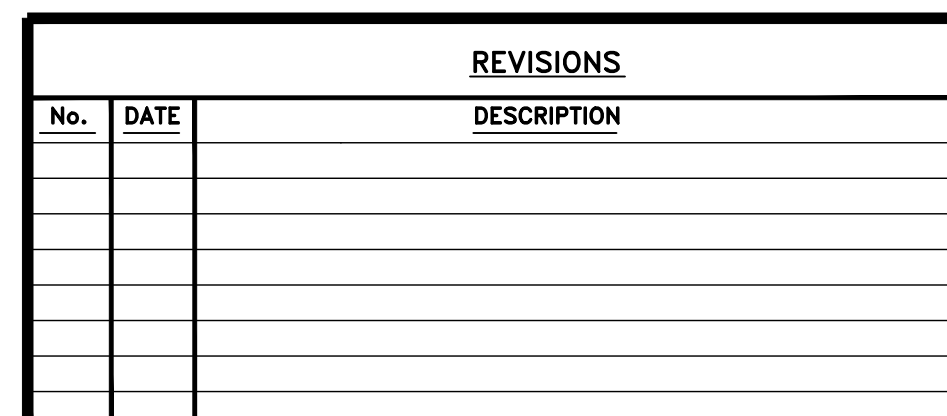
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VERT. AS NOTED

EI-1

SHEET OF SHEETS

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SCALE:	HORIZ. AS NOTED VERT. AS NOTED	<div style="font-size: 2em; text-align: center;">EI-2</div>	SHEET	OF	SHEETS
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LEMON STREET

MAPLE AVE

CONSTRUCTION MATERIAL SCHEDULE

1.0 HARDSCAPE / PAVING

KEY	DESCRIPTION	MANUFACT./SUPPLIER	MODEL No.	FINISH/TEXTURE	COLOR	DETAIL, SHEET No.	NOTE
1a	CONCRETE FLATWORK - 4" DEPTH	—	—	MEDIUM BROOM	NATURAL GRAY	DETAIL 1, SHEET CD-1	—
1b	CONCRETE HEADER - 6" WIDE	—	—	MEDIUM BROOM	NATURAL GRAY	DETAIL 3, SHEET CD-1	—
1c	DECOMPOSED GRANITE W/ STABILIZER (3" LAYER)	DECORATIVE STONE SOLUTIONS (800) 699 1878 OR EQUIVALENT IN COLOR AND STABILIZER	—		SPANISH BLUFF OR EQUIVALENT IN APPEARANCE	DETAIL 4, SHEET CD-1	—
1d	CONCRETE DRIVEWAY						

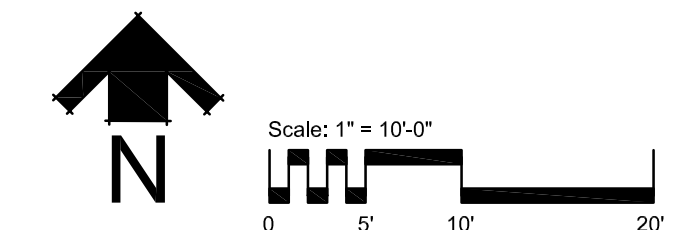
2.0 SITE FURNISHINGS AND FENCES

KEY	DESCRIPTION	MANUFACT./SUPPLIER	MODEL No.	FINISH/TEXTURE	COLOR	DETAIL, SHEET No.	NOTE
2a	PARK BENCH	VICTOR STANLEY INC (800)368-2573 OR APPROVED EQ.	FR-7 GOBLET SERIES (6' LENGTH) w/ IPE SLATS	POWDER COAT BY MANUFACTURE	BLACK FRAME	INGROUND MOUNT PER MANUFACTURER RECOMMENDATIONS	—
2b	INSTALL CAFE TABLE W/ TABLE TOP GAMEBOARD	VICTOR STANLEY INC (800)368-2573 OR APPROVED EQ.	IP-36 HOMESTEAD SERIES, 36" SQ. TOP TABLE W/ IPE SLATS	POWDER COAT BY MANUFACTURE	BLACK FRAME	INGROUND MOUNT PER MANUFACTURER RECOMMENDATIONS	—
2c	INSTALL 20" SQ. PRECAST SEATING BLOCK	OUTDOOR CREATION (800)337-6774 OR APPROVED EQ.	413-A (18" HT.) 8 TOTAL	SMOOTH	TAN		—
2d	LITTER RECEPTACLE	VICTOR STANLEY INC (800)368-2573 OR APPROVED EQ.	GSF-32 GOBLET SERIES (36 GAL) W/ RAIN BONNET LID	POWDER COAT BY MANUFACTURE	BRONZE	PERMANENTLY ATTACH PER MANUFACTURER'S SPEC.	—
2e	REMOVABLE BOLLARD						—
2f	DECORATIVE METAL PANELS					DETAIL 5, SHEET CD-1	—
2g	DECORATIVE FENCING					DETAIL 6, SHEET CD-1	—
2h	INSTALL DRINKING FOUNTAIN	MURDOCK (800)453-7485 OR APPROVED EQ.	GYQ84	STAINLESS STEEL	AUTUMN BRONZE	DETAIL 1, SHEET CD-2	—
2i	WALL TRELLIS	GREENSCREEN (800)450-3494 OR APPROVED EQ.			MATTE TEXTURE GREEN	PERMANENTLY ATTACH PER MANUFACTURER'S SPEC.	—

3.0 RAISED PLANTER

KEY	DESCRIPTION	MANUFACT./SUPPLIER	MODEL No.	FINISH/TEXTURE	COLOR	DETAIL, SHEET No.	NOTE
3a	CONSTRUCT CONCRETE PLANTER					DETAIL 2, SHEET CD-2	—

