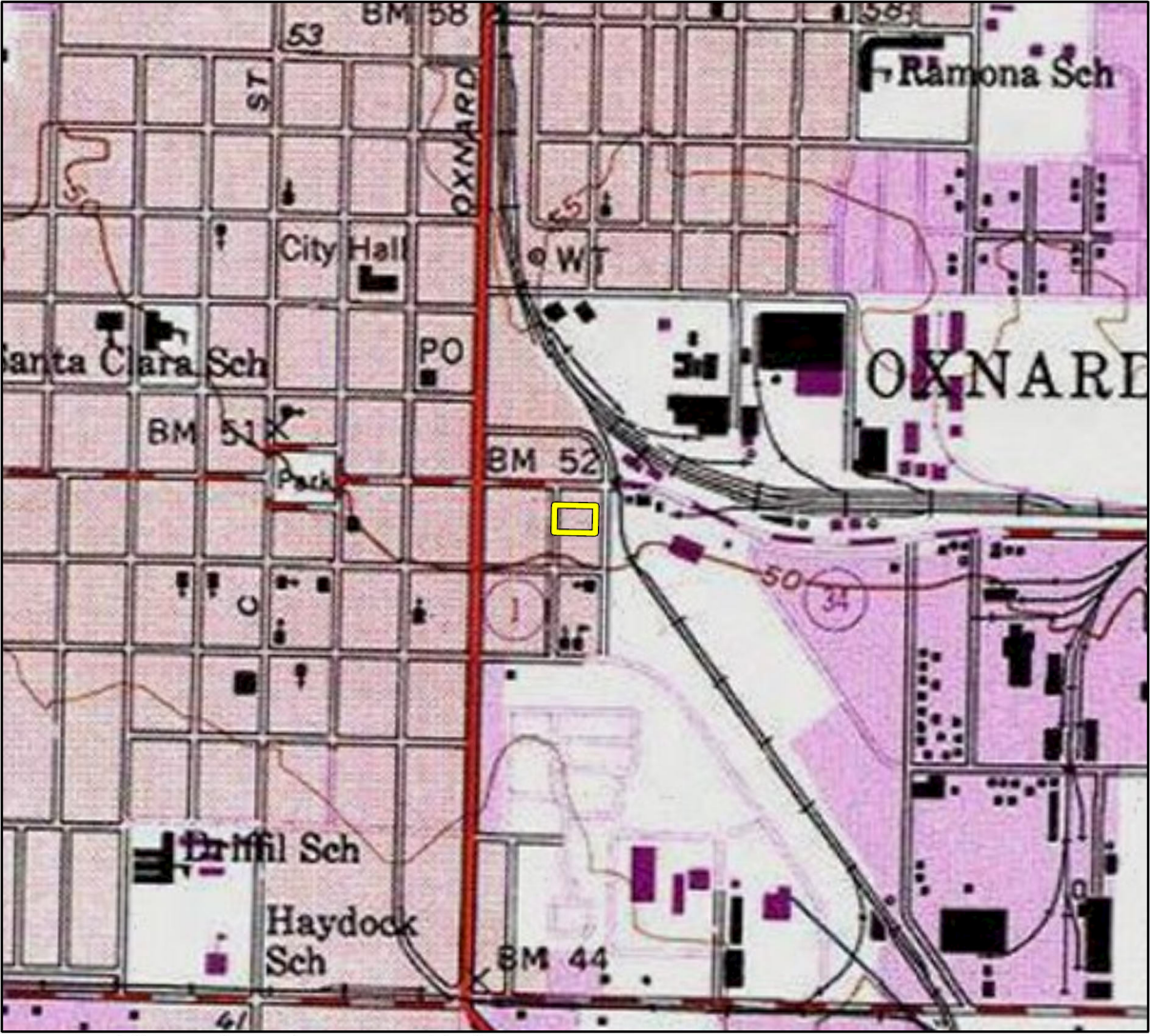
Attachment

Project Location Figures



Basemap provided by National Geographic Society, Esri and their licensors © 2024. Oxnard Quadrangle. T01N R22W S03. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

23-15439 CR
CR Fig X Project Location

Project Location

0 500 1,000 Feet

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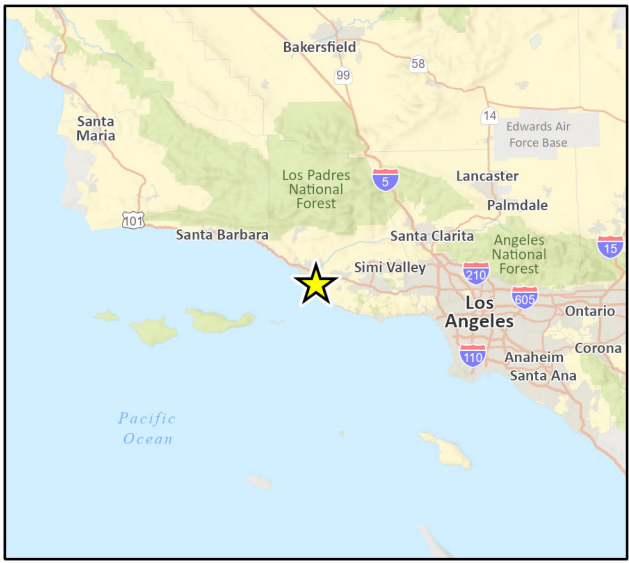


Attachment

CalEEMod

Aspire Apartments Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Aspire Apartments
Construction Start Date	12/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	21.2
Location	34.19703468047386, -119.17552764656341
County	Ventura
City	Oxnard
Air District	Ventura County APCD
Air Basin	South Central Coast
TAZ	3433
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	88.0	Dwelling Unit	0.64	79,517	0.00	5,594	265	—
Enclosed Parking Structure	45.0	Space	0.00	18,000	0.00	—	—	—
Parking Lot	8.00	Space	0.07	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.50	13.4	15.5	24.5	0.04	0.53	1.22	1.72	0.49	0.29	0.75	—	4,923	4,923	0.16	0.12	4.65	4,968
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.39	2.01	15.2	22.5	0.04	0.61	2.84	3.41	0.56	1.38	1.91	—	4,589	4,589	0.16	0.12	0.12	4,628
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.67	2.27	10.7	15.7	0.03	0.38	0.83	1.21	0.35	0.24	0.59	—	3,178	3,178	0.11	0.08	1.29	3,206
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.41	1.96	2.86	< 0.005	0.07	0.15	0.22	0.06	0.04	0.11	—	526	526	0.02	0.01	0.21	531

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.39	2.01	15.1	22.9	0.04	0.53	1.03	1.57	0.49	0.25	0.74	—	4,630	4,630	0.15	0.12	4.46	4,673
2027	2.50	13.4	15.5	24.5	0.04	0.51	1.22	1.72	0.46	0.29	0.75	—	4,923	4,923	0.16	0.12	4.65	4,968
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.91	1.61	14.2	16.6	0.02	0.61	0.21	0.82	0.56	0.05	0.61	—	2,867	2,867	0.12	0.03	0.02	2,879
2026	2.39	2.01	15.2	22.5	0.04	0.57	2.84	3.41	0.53	1.38	1.91	—	4,589	4,589	0.16	0.12	0.12	4,628
2027	2.30	1.93	14.6	22.2	0.04	0.49	1.03	1.52	0.45	0.25	0.69	—	4,567	4,567	0.15	0.12	0.10	4,605
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.12	0.10	0.89	1.05	< 0.005	0.04	0.01	0.05	0.04	< 0.005	0.04	—	181	181	0.01	< 0.005	0.02	182
2026	1.67	1.40	10.7	15.7	0.03	0.38	0.83	1.21	0.35	0.24	0.59	—	3,178	3,178	0.11	0.08	1.29	3,206
2027	1.07	2.27	6.78	10.4	0.02	0.23	0.47	0.69	0.21	0.11	0.32	—	2,090	2,090	0.07	0.05	0.79	2,108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.02	0.02	0.16	0.19	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	29.9	29.9	< 0.005	< 0.005	< 0.005	30.1
2026	0.30	0.26	1.96	2.86	< 0.005	0.07	0.15	0.22	0.06	0.04	0.11	—	526	526	0.02	0.01	0.21	531
2027	0.20	0.41	1.24	1.90	< 0.005	0.04	0.09	0.13	0.04	0.02	0.06	—	346	346	0.01	0.01	0.13	349

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.61	4.28	1.51	16.4	0.03	0.05	2.28	2.33	0.04	0.58	0.62	41.5	3,236	3,277	4.35	0.13	8.85	3,434

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.98	3.68	1.59	10.8	0.03	0.04	2.28	2.32	0.04	0.58	0.62	41.5	3,137	3,178	4.37	0.14	0.78	3,330
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.17	3.86	1.52	12.9	0.02	0.04	2.14	2.18	0.04	0.54	0.58	41.5	3,039	3,081	4.35	0.13	3.97	3,233
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.70	0.28	2.35	< 0.005	0.01	0.39	0.40	0.01	0.10	0.11	6.87	503	510	0.72	0.02	0.66	535

