

July 14, 2020

EPD Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, CA 92614**SUBJECT: WELL 28 ENERGY TABLES**

The following Energy Tables were prepared for the proposed Well 28 development (Project) which is located at 235 West Maple Avenue in the City of Orange. It is our understanding that the proposed Project is anticipated to include the construction and operation of the Proposed Well 28.

PROJECT CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
Proposed Project	\$2.32	15.600	12	\$434.30
TOTAL PROJECT CONSTRUCTION COST				\$434.30

¹ CalEEMod does not provide Coffee Shop land use option. For purposes of analysis, the land use that most closely fits the described Coffee Shop is the Fast Food Restaurant without Drive Thru.

PROJECT CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Proposed Project	\$0.08	5,436
TOTAL PROJECT CONSTRUCTION ELECTRICITY USAGE (kWh)		5,436

CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES (1 OF 2)

Construction Activity	Duration	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Well Drilling & Development								
Site Preparation	9	Cranes	231	1	8	0.29	536	261
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	140
		Welders	46	1	8	0.45	166	81
Trenching	40	Bore/Drill Rigs	221	1	8	0.50	884	1,911
		Cranes	231	1	8	0.29	536	1,159
		Generator Sets	84	1	8	0.74	497	1,075
		Pumps	84	2	8	0.74	995	2,150
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	621
		Welders	46	1	8	0.45	166	358
Building Construction	10	Cranes	231	1	8	0.29	536	290
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	155
		Welders	46	1	8	0.45	166	90

CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES (1 OF 2)

Construction Activity	Duration	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Well Equipment								
Demolition	3	Concrete/Industrial Saws	81	1	8	0.73	473	77
		Rubber Tired Dozers	247	1	8	0.40	790	128
		Tractors/Loaders/Backhoes	97	2	8	0.37	574	93
Site Preparation	15	Cranes	231	1	8	0.29	536	435
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	233
		Welders	46	1	8	0.45	166	134
Trenching	145	Cranes	231	1	8	0.29	536	4,200
		Generator Sets	84	1	8	0.74	497	3,898
		Off-Highway Trucks	402	2	8	0.38	2,444	19,157
		Other Construction Equipment	172	1	8	0.42	578	4,530
		Pavers	130	1	8	0.42	437	3,424
		Plate Compactors	8	1	8	0.43	28	216
		Pumps	84	1	8	0.74	497	3,898
		Rollers	80	1	8	0.38	243	1,906
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	2,250
Building Construction	47	Cranes	231	1	8	0.29	536	1,362
		Tractors/Loaders/Backhoes	97	1	8	0.37	287	729
		Welders	46	1	8	0.45	166	421
TOTAL CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								55,379

CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDA)¹

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Site Preparation	9	4	14.7	529	31.62	17
	Trenching	40	9	14.7	5,292	31.62	167
	Building Construction	10	4	14.7	588	31.62	19
Well Equipping & Mini Park	Demolition	3	5	14.7	221	31.62	7
	Site Preparation	15	4	14.7	882	31.62	28
	Trenching	145	4	14.7	8,526	31.62	270
2022							
Well Equipping & Mini Park	Building Construction	47	13	14.7	8,982	32.59	276
TOTAL CONSTRUCTION WORKER (LDA) FUEL CONSUMPTION							783

¹ Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1), and 25% are from light-duty-trucks (LDT2)

CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT1)²

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Site Preparation	9	2	14.7	265	26.77	10
	Trenching	40	5	14.7	2,940	26.77	110
	Building Construction	10	2	14.7	294	26.77	11
Well Equipping & Mini Park	Demolition	3	3	14.7	132	26.77	5
	Site Preparation	15	2	14.7	441	26.77	16
	Trenching	145	2	14.7	4,263	26.77	159
2022							
Well Equipping & Mini Park	Building Construction	47	7	14.7	4,836	27.49	176
TOTAL CONSTRUCTION WORKER (LDT1) FUEL CONSUMPTION							487

² Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1), and 25% are from light-duty-trucks (LDT2)

CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (LDT2) ³

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Site Preparation	9	2	14.7	265	24.58	11
	Trenching	40	5	14.7	2,940	24.58	120
	Building Construction	10	2	14.7	294	24.58	12
Well Equipping & Mini Park	Demolition	3	3	14.7	132	24.58	5
	Site Preparation	15	2	14.7	441	24.58	18
	Trenching	145	2	14.7	4,263	24.58	173
2022							
Well Equipping & Mini Park	Building Construction	47	7	14.7	4,836	25.46	190
TOTAL CONSTRUCTION WORKER (LDT2) FUEL CONSUMPTION							529

³ Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1), and 25% are from light-duty-trucks (LDT2)

CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHDT)

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Site Preparation	9	5	6.9	311	8.74	36
	Trenching	40	7	6.9	1,932	8.74	221
	Building Construction	10	5	6.9	345	8.74	39
Well Equipping & Mini Park	Demolition	3	0	6.9	0	8.74	0
	Site Preparation	15	5	6.9	518	8.74	59
	Trenching	145	41	6.9	41,021	8.74	4,694
2022							
Well Equipping & Mini Park	Building Construction	47	22	6.9	7,135	9.03	790
TOTAL CONSTRUCTION VENDOR (MHDT) FUEL CONSUMPTION							5,839

CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (HHDT)

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Site Preparation	9	5	6.9	311	6.20	50
	Trenching	40	7	6.9	1,932	6.20	311
	Building Construction	10	5	6.9	345	6.20	56
Well Equipping & Mini Park	Demolition	3	0	6.9	0	6.20	0
	Site Preparation	15	5	6.9	518	6.20	83
	Trenching	145	41	6.9	41,021	6.20	6,611
2022							
Well Equipping & Mini Park	Building Construction	47	22	6.9	7,135	6.37	1,120
TOTAL CONSTRUCTION VENDOR (HHDT) FUEL CONSUMPTION							8,231

CONSTRUCTION HAULING FUEL CONSUMPTION ESTIMATES (HHDT)

Construction Activity	Construction Activity Modeled in CalEEMod	Duration	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2021							
Well Drilling & Development	Trenching	40	40	20	32,000	6.20	5,157
Well Equipping & Mini Park	Demolition	3	30	20	1,800	6.20	290
	Trenching	145	30	20	87,000	6.20	14,021
TOTAL CONSTRUCTION HAULING (HHDT) FUEL CONSUMPTION							19,468

PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Electricity Demand	kWh/year
Pump	4,032,155
TOTAL PROJECT ELECTRICITY DEMAND	4,032,155