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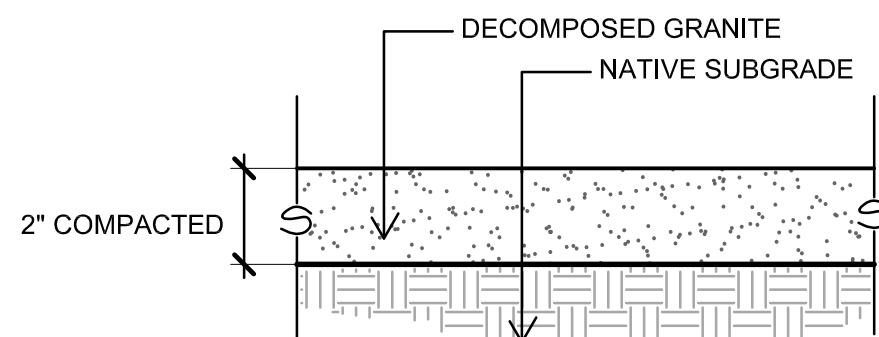
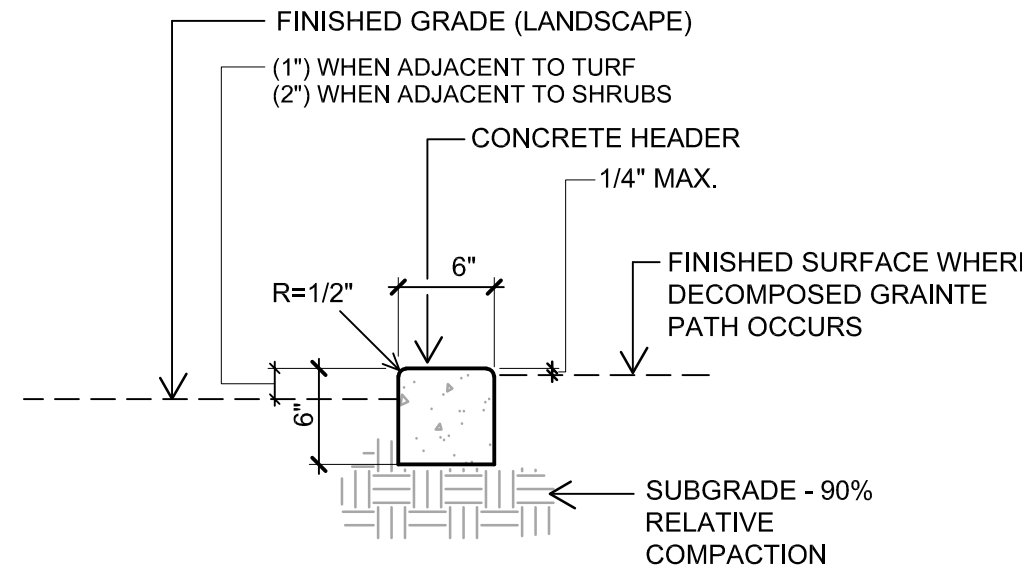
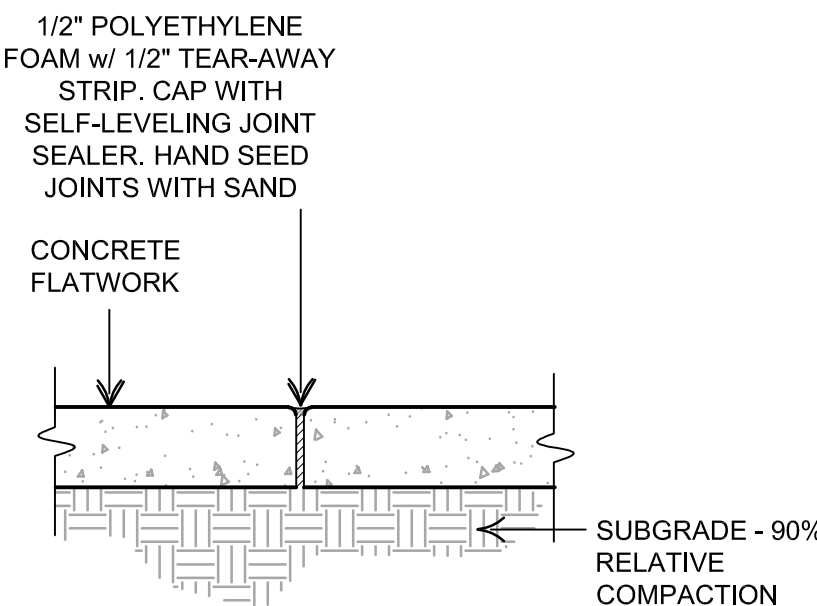
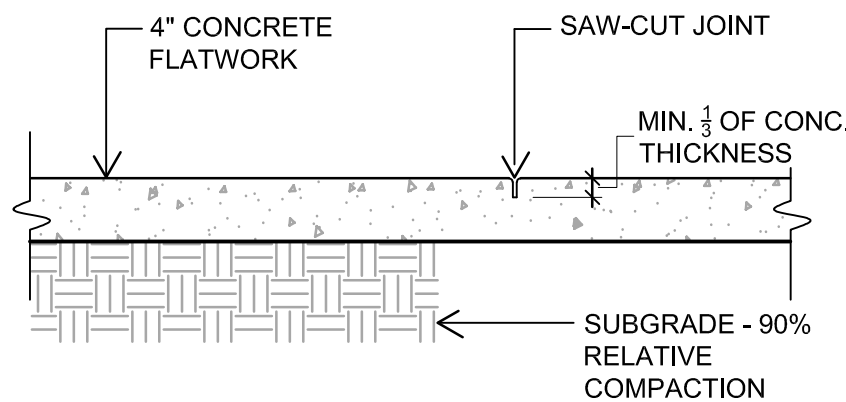
PLAN PREPARED BY:
DVID
David Volz Design
Landscape Architects And Park Planners
Corporate Office:
151 Kalmus Drive, Suite M8
Costa Mesa, CA 92626
714.641.1300
GARY VASQUEZ LA NO.3883 DATE

PLAN CODE
LC-1

CITY OF ORANGE
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CONSTRUCTION PLAN
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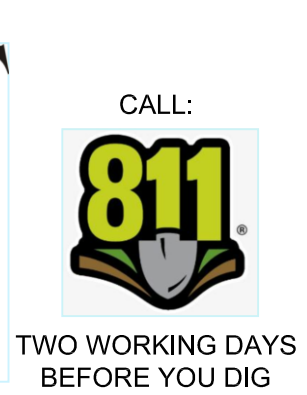
SHEET XX OF X SHEETS