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.97	1.86	1.15	10.5	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,465	2,465	0.12	0.11	8.28	2,509
Area	0.60	2.41	0.05	5.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.6	16.6	< 0.005	< 0.005	—	16.6
Energy	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	733	733	0.07	< 0.005	—	736
Water	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Waste	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Total	2.61	4.28	1.51	16.4	0.03	0.05	2.28	2.33	0.04	0.58	0.62	41.5	3,236	3,277	4.35	0.13	8.85	3,434
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.94	1.83	1.28	10.7	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,382	2,382	0.13	0.12	0.21	2,421
Area	0.00	1.84	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00

Energy	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	733	733	0.07	< 0.005	—	736
Water	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Waste	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Total	1.98	3.68	1.59	10.8	0.03	0.04	2.28	2.32	0.04	0.58	0.62	41.5	3,137	3,178	4.37	0.14	0.78	3,330
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.83	1.72	1.19	9.88	0.02	0.02	2.14	2.16	0.02	0.54	0.56	—	2,277	2,277	0.12	0.11	3.40	2,316
Area	0.30	2.12	0.03	2.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	8.17	8.17	< 0.005	< 0.005	—	8.20
Energy	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	733	733	0.07	< 0.005	—	736
Water	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Waste	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Total	2.17	3.86	1.52	12.9	0.02	0.04	2.14	2.18	0.04	0.54	0.58	41.5	3,039	3,081	4.35	0.13	3.97	3,233
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.33	0.31	0.22	1.80	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	377	377	0.02	0.02	0.56	383
Area	0.05	0.39	< 0.005	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.35	1.35	< 0.005	< 0.005	—	1.36
Energy	0.01	< 0.005	0.06	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	121	121	0.01	< 0.005	—	122
Water	—	—	—	—	—	—	—	—	—	—	—	1.06	3.63	4.68	0.11	< 0.005	—	8.19
Waste	—	—	—	—	—	—	—	—	—	—	—	5.81	0.00	5.81	0.58	0.00	—	20.3
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	0.40	0.70	0.28	2.35	< 0.005	0.01	0.39	0.40	0.01	0.10	0.11	6.87	503	510	0.72	0.02	0.66	535

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.84	1.55	14.1	15.7	0.02	0.61	—	0.61	0.56	—	0.56	—	2,663	2,663	0.11	0.02	—	2,672
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.89	0.99	< 0.005	0.04	—	0.04	0.04	—	0.04	—	168	168	0.01	< 0.005	—	168
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.8	27.8	< 0.005	< 0.005	—	27.9
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.86	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	0.01	0.01	0.02	194
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.1	12.1	< 0.005	< 0.005	< 0.005	12.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.2	12.2	< 0.005	< 0.005	0.02	12.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.01	2.01	< 0.005	< 0.005	< 0.005	2.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

3.3. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.55	13.6	15.8	0.03	0.57	—	0.57	0.53	—	0.53	—	2,748	2,748	0.11	0.02	—	2,757

Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.56	0.65	< 0.005	0.02	—	0.02	0.02	—	0.02	—	113	113	< 0.005	< 0.005	—	113
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.7	18.7	< 0.005	< 0.005	—	18.8
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.06	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	251	251	< 0.005	0.01	0.03	254
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	81.5	81.5	< 0.005	0.01	< 0.005	85.4

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.35	3.35	< 0.005	< 0.005	< 0.005	3.51
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.72	1.72	< 0.005	< 0.005	< 0.005	1.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.58

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.79	1.51	13.3	15.5	0.03	0.56	—	0.56	0.51	—	0.51	—	2,698	2,698	0.11	0.02	—	2,708
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.4	44.4	< 0.005	< 0.005	—	44.5

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.34	7.34	< 0.005	< 0.005	—	7.37
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	0.93	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	219	219	< 0.005	0.01	0.02	222
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.63	3.63	< 0.005	< 0.005	0.01	3.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.05	1.71	14.4	18.6	0.03	0.53	—	0.53	0.49	—	0.49	—	3,326	3,326	0.13	0.03	—	3,338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.05	1.71	14.4	18.6	0.03	0.53	—	0.53	0.49	—	0.49	—	3,326	3,326	0.13	0.03	—	3,338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.34	1.12	9.42	12.2	0.02	0.35	—	0.35	0.32	—	0.32	—	2,174	2,174	0.09	0.02	—	2,182
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.72	2.22	< 0.005	0.06	—	0.06	0.06	—	0.06	—	360	360	0.01	< 0.005	—	361
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.16	0.00	0.00	0.93	0.93	0.00	0.22	0.22	—	929	929	0.01	0.03	3.49	943
Vendor	0.02	0.01	0.45	0.14	< 0.005	0.01	0.11	0.11	< 0.005	0.03	0.03	—	374	374	< 0.005	0.05	0.97	392
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.35	3.76	0.00	0.00	0.93	0.93	0.00	0.22	0.22	—	888	888	0.02	0.04	0.09	899
Vendor	0.02	0.01	0.47	0.15	< 0.005	0.01	0.11	0.11	< 0.005	0.03	0.03	—	375	375	< 0.005	0.05	0.03	391
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.19	0.22	2.46	0.00	0.00	0.60	0.60	0.00	0.14	0.14	—	585	585	0.01	0.02	0.98	593
Vendor	0.01	0.01	0.31	0.09	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	245	245	< 0.005	0.04	0.28	256
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.45	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	96.8	96.8	< 0.005	< 0.005	0.16	98.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	40.5	40.5	< 0.005	0.01	0.05	42.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.97	1.65	13.9	18.6	0.03	0.48	—	0.48	0.44	—	0.44	—	3,326	3,326	0.13	0.03	—	3,338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.97	1.65	13.9	18.6	0.03	0.48	—	0.48	0.44	—	0.44	—	3,326	3,326	0.13	0.03	—	3,338
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.82	0.68	5.75	7.71	0.01	0.20	—	0.20	0.18	—	0.18	—	1,380	1,380	0.06	0.01	—	1,385
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.05	1.41	< 0.005	0.04	—	0.04	0.03	—	0.03	—	228	228	0.01	< 0.005	—	229
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.28	3.89	0.00	0.00	0.93	0.93	0.00	0.22	0.22	—	913	913	0.01	0.03	3.16	927
Vendor	0.02	0.01	0.43	0.14	< 0.005	0.01	0.11	0.11	< 0.005	0.03	0.03	—	367	367	< 0.005	0.05	0.85	384
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.28	0.32	3.51	0.00	0.00	0.93	0.93	0.00	0.22	0.22	—	873	873	0.01	0.04	0.08	884

Vendor	0.02	0.01	0.45	0.14	< 0.005	0.01	0.11	0.11	< 0.005	0.03	0.03	—	367	367	< 0.005	0.05	0.02	384
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.13	1.46	0.00	0.00	0.38	0.38	0.00	0.09	0.09	—	365	365	0.01	0.01	0.57	370
Vendor	0.01	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	152	152	< 0.005	0.02	0.15	159
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.27	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	60.4	60.4	< 0.005	< 0.005	0.09	61.2
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.03	26.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.18	9.94	14.6	0.02	0.37	—	0.37	0.34	—	0.34	—	2,207	2,207	0.09	0.02	—	2,215
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.07	0.60	0.88	< 0.005	0.02	—	0.02	0.02	—	0.02	—	133	133	0.01	< 0.005	—	133
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.11	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.0	22.0	< 0.005	< 0.005	—	22.1
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	1.65	0.00	0.00	0.39	0.39	0.00	0.09	0.09	—	386	386	0.01	0.01	1.34	392
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	0.03	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.71	3.71	< 0.005	< 0.005	0.01	3.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	11.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.1	16.1	< 0.005	< 0.005	—	16.1
Architectural Coatings	—	1.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.66	2.66	< 0.005	< 0.005	—	2.67
Architectural Coatings	—	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.78	0.00	0.00	0.19	0.19	0.00	0.04	0.04	—	183	183	< 0.005	0.01	0.63	185
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.2	21.2	< 0.005	< 0.005	0.03	21.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.51	3.51	< 0.005	< 0.005	0.01	3.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.97	1.86	1.15	10.5	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,465	2,465	0.12	0.11	8.28	2,509
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.97	1.86	1.15	10.5	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,465	2,465	0.12	0.11	8.28	2,509
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.94	1.83	1.28	10.7	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,382	2,382	0.13	0.12	0.21	2,421
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.94	1.83	1.28	10.7	0.02	0.02	2.28	2.30	0.02	0.58	0.59	—	2,382	2,382	0.13	0.12	0.21	2,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.33	0.31	0.22	1.80	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	377	377	0.02	0.02	0.56	383
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.33	0.31	0.22	1.80	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	377	377	0.02	0.02	0.56	383