<div>CONSTRUCTION NOTES</div> <div>1. THE GRANITE IS SCREENED TO INCLUDE STONE PARTICLE 3/8" OR 1/4" MINUS DOWN TO THE FINE PARTICLES. THE PARTICLES THAT PASS THE 200 SCREEN MESH AS DETERMINED BY ASTM METHODOLOGY SHALL NOT EXCEED 18 PERCENT. THE SAND EQUIVALENT OF THE MATERIAL SHALL BE IN THE RANGE OF 30-50. THE R-VALUE SHALL BE MINIMUM OF 70.</div> <div>2. THE BLENDING OF COURSE SAND WITH ROCK DUST IS NOT AN EQUAL PRODUCT.</div>		 <div>SECTION</div>		 <div>SECTION</div>		 <div>SECTION</div>		<div>NOTE: UNLESS OTHERWISE SHOWN ON PLANS, THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL WEAKEN PLANE AND EXPANSION JOINTS WITH THE LANDSCAPE ARCHITECT. A WEAKENED PLANE JOINT WILL BE REQUIRED FOR EVERY 50 SF OF CONCRETE AND AN EXPANSION JOINT FOR EVERY 150 SF OF CONCRETE.</div>  <div>SECTION</div> <div>CONSTRUCTION NOTES</div> <div>1. REFER TO CONSTRUCTION MATERIALS SCHEDULE, SHEET LC.2 FOR CONCRETE COLOR AND FINISH.</div> <div>2. ALL CONCRETE FLATWORK SHALL NOT EXCEED A (5%) SLOPE IN THE DIRECTION OF TRAVEL OR A (2%) CROSS SLOPE.</div>			
4	DECOMPOSED GRANITE	N.T.S.	3	CONCRETE HEADER (6" WIDE)	1"=1'-0"	2	ISOLATION JOINT	N.T.S.	1	CONCRETE FLATWORK (4")	1"=1'-0"

5	DECORATIVE METAL PANELS	N.T.S.
6	DECORATIVE FENCING	N.T.S.

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CONSTRUCTION DETAILS
225 W MAPLE AVE, ORANGE CA 92866

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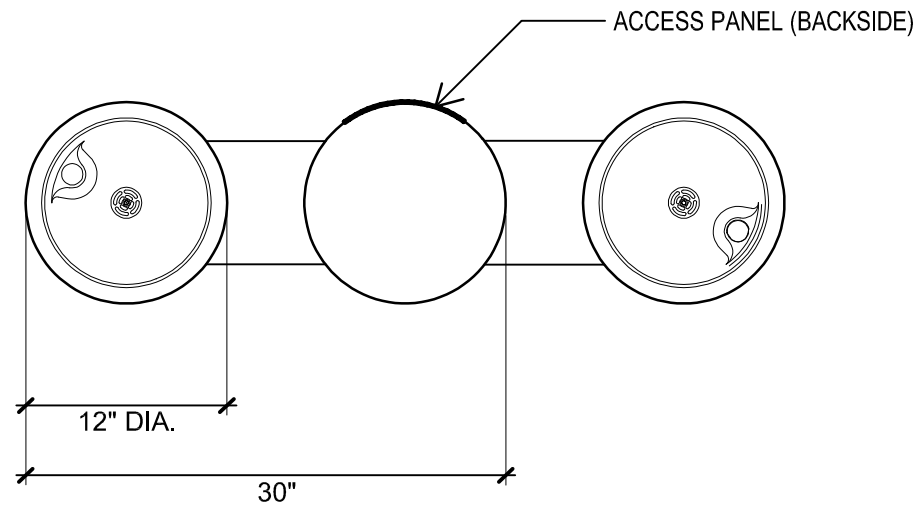
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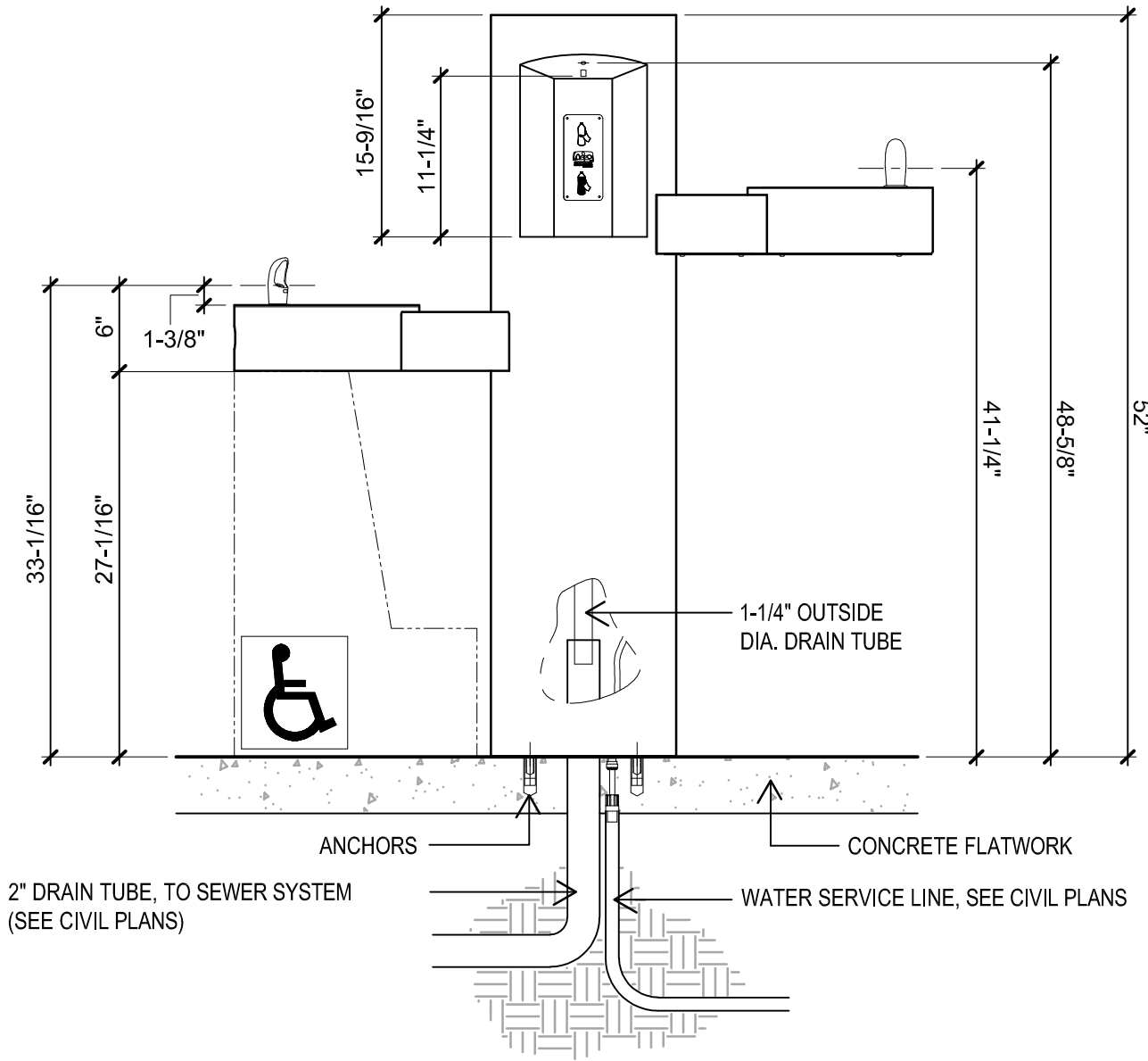
2	CONCRETE PLANTER	N.T.S.
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1	DRINKING FOUNTAIN	N.T.S.
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NOTES
INSTALL PER MANUFACTURER SPECIFICATIONS. SEE
CONSTRUCTION SCHEDULE, LC.1 SHEET X FOR MODEL
AND MANUFACTURER INFORMATION.

MEETS ADA REGULATION.



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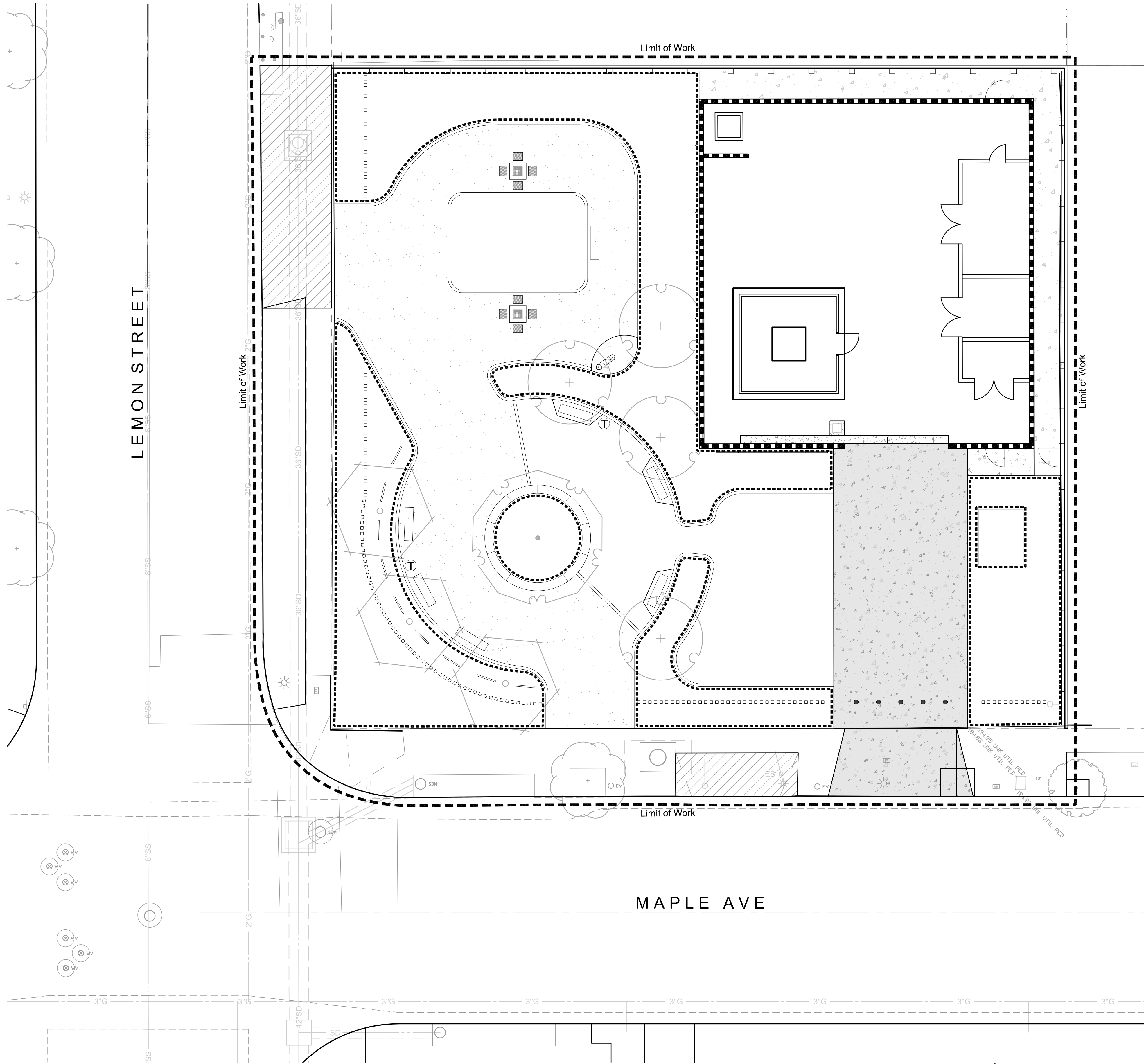
REGISTERED LANDSCAPE ARCHITECT
GARY VASQUEZ
NO. 3883
EXPIRES FEB. 2021
STATE OF CALIFORNIA

PLAN PREPARED BY:
David Volz Design
Landscape Architects And Park Planners
Corporate Office:
151 Kalmar Drive, Suite M8
Costa Mesa, CA 92626
714.641.1300

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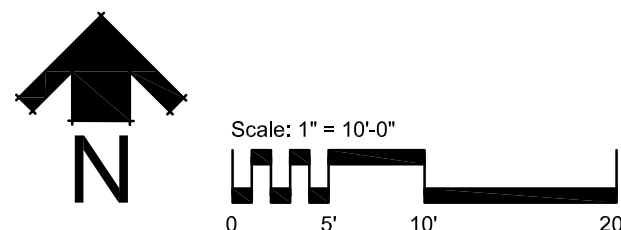
IRRIGATION LEGEND							
IN-LINE DRIP							
SYMBOL	MANUFACTURER/ DESCRIPTION	NOZZLE	RAD.	HOUSING	FLOW	PSI	PRECIP. RATE
	RAINBIRD DRIP LINE TUBING						
	AREA PERIMETER						