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	284	284	0.03	< 0.005	—	286
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	59.8	59.8	0.01	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61	< 0.005	< 0.005	—	2.62
Total	—	—	—	—	—	—	—	—	—	—	—	—	346	346	0.03	< 0.005	—	348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	284	284	0.03	< 0.005	—	286
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	59.8	59.8	0.01	< 0.005	—	60.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61	< 0.005	< 0.005	—	2.62
Total	—	—	—	—	—	—	—	—	—	—	—	—	346	346	0.03	< 0.005	—	348
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	47.0	47.0	< 0.005	< 0.005	—	47.3

Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	9.90	9.90	< 0.005	< 0.005	—	9.95
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.43	0.43	< 0.005	< 0.005	—	0.43
Total	—	—	—	—	—	—	—	—	—	—	—	—	57.3	57.3	0.01	< 0.005	—	57.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	386	386	0.03	< 0.005	—	387
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	386	386	0.03	< 0.005	—	387
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	386	386	0.03	< 0.005	—	387
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.04	0.02	0.30	0.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	386	386	0.03	< 0.005	—	387
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	< 0.005	0.06	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.9	63.9	0.01	< 0.005	—	64.1
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.06	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	63.9	63.9	0.01	< 0.005	—	64.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.60	0.57	0.05	5.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.6	16.6	< 0.005	< 0.005	—	16.6
Total	0.60	2.41	0.05	5.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	16.6	16.6	< 0.005	< 0.005	—	16.6

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	1.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	1.84	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.05	< 0.005	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.35	1.35	< 0.005	< 0.005	—	1.36
Total	0.05	0.39	< 0.005	0.52	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.35	1.35	< 0.005	< 0.005	—	1.36

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	6.39	21.9	28.3	0.66	0.02	—	49.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	1.06	3.63	4.68	0.11	< 0.005	—	8.19
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.06	3.63	4.68	0.11	< 0.005	—	8.19

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	35.1	0.00	35.1	3.51	0.00	—	123
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	5.81	0.00	5.81	0.58	0.00	—	20.3

Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	5.81	0.00	5.81	0.58	0.00	—	20.3

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.57	0.57
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09	0.09

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/1/2025	12/31/2025	5.00	23.0	—
Site Preparation	Site Preparation	1/1/2026	1/21/2026	5.00	15.0	—
Grading	Grading	1/22/2026	1/29/2026	5.00	6.00	—
Building Construction	Building Construction	2/1/2026	7/31/2027	5.00	390	—
Paving	Paving	8/1/2027	8/31/2027	5.00	22.0	—
Architectural Coating	Architectural Coating	6/1/2027	7/31/2027	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Site Preparation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Site Preparation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Site Preparation	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Building Construction	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Building Construction	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Building Construction	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Building Construction	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Building Construction	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Building Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building Construction	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Building Construction	Pressure Washers	Diesel	Average	1.00	8.00	14.0	0.30
Building Construction	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Building Construction	Sweepers/Scrubbers	Diesel	Average	1.00	8.00	36.0	0.46
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Paving	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Paving	Dumpers/Tenders	Diesel	Average	1.00	8.00	16.0	0.38
Paving	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Pressure Washers	Diesel	Average	1.00	8.00	14.0	0.30
Paving	Signal Boards	Diesel	Average	1.00	8.00	6.00	0.82
Paving	Sweepers/Scrubbers	Diesel	Average	1.00	8.00	36.0	0.46
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	0.17	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	1.20	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	17.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	70.9	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	12.4	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	30.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	14.2	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	161,022	53,674	0.00	0.00	188

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	300	—
Site Preparation	—	142	7.50	0.00	—
Grading	—	—	3.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.07

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Enclosed Parking Structure	0.00	100%
Parking Lot	0.07	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	479	432	360	166,106	3,228	2,913	2,427	1,120,024
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	88
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
161021.925	53,674	0.00	0.00	188

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	299,345	346	0.0330	0.0040	1,205,175
Enclosed Parking Structure	63,026	346	0.0330	0.0040	0.00
Parking Lot	2,747	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	3,335,501	72,317
Enclosed Parking Structure	0.00	0.00

Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	65.1	—
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	10.4	annual days of extreme heat
Extreme Precipitation	4.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	24.9

AQ-PM	35.8
AQ-DPM	82.4
Drinking Water	72.9
Lead Risk Housing	75.1
Pesticides	64.9
Toxic Releases	48.7
Traffic	51.4
Effect Indicators	—
CleanUp Sites	63.7
Groundwater	87.3
Haz Waste Facilities/Generators	89.4
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	69.4
Cardio-vascular	64.7
Low Birth Weights	54.6
Socioeconomic Factor Indicators	—
Education	98.7
Housing	29.7
Linguistic	96.4
Poverty	97.6
Unemployment	74.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Economic	—
Above Poverty	9.316052868
Employed	12.60105223
Median HI	15.35993841
Education	—
Bachelor's or higher	5.671756705
High school enrollment	100
Preschool enrollment	14.57718465
Transportation	—
Auto Access	20.85204671
Active commuting	69.43410753
Social	—
2-parent households	20.69806236
Voting	23.54677274
Neighborhood	—
Alcohol availability	21.98126524
Park access	48.55639677
Retail density	58.89901193
Supermarket access	37.49518799
Tree canopy	6.813807263
Housing	—
Homeownership	26.45964327
Housing habitability	31.91325549
Low-inc homeowner severe housing cost burden	53.86885667
Low-inc renter severe housing cost burden	57.20518414
Uncrowded housing	14.69267291
Health Outcomes	—

Insured adults	5.479276274
Arthritis	39.1
Asthma ER Admissions	4.5
High Blood Pressure	13.3
Cancer (excluding skin)	82.6
Asthma	12.1
Coronary Heart Disease	9.8
Chronic Obstructive Pulmonary Disease	15.6
Diagnosed Diabetes	5.6
Life Expectancy at Birth	25.4
Cognitively Disabled	3.3
Physically Disabled	6.8
Heart Attack ER Admissions	2.9
Mental Health Not Good	8.1
Chronic Kidney Disease	2.7
Obesity	8.3
Pedestrian Injuries	91.2
Physical Health Not Good	5.0
Stroke	13.0
Health Risk Behaviors	—
Binge Drinking	75.2
Current Smoker	15.5
No Leisure Time for Physical Activity	3.8
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8

Elderly	69.3
English Speaking	8.9
Foreign-born	92.2
Outdoor Workers	2.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	23.8
Traffic Density	34.7
Traffic Access	23.0
Other Indices	—
Hardship	92.9
Other Decision Support	—
2016 Voting	19.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0
Healthy Places Index Score for Project Location (b)	10.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

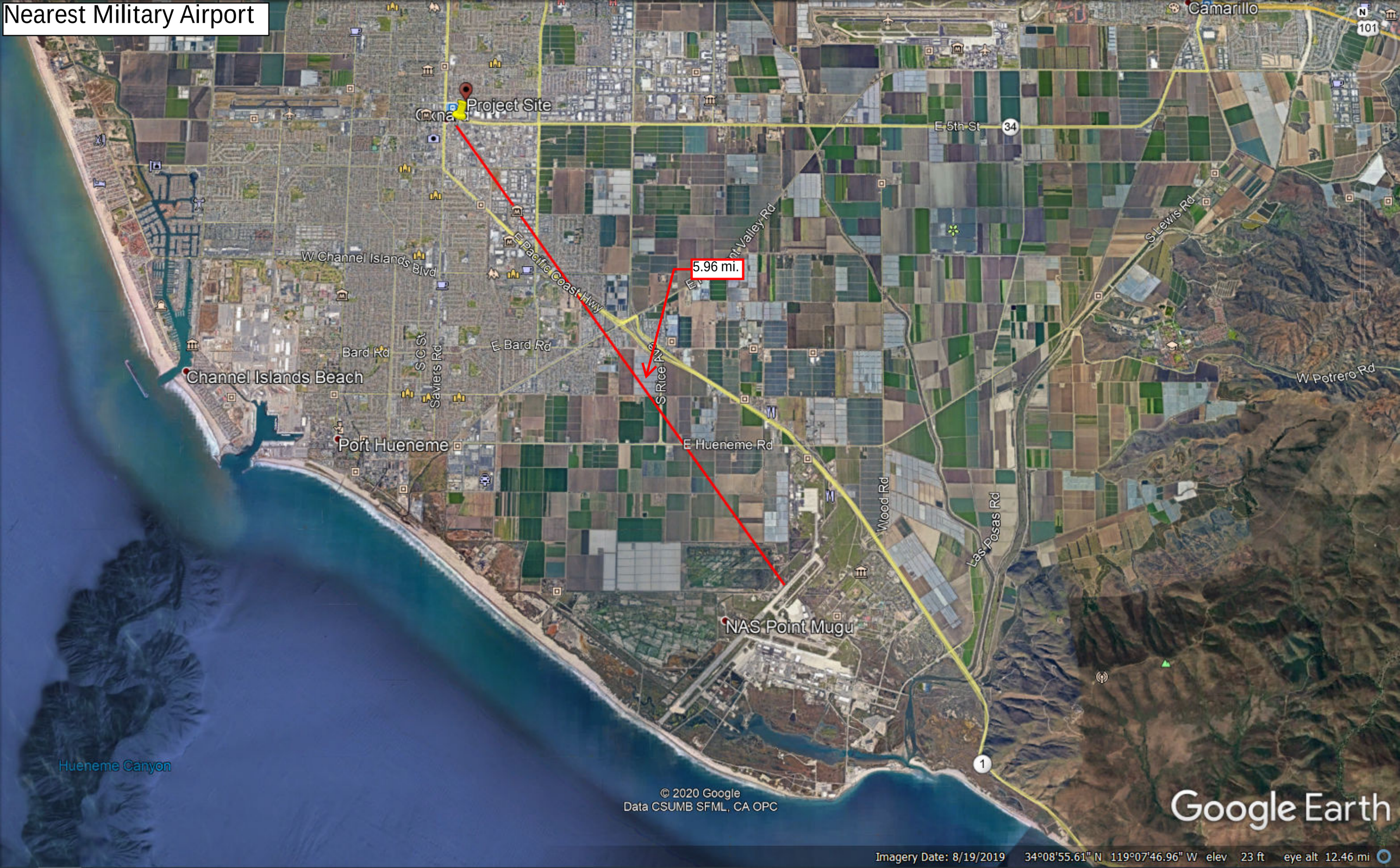
Screen	Justification
Land Use	per applicant provided site plan. Residential square footage separated from enclosed parking use. Total building square footage = 97517 sf. Pocket park modeled as "Special Landscape Area"
Construction: Construction Phases	Per applicant provided data. Architectural coating assumed to occur during final two months of building construction phase.
Construction: Off-Road Equipment	per applicant provided information. Defaults used for architectural coating phase.