REMOTE CONTROL DRIP ZONE VALVE

VALVE SIZE —

REMOTE CONTROL VALVE

VALVE SIZE —



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GENERAL IRRIGATION NOTES

1. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALL, RETAINING WALLS, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE CITY, ALL ITEMS DAMAGED BY HIS WORK. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS THROUGH WALLS, UNDER ROADWAYS AND PAVING, ETC.
2. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DIFFERENCES IN THE AREA DIMENSION EXIST THAT MIGHT NOT HAVE BEEN ADDRESSED IN THE DESIGN OF THE IRRIGATION SYSTEM. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY ALTERATIONS TO THE WORK.
3. THE CONTRACTOR SHALL OBTAIN, COORDINATE, AND PAY FOR ANY AND ALL INSPECTIONS AS REQUIRED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCROACHMENT INTO ADJACENT PROPERTY, R.O.W.'S EASEMENTS SETBACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED.
5. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED. INSTALL ALL HEADS WITH DOUBLE SWING JOINTS AS PER DETAIL. ALL HEADS ADJACENT TO PARKING LOTS, WALKS, ROADS, OR OTHER PAVED AREAS SHALL BE INSTALLED WITH POP-UP BODIES.
6. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS AND VALVES FOR OPTIMUM COVERAGE WITH MINIMAL MISTING AND/OR OVER SPRAY ONTO WALKS, STREETS, WALLS, ETC. SUBSTITUTION OF NOZZLE PATTERN OR RADIUS AS REQUIRED TO ACHIEVE OPTIMUM COVERAGE IS RESPONSIBILITY OF CONTRACTOR.
7. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
8. TRENCHING WITHIN THE DRIPLINE OF LARGE EXISTING TREES SHALL BE PERFORMED BY HAND, AND WITH EXTREME CARE NOT TO SEVER ROOTS 1-1/2" IN DIAMETER AND LARGER. WHERE ROOTS 1-1/2" IN DIAMETER AND LARGER ARE ENCOUNTERED, THE CONTRACTOR SHALL TUNNEL UNDER SAID ROOTS. EXPOSED ROOTS THAT HAVE BEEN TUNNELED UNDER SHALL BE WRAPPED IN WET BURLAP AND KEPT MOIST WHILE THE TRENCH IS OPEN.
9. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE AT THE TIME OF SAID REJECTION.

IRRIGATION SYSTEM LAYOUT

DUE TO THE SCALE OF THESE DRAWINGS THE CONTRACTOR SHOULD BE AWARE OF THE POSSIBILITY THAT THE NEED FOR MINOR ADJUSTMENTS TO THE IRRIGATION SYSTEM MAY BE NECESSARY TO PROVIDE PROPER COVERAGE. THESE ADJUSTMENTS COULD INCLUDE NOZZLE CHANGES AND/OR ADDITION OR DELETION OF INDIVIDUAL HEADS TO COMPENSATE FOR CHANGES MADE ON THE SITE. FURTHERMORE, THE IRRIGATION DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATIONS ONLY AND SHALL BE INSTALLED IN **SHRUB** AREAS WHEREVER POSSIBLE.

EXISTING CONDITIONS

THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY EXISTING DAMAGED ITEMS DURING CONSTRUCTION INCLUDING HARDSCAPE, LIGHTING, DRAINAGE, IRRIGATION EQUIPMENT, TREES, SHRUBS, TURF AND GROUND COVER. THE CONTRACTOR SHALL REPLACE ANY AND ALL DAMAGED ITEMS TO THE SATISFACTION OF THE ENGINEER.

EQUIPMENT BOXES

ALL REMOTE CONTROL VALVES, BALL VALVES, QUICK COUPLERS, ETC. SHALL BE INSTALLED IN SPECIFIED **GREEN** SUBGRADE VALVE BOXES AS SHOWN IN IRRIGATION LEGEND COMPLETE WITH LOCKING COVERS. VALVE BOXES SHALL BE CARSON BROOKS OR APPROVED EQUAL AND SHALL BE MARKED 'G.V.' FOR GATE VALVES, 'R.C.V.' FOR REMOTE CONTROL VALVES, 'Q.C.' FOR QUICK COUPLERS, ETC. REMOTE CONTROL VALVE BOXES ARE ALSO TO BE HEAT BRANDED WITH THE CONTROLLER AND STATION NUMBER. ALL MARKINGS SHALL BE 2" LETTERS AND NUMBERS.

REMOTE CONTROL VALVE LABELS

ALL VALVES ARE TO BE FASTENED WITH CHRISTY'S VALVE IDENTIFICATION TAGS IDENTIFYING STATION # AND APPROPRIATE CONTROLLER IDENTIFICATION INFORMATION.

SLEEVING

SLEEVES SHALL BE PLACED UNDER ALL DRIVEWAYS AND WALKS WHERE IRRIGATION LATERAL, MAINLINE, AND WIRE WILL CROSS. SLEEVES SHALL BE PVC SCH. 40, MINIMUM BURY 36" DEEP. MINIMUM DISTANCE PAST EDGE OF DRIVEWAY OR CONCRETE WALK SHALL BE 24". WATER AND WIRE SHALL NOT BE PLACED IN THE SAME SLEEVE. SLEEVES TO BE TWICE THE DIAMETER OF THE PIPE BEING SLEEVED. WIRE SLEEVES TO BE 2" DIA.

POLYVINYL CHLORIDE PIPE CEMENT

IPS WELD-ON PVC 721 BLUE MEDIUM-BODIED (USE WITH 1/2" TO 1-1/2" PVC PIPE)
IPS WELD-ON PVC 711 GRAY HEAVY-BODIED (USE WITH 2" AND LARGER PVC PIPE AND ALL MAIN LINES)

POLYVINYL CHLORIDE PIPE PRIMER

IPS WELD-ON P-70 PRIMER PURPLE (USE WITH ALL PVC CONNECTIONS)

DETECTABLE MARKING TAPE

'CHRISTY'S' UNDERGROUND MARKING TAPE SHALL BE RUN WITH ALL MAINLINES AND MUST BE INSTALLED AT LEAST 6" ABOVE TOP OF PIPE.

DIRECT BURIAL CONTROL WIRES

(SOLID COPPER, 600 VOLT, TYPE UF)

COMMON WIRES:
WHITE (#12 AWG)

STATION WIRES:
(#14 AWG) COLOR-CODED REQUIREMENTS PER CITY STANDARD. SPARE WIRES MUST BE RUN TO THE FARTHEST VALVE MANIFOLD FROM THE CONTROLLER.

WIRE SPLICES/ CONNECTORS ARE TO BE 3M DBY DIRECT BURY SPLICE KIT. USE EXTRA SEALANT INSIDE CONNECTORS.