Attachment

Proximity to Civilian and Military Airports

Nearest Civilian Airport

Nearest Military Airport



Attachment

CBRS Map

U.S. Fish and Wildlife Service
Coastal Barrier Resources System

CBRS

December 11, 2019

CBRS Units

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/cbra/maps/index.html. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (http://www.fws.gov/cbra/Determinations.html) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS mapper.

Attachment

Ventura County Coastal Zone Boundary

SANTA BARBARA COUNTY

LOS ANGELES COUNTY

Project Site

Coastal Zone Boundary

Incorporated Cities

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), Mapmyindia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Ventura County
Resource Management Agency
Information Systems GIS Services
Map created on 06/26/2018

RMAgis

Ventura County Coastal Zone Boundary

0 1 2 4 Miles

Attachment

EJ Screening and Mapping Tool

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Oxnard, CA

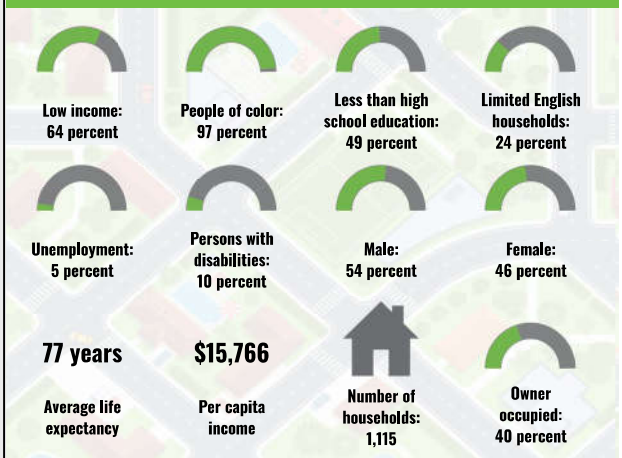
Tract: 06111009100
Population: 5,359
Area in square miles: 0.00

Area reserved for map

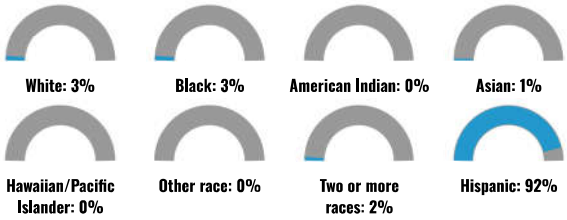
LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	15%
Spanish	82%
Other and Unspecified	2%
Total Non-English	85%

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE

From Ages 1 to 4	6%
From Ages 1 to 18	32%
From Ages 18 and up	68%
From Ages 65 and up	8%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	93%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	7%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

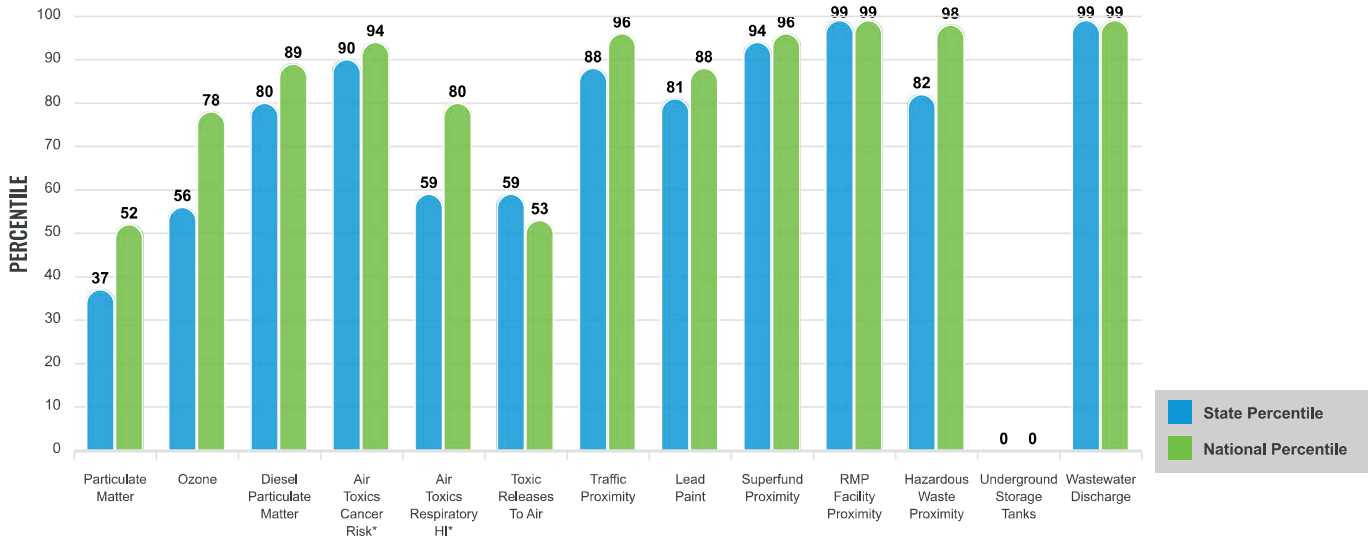
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

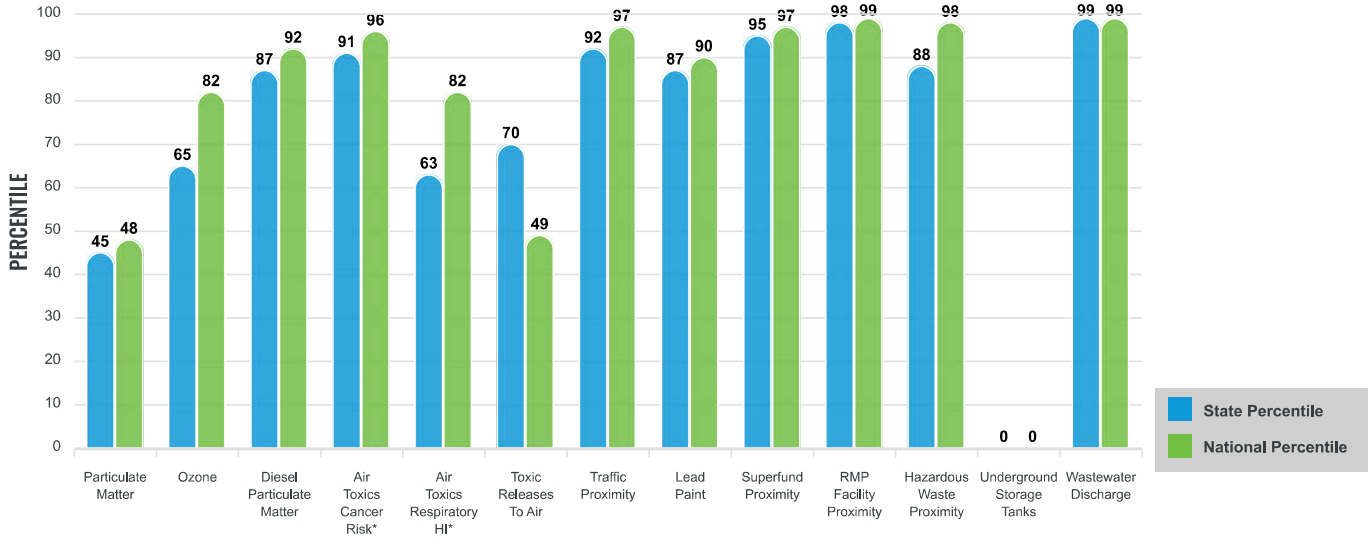
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for Tract: 06111009100

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	6.75	8.65	15	8.08	16
Ozone (ppb)	59.7	65.9	28	61.6	37
Diesel Particulate Matter (µg/m^3)	0.254	0.26	53	0.261	59
Air Toxics Cancer Risk* (lifetime risk per million)	30	27	42	25	52
Air Toxics Respiratory HI*	0.3	0.34	17	0.31	31
Toxic Releases to Air	43	780	29	4,600	16
Traffic Proximity (daily traffic count/distance to road)	310	510	64	210	83
Lead Paint (% Pre-1960 Housing)	0.26	0.31	53	0.3	54
Superfund Proximity (site count/km distance)	0.15	0.17	72	0.13	78
RMP Facility Proximity (facility count/km distance)	13	0.57	99	0.43	99
Hazardous Waste Proximity (facility count/km distance)	4.9	5.9	54	1.9	88
Underground Storage Tanks (count/km^2)	0	1.5	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	81	4	99	22	99
SOCIOECONOMIC INDICATORS					
Demographic Index	81%	45%	96	35%	95
Supplemental Demographic Index	33%	15%	95	14%	96
People of Color	97%	61%	91	39%	94
Low Income	64%	28%	93	31%	91
Unemployment Rate	5%	7%	50	6%	59
Limited English Speaking Households	24%	9%	91	5%	94
Less Than High School Education	49%	16%	95	12%	98
Under Age 5	6%	6%	58	6%	60
Over Age 64	8%	16%	22	17%	18
Low Life Expectancy	21%	18%	82	20%	64

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	3
Water Dischargers	88
Air Pollution	2
Brownfields	0
Toxic Release Inventory	8

Other community features within defined area:

Schools	1
Hospitals	0
Places of Worship	1

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for Tract: 06111009100

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	18%	82	20%	64
Heart Disease	7.4	5.2	92	6.1	76
Asthma	11.7	9.5	95	10	88
Cancer	3.8	5.3	19	6.1	9
Persons with Disabilities	9.2%	10.9%	39	13.4%	26

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	0%	13%	19	12%	12
Wildfire Risk	0%	30%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	19%	10%	84	14%	72
Lack of Health Insurance	19%	7%	96	9%	91
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for Tract: 06111009100

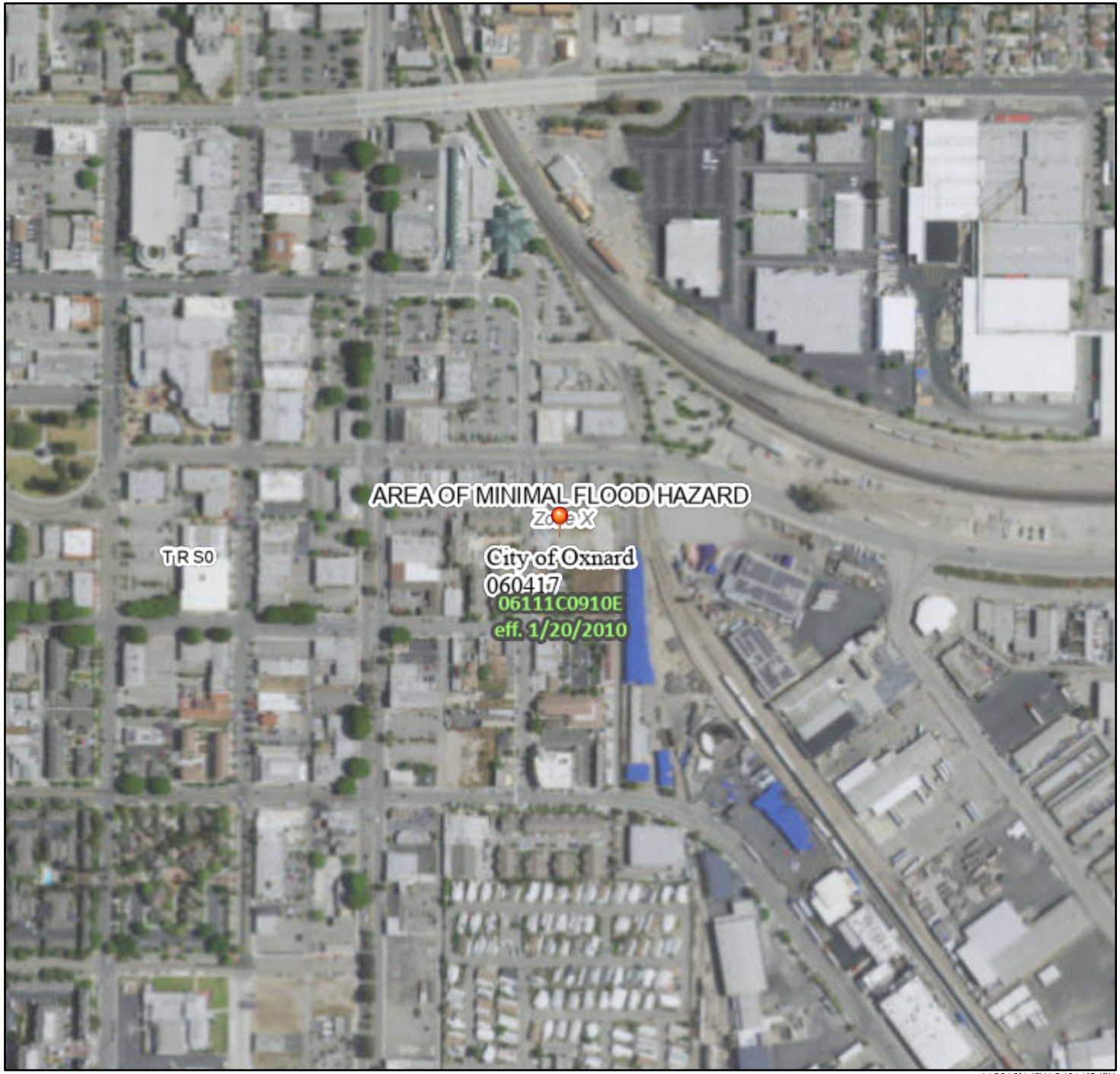
Attachment

FEMA FIRM

National Flood Hazard Layer FIRMette

FEMA

119°10'51"W 34°12'4"N



119°10'14"W 34°11'34"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/12/2024 at 5:08 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment

Geotechnical Engineering Study

advanced geotechnical services, inc.

June 17, 2020
Client Number 5045
Report Number 10616

Many Mansions
1259 E. Thousand Oaks Blvd.
Thousand Oaks, CA 91362

Geotechnical Engineering Study
Proposed Housing Development
536 Meta Street
Oxnard, California

In accordance with our proposal and your authorization, Advanced Geotechnical Services, Inc., (AGS) has prepared this *Geotechnical Engineering Study* for the proposed multi-family housing development to be constructed at the subject site. This report presents the results of our data research, subsurface exploration, laboratory testing, and our professional opinions regarding the geotechnical engineering factors that may affect the proposed development.

Based on the results of this study, it is our opinion that the site is *suitable* for construction of the proposed housing development, provided recommendations of this report are properly incorporated in the design and implemented during construction.

This opportunity to be of service is sincerely appreciated. This report should be read from cover to cover to understand its limitations and to avoid taking a recommendation out-of-context. If you have any questions, or if we may be of any further assistance, please do *not* hesitate to call. We look forward to being of continued service.

Respectfully submitted,
Advanced Geotechnical Services, Inc.

Kenneth J. Palos
President

Scott Moore, GE
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
SCOTT W. MOORE
No. 2560
GEOTECHNICAL
STATE OF CALIFORNIA

Enclosure: *Report No. 10616*

cc: (5) Addressee (1) File Copy

5251 Verdugo Way, Suite L, Camarillo, California 93012
Ph 805.388.6162 / Fx 805.388.6167
info@advancedgeotechnical.com

GEOTECHNICAL ENGINEERING STUDY

Proposed Housing Development
536 Meta Street
Oxnard, California

Report to
Many Mansions
Thousand Oaks, California

June 17, 2020
Client Number 5045
Report Number 10616

Contents

List of Appendices

1. INTRODUCTION

1.1 General Remarks

This *Geotechnical Engineering Study* has been prepared for the proposed multi-family housing development to be constructed at the subject site. The purposes of this study are to (1) evaluate the seismicity of the site and potential seismic hazards, (2) identify on-site soil conditions that may affect the proposed project, and (3) provide geotechnical recommendations for development of the site, including site preparation and grading, temporary excavations, foundation design, seismic design, floor slab design, and drainage. This report presents the findings of our data review, subsurface exploration, laboratory testing, engineering analyses and evaluations, and our conclusions and recommendations.