PVC PIPE FITTINGS

ALL FITTINGS CONNECTING PVC TO PVC SHALL BE SPEARS 'EverTUFF' TURF FITTINGS' COLORED BLUE OR APPROVED EQUAL. ALL PVC FITTINGS TO BRASS VALVES SHALL BE REINFORCED WITH STAINLESS STEEL COLLAR.

STATIC PRESSURE

THE IRRIGATION SYSTEM DESIGN IS BASED ON A STATIC PRESSURE OF **100** PSI AT THE STREET MAINLINE. THE CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE ENGINEER.

REVISIONS		
No.	DATE	DESCRIPTION



PLAN PREPARED BY:



Corporate Office:
151 Kalmar Drive, Suite M8
Costa Mesa, CA 92626
714.641.1300

GARY VASQUEZ LA NO.3883 DATE

CITY OF ORANGE

OFFICE OF THE CITY ENGINEER

IRRIGATION DETAILS AND NOTES

225 W MAPLE AVE, ORANGE CA 92866

SCALE:

HORIZ. AS NOTED

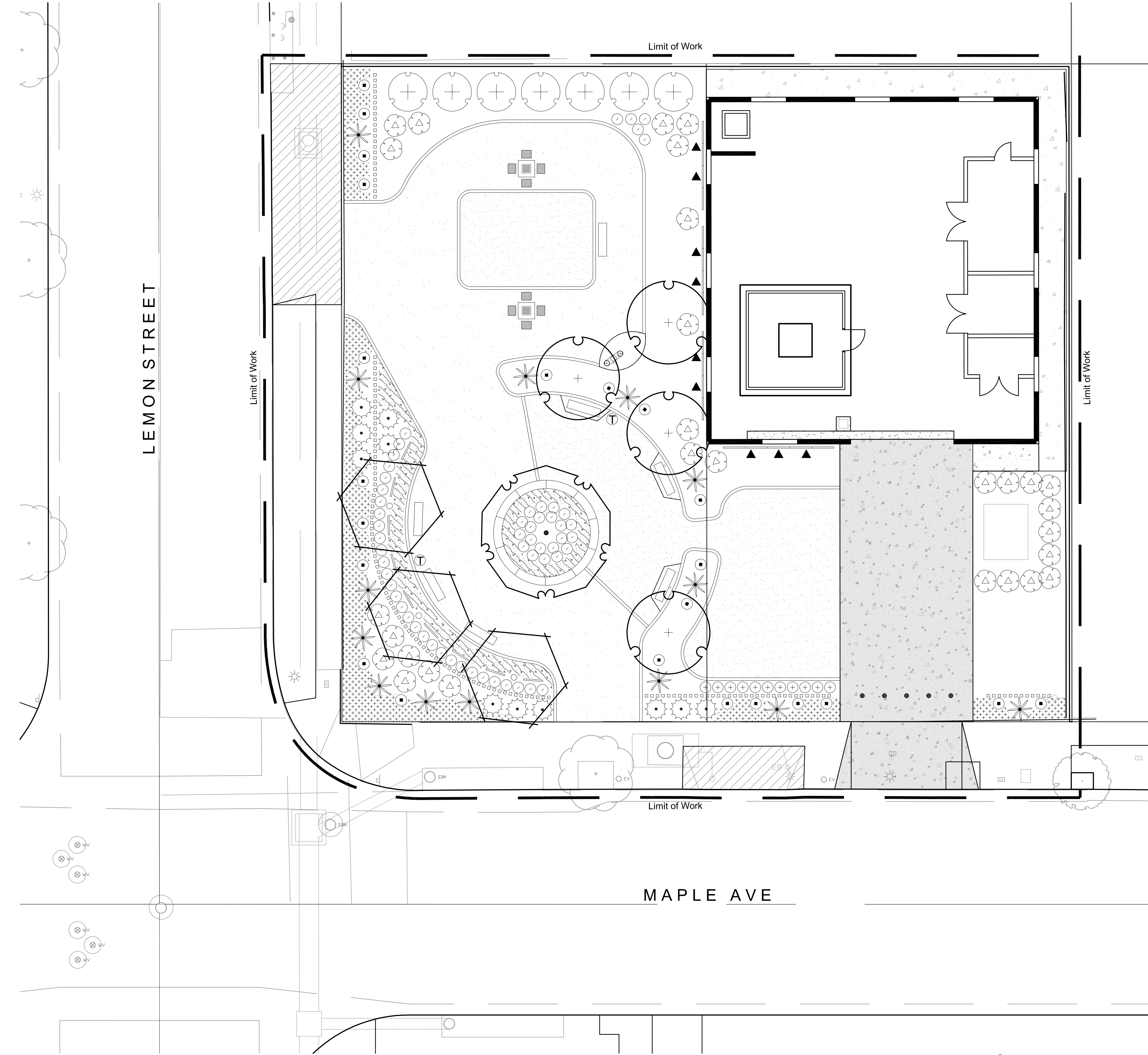
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SHEET XX OF X SHEETS

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PLAN CODE
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PLANT LEGEND

TREES					
SYMBOL	BOTANICAL NAME COMMON NAME	QTY.	SIZE	COMMENTS	WATER USE
	ARBUTUS x 'MARINA' MARINA STRAWBERRY TREE	4	24" BOX		LOW .3
	CERCIS CANADENSIS 'FOREST PANSY' FOREST PANSY EASTERN REDBUD	3	24" BOX		MED .5
	OLEA EUROPAEA 'SWAN HILL' SWAN HILL OLIVE	1	36" BOX	MULTI-TRUNK	LOW .3

SHRUBS, GROUNDCOVERS & VINES

SYMBOL	BOTANICAL NAME COMMON NAME	QTY.	SIZE	COMMENTS	WATER USE
	ACHILLEA MILLEFOLIUM COMMON YARROW	X	1 GAL		LOW .3
	AGAVE VILMORINIANA OCTOPUS AGAVE	X	5 GAL		LOW .2
	AGAVE x 'BLUE GLOW' BLUE GLOW AGAVE	X	5 GAL		LOW .2
	ALOE BREVIFOLIA SHORT-LEAVED ALOE	X	1 GAL	PLANT 12" O.C.	LOW .2
	CHONDROPETALUM TECTORUM SMALL CAPE RUSH	X	5 GAL		MED .4
	DIANELLA REVOLUTA 'LITTLE REV' LITTLE REV FLAX LILY	X	1 GAL		LOW .3
	DODONAEA VISCOSA 'PURPUREA' PURPLE LEAFED HOPSEED BUSH	X	15 GAL		LOW .3
	SALVIA MELLIFERA BLACK SAGE	X	5 GAL		LOW .2
	SENECIO SERPENS BLUE CHALKSTICKS	X	FLAT	PLANT 12" O.C.	LOW .2
	VITIS CALIFORNICA 'ROGER'S RED' CALIFORNIA WILD GRAPE	X	5 GAL		LOW .3