Appendices are attached following the main report. Appendix A includes an explanation of the field exploration, and the boring logs; Appendix B includes the laboratory test results; Appendix C includes the results of the seismicity study; Appendix D includes the results of the liquefaction and dynamic dry settlement evaluation; Appendix E includes the references used in this study, and the Figures and Plates referenced in this report are included in Appendix F.

1.2 Scope of Services

This geotechnical engineering study included:

a. Site observation and review of geotechnical and geologic data of the general study area. A *Site Location Map* showing a broad view of the overall area where the site is located is provided as Figure 1, and an *Existing Site Plan* showing more detailed current site conditions is provided as Plate 1. Both of these figures were created using images obtained from the Google Earth (2020) web app. A *Proposed Site Plan* is provided as Plate 2. This plan was created utilizing a *Site Aerial* plan prepared by Dicecco Architecture Incorporated, dated April 14, 2020.

b. Reconnaissance of the site and the immediate vicinity of the subject site.

c. Drilling, sampling, and logging of four borings to depths between approximately 20 and 51.5 feet below the existing ground surface. The exploratory borings were located in the field using a tape measure and approximate reference points. Thus, the actual locations of the exploratory borings may deviate slightly from the locations shown on the attached Plates 1 and 2. The boring logs are included in Appendix A, along with a general description of the field operations.

d. Laboratory testing of selected samples to determine the engineering properties of on-site soils. The results of laboratory testing are presented in Appendix B, and on the boring logs in Appendix A. Soil samples will be *discarded* 30 days after the date of this report, unless this office receives a specific request and fee to retain the samples for a longer period of time.

e. Determination of seismic parameters for potential on-site ground motion.

f. Engineering analysis of the data and information obtained from our field study, laboratory testing, and literature review.

g. Development of geotechnical recommendations for construction of the proposed development.

h. Preparation of this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects of the project site.

The scope of this geotechnical study did *not* include an assessment of potential environmental issues.

1.3 Site Description

The subject site is located at 536 Meta Street, in the City of Oxnard, County of Ventura, California. The subject site is currently occupied by a small commercial building located in the southwest corner of the site. The remainder of the site is being utilized for parking, with a portion of the site paved with asphalt, a portion paved with concrete, and a portion covered with gravel. The central portion of the site is unpaved dirt. The current site conditions are shown on the attached Plate 1, *Existing Site Plan*, which was created utilizing an aerial image obtained from the Google Earth (2020) online web app. The subject site is bounded by a vacant strip of city owned land to the south, public alleys to the east and north, and Meta Street to the west. The topography of the subject site and surrounding area is roughly level to gently south to southwesterly sloping, based on our site observations, information available online (Google Earth, 2020) and regional topographic maps. The site is mostly void of vegetation, except for a few scattered weeds.

1.4 Proposed Development

The proposed development will consist of the construction of a new, multi-family housing building, consisting of four stories of housing over a concrete podium deck, with on-grade parking below the majority of the structure, and community services space, a mechanical room and trash room below a portion of the structure. A public plaza with landscaping and walkways will be constructed within the city owned strip of land to the south of the proposed building.

The proposed structure is anticipated to use a combination of concrete and wood frame construction, with a concrete floor slab on grade. Wall loads are expected to be in the range of 1 to 3 kips per foot, and column loads are anticipated to be in the range of 50 to 200 kips.

Grading plans were not available at the time this report was prepared, however, site grading is expected to consist of removal and recompaction of the upper site soils for support of the proposed structure, backfill of related new utilities, and only very minor modifications to the existing site topography, to establish grade for the building pad and site drainage.

2. GEOLOGIC SETTING

2.1 Geology

Geologic conditions beneath the subject property have been interpreted and characterized based upon our review of published and unpublished references, and our subsurface exploration. Our interpretations involve projections of data and assume that geologic conditions are reasonably constant between borings. Work should continue under the review of the Geotechnical Engineer to ensure that geologic conditions different from those described below are recognized and evaluated as soon as possible. Certain subsurface conditions such as groundwater levels and the consistency of near-surface soils will vary with the seasons.

The subject site is located within the Oxnard USGS 7.5-minute quadrangle. According to *Seismic Hazard Zone Report 052* of the Oxnard Quadrangle (CDMG, 2002), the subject site is underlain by younger alluvial materials, which was confirmed during our site exploration.

2.2 Faulting

Southern California is a tectonically active region subject to hazards associated with earthquakes and faulting. Faults are classified as either active, potentially active, or inactive. Active faults are defined by the State of California as faults that have exhibited surface displacement within the last 11,000 years. Potentially active faults are defined by the State as those with a history of movement between 11,000 and 1.6 million years ago. Alquist-Priolo Earthquake Fault Zones are zones that have been established by the State that contain active surface fault traces, and projects that are located within these zones require that a fault investigation be performed to determine if active faulting affects the site. The subject site is *not* located in an Alquist-Priolo Earthquake Fault Zone, and therefore a subsurface fault investigation is not required.

3. EARTH MATERIALS AND SUBSURFACE CONDITIONS

3.1 Alluvium (Qa)

Native, younger alluvial soils were encountered in all four exploratory borings, extending from the ground surface to the total depth explored, 51.5 feet below the existing site grade. From the ground surface to depths of approximately 5 to 6.5 feet the alluvial soils consist of medium dense clayey to silty sand, followed by medium dense to very dense sand to a depth of approximately 25 feet, followed by very stiff sandy to silty clay to a depth of approximately 33 feet, followed by alternating layers approximately 2 to 7.5 feet in thickness of either dense primarily sandy soils, or very stiff primarily clayey soils to the total depth explored, 51.5 feet. The alluvial soils range from light gray to medium and yellowish brown to dark gray, and are generally slightly moist to moist down the near the groundwater level at 18 feet below grade, and very moist to wet below that. More detailed earth material profiles are shown on the attached boring logs in Appendix A.

3.2 Soil Parameters

3.2.1 Compaction

A compaction curve was developed in this study for a representative sample of the upper site soils. The maximum dry density was 124.0 pcf, at an optimum moisture content of 11.5 % for a sample from Boring B-1 obtained between the ground surface and a depth of approximately 5 feet.

3.2.2 Compressibility

Consolidation tests were performed on representative undisturbed samples of the onsite soils, and a remolded sample intended to represent the future compacted fill. The consolidation test results showed a very low potential for hydroconsolidation and overall compressibility on the remolded sample, and a relatively low potential for hydroconsolidation, and low overall level of compressibility on the undisturbed samples tested.

3.2.3 Shear Strength

Direct shear testing was used to measure the peak and ultimate shear strength properties of representative samples of the onsite soils, both remolded and undisturbed, in terms of a cohesion value and a friction angle. The results of the direct shear testing are presented in Appendix B of this report.

3.2.4 Expansion Category

The potential of the soil to swell or expand increases with an increase in soil density, a decrease in initial moisture content, an increase in clay content, and an increase in the activity of the clay content. Expansive soils change in volume (shrink or swell) due to changes in the soil moisture content. The risk of soil expansion increases with an increase in expansion index.

The expansion index of a representative sample of the upper site soils obtained from Boring B-1 between the ground surface and a depth of approximately 5 feet was found to be 29, which is in the *low* expansion category. A representative sample of the blended, recompacted soils should be obtained from the surface of the completed building pad after grading to confirm the expansion index.

3.2.5 Corrosivity

The risk of corrosion of construction materials relates to the potential for soil-induced chemical reaction. The rate of deterioration depends on soil resistivity, texture, acidity, and chemical concentration. A representative sample of the upper site soils was transported to an outside laboratory for corrosivity testing, and the results of these tests are attached in Appendix B, and summarized in the following table. Sulfate and chloride concentrations are expressed in mg/kg on a dry weight basis.

Boring Number	Depth (ft)	Description	pH	Chloride (mg/kg)	Sulfate (mg/kg)	Specific Conductance (umhos/cm)
B-1	0 – 5	CLAYEY TO SILTY SAND	8.0	10	260	260

The sulfate content is negligible (less than 1000 mg/kg) based on ACI 318, and therefore special considerations are not required for concrete which will be in contact with the onsite soils. A representative sample of the blended, recompacted soils should be obtained from the surface of the completed building pad after grading for additional corrosivity testing to confirm the sulfate content.

3.3 Groundwater

At the time of our field exploration, groundwater was encountered at a depth of approximately 18 feet below the existing ground surface. Based on the *Depth to Historically High Groundwater* map, Figure 2 (CDMG, 2002), the historically highest groundwater level below the site was approximately 8 feet below the existing ground surface.

Groundwater elevations are dependent on seasonal precipitation, irrigation, land use, and climatic conditions, among other factors, and as a result fluctuate. Therefore, water levels at the time of construction and during the life of the development may vary from the observations or conditions at the time of our field exploration.

3.3.1 Infiltration Discussion

The intentional introduction of enormous amounts of water into the ground via the infiltration of onsite stormwater is a relatively new concept, and is inherently risky, regardless of any precautions which may be taken. On the subject site, the proposed building footprint takes up nearly the entire site, and therefore any proposed infiltration would have to be implemented directly below the proposed building footprint. In our opinion, *the infiltration of water directly below the proposed building footprint would be especially risky, and ill-advised.* In addition, one of the restrictions related to onsite infiltration is that there must be a minimum of 5 feet of vertical separation between the depth of infiltration and either the current or historically highest groundwater level, whichever is higher. Therefore, since the historically highest groundwater level is 8 feet below the existing ground surface, the bottom of any proposed infiltration features would have to be at 3 feet deep or shallower.

There would also have to be careful coordination of the site utility locations with any proposed stormwater infiltration features. The proposed stormwater infiltration features would *not* be allowed to come into contact with, or to even be in close proximity to utility trench backfill, and utilities would not be allowed to cross above, below or through any proposed infiltration features. The infiltration features would also have to be set back a minimum of 8 feet from all foundations per Ventura County requirements, and based on the nature of the proposed structure, there will be an extensive system of interior pad foundations supporting the podium deck and structure above.

Based on the considerations discussed above, in addition to the presence of expansive soils underlying the subject site, it is our recommendation that stormwater mitigation on the subject site consist of a system which detains, treats and releases the water, in lieu of actual infiltration into the subsurface. Based on our experience with other projects within the City of Oxnard where infiltration was logistically not possible, they allow for a waiver of infiltration requirements. Our understanding of the process of obtaining a waiver of infiltration requirements is that during the plan submittal process, after more complete project plans have been developed and reviewed by our office, a *Letter of Infeasibility* would be prepared by our office detailing the reasons why infiltration is not feasible on the subject site, although the discussion provided above may be sufficient.

4. SEISMICITY

4.1 Seismic Design Criteria

The California Building Code (CBC) is utilized in the seismic design of structures, and is based on the *Maximum Considered Earthquake Ground Motion*. The maximum considered earthquake spectral response accelerations are then adjusted for the general type of earth materials within approximately the upper 100 feet underlying the site,

termed a *Site Class*, which would be D for the subject site. The *Site Class* is based on parameters such as shear wave velocity, standard penetration test resistance, undrained shear strength, and earth material type.

The site-specific seismic design criteria required by the 2019 CBC were determined utilizing the SEAOC/OSHPD (2020) Seismic Design Maps online web app, utilizing the most current, ASCE 7-16 Standard, and the output from this web app is attached, and summarized in the table below.

ASCE Standard	F_a	F_v	PGA	PGA_M	S_S	S_1	S_{MS}	S_{M1}	S_{DS}	S_{D1}
7-16	1.0	Null*	0.754	0.829	1.723	0.635	1.723	Null*	1.148	Null*

*** See Section 11.4.8 of ASCE 7-16**

Conformance to these criteria does *not* constitute a guarantee or assurance that significant structural damage will *not* occur if a maximum level earthquake occurs. The primary goal of seismic design is to protect life and *not* to avoid all damage, since such design may be economically prohibitive.

4.2 Earthquake Effects

The intensity of ground shaking during an earthquake can result in a number of phenomena classified as ground failure, which include ground rupture due to faulting, landslides, liquefaction, and seismically induced dry settlement. Other seismic hazards include seiches and tsunamis. Descriptions of each of these phenomena and an assessment of each, as it may affect the subject site, are included in the following sections. The Seismic Hazards Mapping Act of 1990, which became effective in 1991, requires mitigation of seismic hazards to a level that does *not* cause collapse of buildings intended for human occupancy, but it does *not* require mitigation to a level of no ground failure or structural damage.

4.2.1 Shallow Ground Rupture

Ground surface rupture occurs when movement along a fault is sufficient to cause a gap or rupture where the upper edge of the fault zone intersects the ground surface, and such ruptures rarely occur as single breaks or are confined to a narrow zone. More commonly, ground rupture associated with faulting is characterized by relatively short segments of faulting that occur over a broad area of the upper plate. In some cases, particularly in unconsolidated alluvial sediments, *secondary ground ruptures* can develop from a number of causes not necessarily related directly to surface rupture of the causative fault. The secondary ruptures may be caused by seismically-induced settlement, landslides, and liquefaction. The subject site is *not* located in an Alquist-Priolo Earthquake Fault Zone, and therefore surface fault rupture is not considered a hazard at the subject site, and a subsurface fault investigation is not required.

4.2.2 Earthquake-Induced Landsliding

Landslides are slope failures that occur where the horizontal seismic forces act to induce soil failure. Seismic Hazard Maps have been released by the California Geological Survey that delineate areas that have been subject to, or are potentially subject to landsliding or permanent ground displacement as a result of earthquake-induced ground shaking. The subject site is not located in a seismic hazard zone for landslides, and the subject site and surrounding areas are relatively flat. Therefore, on-site earthquake-induced landsliding is *not* considered to be a hazard.

4.2.3 Seiches and Tsunamis

Seiches are an oscillation of the surface of an inland body of water that varies in period from a few minutes to several hours. Seismic ground motions can induce such oscillations. Tsunamis are large sea waves produced by submarine earthquakes or volcanic eruptions. Since the site is *not* located close to an inland body of water and is at an elevation sufficiently above sea level to be outside the zone of a tsunami runup, the risk of these two hazards is *not* considered pertinent to this site.

4.2.4 Evaluation of Liquefaction Potential

The subject site is located in an area designated as being potentially liquefiable on the State of California *Seismic Hazard Zones Map* of the Oxnard Quadrangle (CDMG, 2002), as shown on the attached Figure 3 (as indicated by the green shading). Therefore, a detailed liquefaction analysis was performed.

Boring B-1 was excavated to a depth of 51.5 feet, in order to assess the liquefaction potential at the site. The results of the liquefaction analysis are included on Plate D-1 in Appendix D, and the results of this analysis, along with other geologic information about the area, were then used to evaluate the potential for the occurrence of liquefaction. The geotechnical data obtained from Boring B-1, and our laboratory test results, including equivalent standard penetration test (SPT) data, percent fines, clay fraction and Atterberg limits results, were utilized in our evaluation of liquefaction hazard potential at the site. Younger alluvial soils consisting primarily of relatively dense sand, and very stiff clay were encountered from the historically highest groundwater level to the total depth of exploration, 51.5 feet.

The historically highest groundwater level in the vicinity of the site is an estimated 8 feet below the existing ground surface, as shown on the attached Figure 2, *Depth to Historically High Groundwater* map (CDMG, 2002), and existing groundwater was encountered at a depth of approximately 18 feet below the ground surface during our site exploration. Therefore, the potential for liquefaction was analyzed by conservatively using the historically highest groundwater depth of 8 feet, as required.

The methods following the recommendations of the NCEER (Youd and Idriss, 1997; Youd et al, 2001) were used in the liquefaction analysis, supplemented by the recommendations of Bray and Sancio (2006), and Boulanger and Idriss (2006) in the analysis of fine grained soils (clays and silts). A design-level earthquake magnitude of 6.90, and a site acceleration of 0.829g (PGA_M) were utilized to perform the liquefaction evaluation.

Blow counts used for the liquefaction evaluation were based on the blow counts measured with the driven sampler, a modified California sampler. Blow counts using the modified California sampler were adjusted to equivalent blows of a standard penetration test (SPT) sampler using a standard multiplier of ⅔. The measured blow counts were also adjusted for borehole diameter, rod length, fines content, overburden pressure, and delivered energy (Youd and Idriss, 1997 and 2001) to correspond to a driving-energy level of 60%, to obtain the final corrected blow count, $N_1|_{60}$. An energy correction factor of 1.33 was utilized for the automatic hammer utilized during sampling, based on specific energy calibration for this particular hammer and drill rig provided by the drilling subcontractor, Choice Drilling. A slightly conservative wet soil density of 130 pcf was also utilized in the calculations for both liquefaction and dynamic dry settlement.

The earth materials underlying the site from the historically highest groundwater level to a depth of approximately 25 feet consist of a dense to very dense sand, with corrected equivalent SPT blow counts all above 30, followed by very stiff sandy to silty clay from 25 to 33 feet, followed by alternating layers of dense sandy soils (also with corrected equivalent SPT blow counts all above 30), and very stiff clayey soils to the total depth explored, 51.5 feet. Representative samples of the clayey soils were also determined to have plasticity indices of 13 and 15. Therefore, based on the preliminary screening criteria contained within SP117A (CGS, 2008), the sandy materials below the historically highest groundwater level would not be considered subject to liquefaction based on equivalent SPT blow counts all above 30, and the very stiff clayey earth materials would be expected to 'behave like clays' (Boulanger and Idriss, 2006; CGS, 2008), and would not be considered susceptible to liquefaction, or any of the related phenomena.