TURF

SYMBOL	TURF TYPE	COMMENTS	WATER USE
	SOD - WEST COASTER TALL FESCUE, BIG ROLLS (42" WIDE x 100' LONG) . ANY PLASTIC NETTING TO BE REMOVED PRIOR TO INSTALLATION. AVAILABLE AT WEST COAST SOD (760) 340-7300	FOLLOW WEST COAST SOD SPECIFICATIONS FOR SOD ESTABLISHMENT AND MAINTENANCE.	HIGH .7

REFER TO SHEET LP.2 FOR PLANTING NOTES & DETAILS

REVISIONS		
No.	DATE	DESCRIPTION

CALL BEFORE YOU DIG
DIGALERT

CALL:
811
TWO WORKING DAYS
BEFORE YOU DIG



PLAN PREPARED BY:
David Volz Design
Landscape Architects And Park Planners
Corporate Office:
151 Kalamus Drive, Suite M8
Costa Mesa, CA 92626
714.641.1300
GARY VASQUEZ LA NO.3883 DATE

PLAN CODE
LP-1

CITY OF ORANGE
OFFICE OF THE CITY ENGINEER
PLANTING PLAN
225 W MAPLE AVE, ORANGE CA 92866
SCALE: HORIZ. AS NOTED
VERT. AS NOTED
SHEET XX OF X SHEETS

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PLANTING NOTES

1. ALL LOCAL, MUNICIPAL, COUNTY AND STATE LAWS, RULES, AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE PART OF THE PROJECT PLANS AND SPECIFICATIONS; AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. ADDITIONALLY, ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE LATEST EDITION OF THE APWA, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, ("GREEN BOOK"), AND THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA (DIG ALERT) AT LEAST TWO (2) WORKING DAYS BEFORE DIGGING, EXCAVATING, OR CONSTRUCTION. PHONE 1-800-422-4333 OR 811.
3. THE CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES IN AREA CONFIGURATION OR SIZES, OR IN DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN ENGINEERING. SUCH OBSTRUCTIONS, OR DIFFERENCES, SHOULD BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER, OR HIS/HER DESIGNATED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AND SHALL PERFORM SUCH REVISIONS AT HIS/HER OWN EXPENSE.
4. FINISH GRADE ALL PLANTING AREAS TO ACHIEVE A MINIMUM 2% DRAINAGE AND SMOOTH AND EVEN CONDITION, MAKING SURE THAT NO WATER POCKETS OR IRREGULARITIES REMAIN. REMOVE AND DISPOSE OF ALL SURFACE STONES, ROOTS, WEEDS, DEBRIS, FOREIGN MATERIALS, CLODS, AND ROCKS OVER (1) INCH IN DIAMETER SO THAT AFTER CONDITIONING AND PLANTING THE GRADE IS TWO INCHES (2") BELOW ADJACENT HARDSCAPE EXCEPT ALONG CURB CUT AREAS. CONTRACTOR IS TO ENSURE A SMOOTH TRANSITION FROM EXISTING TO NEW GRADE.
5. ALL INSPECTIONS HEREIN SPECIFIED SHALL BE MADE BY THE ENGINEER, OR HIS/HER DESIGNATED REPRESENTATIVE. THE CONTRACTOR SHALL REQUEST INSPECTION AT LEAST 48 HOURS IN ADVANCE OF THE TIME THE INSPECTION IS REQUIRED.
6. ALL EXISTING LANDSCAPED AREAS DAMAGED DURING CONSTRUCTION MUST BE RESTORED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. RESTORATION OF EXISTING LANDSCAPE AREAS SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER.
7. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEER, OR HIS/HER DESIGNATED REPRESENTATIVE, BEFORE PLANTING. ALL PLANT MATERIAL DELIVERED ON-SITE WILL BE INSPECTED FOR SIZE AND CONDITION OF ROOT GROWTH, INSECTS, INJURIES, AND DEFECTS. PLANTS NOT APPROVED ARE TO BE REMOVED FROM THE SITE IMMEDIATELY AND REPLACED WITH SUITABLE PLANTS. THE ENGINEER RESERVES THE RIGHT TO REJECT ENTIRE LOTS OF PLANTS REPRESENTED BY DEFECTIVE SAMPLES. ALL PLANT MATERIAL SHALL HAVE NURSERY TAGS WHEN DELIVERED TO THE SITE.
8. FINAL LOCATION OF ALL PLANT MATERIAL IS SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO PLANTING.
9. THE CONTRACTOR IS RESPONSIBLE FOR COUNT VERIFICATION AND IS TO SUPPLY THE QUANTITIES DELINEATED GRAPHICALLY ON PLANS.
10. PLANT ESTABLISHMENT AND MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER INSPECTION AND ACCEPTANCE OF THE WORK BY THE ENGINEER, OR HIS/HER DESIGNATED REPRESENTATIVE. PLANT ESTABLISHMENT AND MAINTENANCE PERIOD SHALL BE FOR A DURATION STATED IN THE SPECIFICATIONS. PLANT ESTABLISHMENT AND MAINTENANCE SHALL BE PERFORMED PER THE PROJECT SPECIFICATIONS.
11. SUPPLEMENTAL HAND WATERING MAY BE REQUIRED DURING THE MAINTENANCE PERIOD TO ESTABLISH PLANT MATERIAL.
12. PLACE WOOD CHIP MULCH IN ALL PLANTED AREAS AT A MINIMUM DEPTH OF 3". DO NOT INSTALL MULCH WITHIN A 6" DIA. OF ANY TREE OR SHRUB TRUNK. CONTRACTOR TO PROVIDE A SAMPLE MULCH FOR THE REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS.

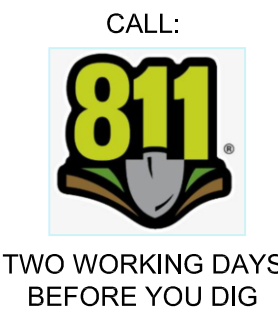
WEED ABATEMENT NOTES:

1. REFER TO WEED ABATEMENT REQUIREMENTS IN THE SPECIFICATIONS. ALL WEED ABATEMENT AND RELATED SECTIONS WILL BE ENFORCED INCLUDING TIME PERIOD REQUIREMENTS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING FOR ALL WATER USED FOR IRRIGATION DURING THE WEED ABATEMENT PERIOD.
3. THE WEED ABATEMENT PERIOD SHALL PROCEED UPON THE COMPLETION OF THE IRRIGATION SYSTEM AND AFTER ALL WEEDS AND GROWTH HAS BEEN REMOVED FROM THE PLANTING AREAS PER THE SPECIFICATIONS.
4. SOIL CONDITIONERS AND FERTILIZERS SHALL BE MIXED INTO THE TOP SOIL AT QUANTITIES AND TYPE RECOMMENDED PER THE AGRONOMIC SOILS REPORT PRIOR TO BEGINNING THE WEED ABATEMENT PERIOD.
5. FINISHED GRADING SHALL BE COMPLETED AND ACCEPTED BY THE CITY'S DESIGNATED REPRESENTATIVE PRIOR TO BEGINNING THE WEED ABATEMENT PERIOD.
6. ALL PLANTING AREAS SHALL BE FREE OF UNWANTED INSECTS, RODENTS, CLODS, ROCKS, AND LITTER PRIOR TO BEGINNING THE WEED ABATEMENT PERIOD.
7. ALL UNWANTED GRASSES AND WEEDS SHALL BE KILLED BY SPRAYING AND REMOVED PRIOR TO BEGINNING THE WEED ABATEMENT PERIOD.

AGRONOMIC SOILS TESTING NOTES:

- UPON THE COMPLETION OF DEMOLITION AND GRADING AND PRIOR TO THE INSTALLATION OF THE IRRIGATION SYSTEM, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SIX (6) SOIL SAMPLES TAKEN AT THREE (3) SEPARATE LOCATIONS APPROVED BY THE LANDSCAPE ARCHITECT.
- TWO (2) SOIL SAMPLES SHALL BE TAKEN AT EACH LOCATION:
- SAMPLE ONE: TAKEN AT GROUND LEVEL TO 10" DEEP
SAMPLE TWO: TAKEN AT A DEPTH BETWEEN 24" TO 36" .
- EACH SAMPLE SHALL CONTAIN APPROXIMATELY 1 QUART OF SOIL AND BE LABELED PER LOCATION AND DEPTH.
- EACH SAMPLE SHALL BE TESTED FOR SOIL FERTILITY AND AGRICULTURAL SUITABILITY. SUBMIT SOIL REPORT, INCLUDING RECOMMENDATIONS SOIL PREPARATION FOR BACKFILL MIX.
- SOIL TESTING RESULTS SHALL BE SUBMITTED AND APPROVED BY THE LANDSCAPE ARCHITECT.
1. SOIL PREPARATION AND BACKFILL MIX SHALL CONFORM TO THE RECOMMENDATIONS OF THE AGRONOMIC SOILS REPORT.
2. REFER TO PLANTING SPECIFICATIONS FOR SOILS TESTING, SOIL PREPARATION, FERTILIZATION, MULCHING, AND OTHER ADDITIONAL PLANTING INFORMATION. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

REVISIONS		
No.	DATE	DESCRIPTION



PLAN PREPARED BY:
David Volz Design
Landscape Architects And Park Planners
Corporate Office:
151 Kalamus Drive, Suite M8
Costa Mesa, CA 92626
714.641.1300
GARY VASQUEZ LA NO.3883 DATE

PLAN CODE
LP-2

CITY OF ORANGE
OFFICE OF THE CITY ENGINEER

PLANTING DETAILS AND NOTES
225 W MAPLE AVE, ORANGE CA 92866

SCALE:

HORIZ. AS NOTED

VERT. AS NOTED

SHEET XX OF X SHEETS

PLAN

NOTE:
LOCATE PLANTS SPACED EQUAL DISTANCE (D) FROM EACH OTHER AS SHOWN. REFER TO THE PLANT LEGEND FOR DISTANCE (D).

LEGEND

1 — 1, 5, OR 15 GALLON SHRUB

2 — MULCH PER GENERAL PLANTING NOTES

3 — 3 INCH WATER BASIN

4 — FINISH GRADE

5 — AMENDED SOIL FOR PLANTING
REFER TO SOILS REPORT

6 — PLANT PIT EXCAVATION

7 — PLANT TABS
SEE SPECIFICATION FOR QUANTITY PER SHRUB

8 — ROOT-BALL

9 — NATIVE SOIL

C

TRIANGULAR SPACING

NTS

PLAN

LEGEND

1 — TREATED LODGE POLE PINE TREE STAKE
(3 inch dia. x 10 feet long for 36" box tree)
(3 inch dia. x 10 feet long for 24" box tree)
(2 inch dia. x 10 feet long for 15 gal. tree)

2 — TWIST-BRACE BY V.I.T. PRODUCTS (2 PER TREE)
(TB36 for 36" box tree)
(TB24 for 15 gal. & 24" box tree)

3 — MULCH PER GENERAL PLANTING NOTES

4 — SET TOP OF ROOT BALL 1 INCH ABOVE FINISH GRADE

5 — CONSTRUCT WATER BASIN - 3" HIGH

6 — FINISH GRADE

7 — PLANT TABS - PLACE IN TOP 12" OF PLANTING HOLE.
SEE SPECIFICATIONS FOR QUANTITY PER TREE

8 — AMENDED BACKFILL PER SOILS REPORT

9 — ROOTBALL

10 — NATIVE SUBGRADE

NOTE:
SECURE TWIST-BRACE TO TREE STAKE USING GALVANIZED NAILS OR S.S. WOOD SCREWS. THE TYPE AND SIZE OF NAILS AND/OR SCREWS TO BE APPROVED BY LANDSCAPE ARCHITECT.

A

TREE STAKING & PLANTING (36" BOX & SMALLER)

NTS

BOX TREES

1A — PLANT PIT TO BE SQUARE
SEE CHART FOR THE PLANT PIT DIMENSIONS.

1B — ROOTBALL

CONTAINER PLANTS

2A — PLANT PIT TO BE ROUND
SEE CHART FOR THE PLANT PIT DIMENSIONS.

2B — ROOTBALL

D

PLANT PIT DIMENSIONS

NTS

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