4.2.5 Dynamic Dry Settlement

The potential for seismically-induced dry settlement of the soils underlying the subject site as a result of densification of the sandier earth materials during seismic shaking was analyzed, and the results are shown on the attached Plate D-2 in Appendix D. The calculations were performed utilizing the corrected, equivalent SPT blow counts (as described in the previous section of this report), and the methods of Pradel (1998). The analysis was

conservatively performed from the ground surface to a depth of 20 feet, slightly below the current groundwater level. Soils below the groundwater level would not be prone to dynamic dry settlement.

In accordance with standard local practice, the acceleration to be utilized in the dynamic dry settlement is the greater of $S_{DS}/2.5$ or $^2/_3$ PGA_M (Blake, 2015). The greater of these values is $^2/_3$ $PGA_M = 0.553$ (which is greater than $S_{DS}/2.5 = 0.459$). The upper 5 feet of earth materials underlying the proposed structure will consist of future compacted fill, which would not be considered subject to significant dynamic dry settlement (blow count of 50 assumed).

The results show a maximum potential seismically-induced dry settlement of approximately 0.08 inches from the ground surface to a depth of 20 feet, which would be considered to be negligible.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions and Design Requirements

Based on the findings of our data review, subsurface exploration, laboratory testing, field testing, and engineering analysis, and within the scope of this study, the proposed multi-family housing development is considered *feasible* from a geotechnical engineering viewpoint, provided the recommendations in this report are incorporated into the project plans and implemented during construction. The following is a general discussion of the main geotechnical issues affecting the site, and recommended mitigation measures. More detailed recommendations are provided in subsequent sections of this report.

In order to provide more uniform foundation support for the proposed structure, it is recommended that the upper site soils be over-excavated and recompacted to provide a relatively uniform blanket of newly placed compacted fill for support of the proposed structure. The proposed structure may then be constructed on conventional, shallow spread footings bearing exclusively in newly placed, certified compacted fill, with a minimum of 3 feet of compacted fill underlying all footings. For footings located adjacent to the property lines, the existing native soil beyond the property line may be utilized for passive resistance.

It is recommended that any loose or disturbed upper site soils be over-excavated and recompacted for support of pavements, curbs, sidewalks and any other miscellaneous exterior surface improvements, and it is recommended that an overall minimum of 12 inches of newly placed compacted fill be provided for support of these improvements.

5.1.1 Faults / Seismicity

Although no known active surface fault traces traverse through the subject site, like most of Southern California, the site lies within a seismically active area. Earthquake resistant structural design is recommended. Designing structures to be earthquake-proof is generally considered to be impractical and cost prohibitive. Significant damage to structures may therefore be unavoidable during large earthquakes.

Structural design based on the 2019 CBC (California Building Code) structural analysis procedures specifies the use of the seismic parameters given previously in the *Seismic Design Criteria* section. These minimum code values are intended to protect life and may not provide an acceptable level of protection against significant cosmetic damage and serious economic loss. Significantly higher than code parameter values may be necessary to further reduce potential economic loss during a major seismic event. Structural Engineers, however, often regard higher than code values or procedures as impractical for use in structural design. The Structural Engineer and project Owner must decide if the level of risk associated with code values is acceptable and, if not, to assign appropriate seismic values above code values for use in structural design.

5.1.2 Hazardous Materials

AGS has *not* been retained to provide any type of environmental assessment of the subject property, *nor* to provide recommendations with respect to any contamination that might be present.

5.1.3 Site Grade Adjustments

Grading for the proposed project will consist of removal and recompaction of the upper site soils, and possible slight modification of the topography to create the proposed building pad and provide proper site drainage. A grading plan was not available as of the date of this report, however, the finished building pad area is expected to be at or near the current existing site grade.

5.1.4 Excavation Characteristics

Difficult excavation of the onsite earth materials in terms of hard or cemented materials is not anticipated, however, the relatively sandy earth materials may be subject to caving.

5.1.5 Shrinkage

Shrinkage results when the soil being placed as fill is compacted to a dry density greater than the in-place source materials. Based on experience, it is estimated that an average shrinkage factor of about 15% will result from recompaction of the upper onsite soils. This estimate is based on an average relative compaction of 92% for recompacted materials, and average densities of the undisturbed ring samples. This estimate does not account for the effects of volume losses due to clearing, grubbing and stripping operations, or uncertainty in the density of the in-place materials. If the actual average degree of compaction differs from that used to estimate shrinkage, the actual shrinkage may also differ. Variations in the estimated shrinkage factors should be anticipated and provisions for such variations should be included in the project specifications.

5.1.6 Drainage

All surface runoff must be carefully controlled and must remain a crucial element of site maintenance. Proper drainage and irrigation are important to reduce the potential for excessive infiltration adjacent to foundations. Final grading should provide positive drainage away from footings. All drainage shall be collected and diverted away from the proposed building and foundations in non-erosive devices. Gutters and roof drains should be provided, properly maintained, and discharge directly into glue-joined, watertight subsurface piping. All drainage piping should be watertight and discharge to an appropriate location, as determined by the project Civil Engineer.

All underground plumbing fixtures should be absolutely leak-free. As part of the maintenance program, utility lines should be checked for leaks for early detection of water infiltrating the soils that could cause detrimental soil movements. Detected leaks should be promptly repaired. Proper drainage shall also be provided away from the building footings during construction. This is especially important when construction takes place during the rainy season.

Seepage of surface irrigation water or the spread of extensive root systems into the subgrade of footings, slabs, concrete flatwork or pavements can cause differential movements and consequent distress in these structural elements. Trees and large shrubbery should *not* be planted so that roots grow under foundations and flatwork when they reach maturity. Landscaping and watering schedules should be planned with consideration for these potential problems.

Drainage systems should be well maintained, and care should be taken to *not over* or *under* irrigate the site. Landscape watering should be held to a minimum while maintaining a uniformly moist condition without allowing the soil to dry out. During extreme hot and dry periods, adequate watering may be necessary to keep soil from separating or pulling back from the foundations. Cracks in paved surfaces should be sealed to limit infiltration of surface waters.

5.1.7 Plan Review

When final Grading Plans become available, they should be reviewed by AGS *prior* to submittal to regulatory agencies for approval. Additional analysis *may* be required at that time depending on specific details of the proposed grading and improvements. Approval by this office will be indicated on the plans by signature and stamp.

Please be aware that the contract fee for our services to prepare this report does not include additional work that may be required, such as grading observation and testing, footing observations, plan review, or responses to governmental (regulatory) plan reviews associated with you obtaining a building permit. Where additional services are requested or required, you will be billed on an hourly basis for consultation or analysis. AGS requests a minimum of 24 hours be provided for plan reviews. Please anticipate additional time for plan corrections if all of our geotechnical recommendations have not been added to the plans, prior to our approving and stamping the plans.

5.1.8 Additional Recommendations

The following additional geotechnical recommendations should be incorporated into the final design and construction plans. All such work and design should be in conformance with applicable governmental regulations or the recommendations contained herein, whichever are more restrictive. The following recommendations have *not* been reviewed or approved by any governing agency at this time. These recommendations may change based on obtaining approval from the City. Design of the proposed project should be made following approval from the City.

5.2 Site Preparation

The area of the proposed new structure should be prepared so that foundations are founded above a blanket of newly placed compacted fill with a relatively uniform thickness. General guidelines are presented below to provide a basis for quality control during site grading. It is recommended that all compacted fills be placed and compacted with engineering control under continuous observation and testing by the Geotechnical Engineer and/or their field representative, and in accordance with the following requirements.

5.2.1 Removals

a. When demolishing any existing improvements or subsurface structures in the vicinity of the proposed improvements, the contractor should locate any existing foundations, floor slabs, debris pits, artificial fill, and subsurface trash which may be present. These soils and structures should be completely removed. The resulting excavations should be cleaned of all loose or organic material. In areas to receive fill or to support the proposed structure, deeper removals will be required, as discussed below.

b. Remove all vegetation and loose soil *prior* to fill placement. The general depth of stripping should be sufficiently deep to remove any root systems or organic topsoil which may be present. A careful search shall be made for subsurface trash, abandoned masonry, abandoned tanks and septic systems, and other debris during grading. All such materials, which are *not* acceptable fill material, shall be removed *prior* to fill placement. The removal of trees and large shrubs should include complete removal of their root structures, where applicable.

c. The proposed building area should be over-excavated to a minimum depth of 5 feet below the existing and future site grade, and a minimum of 3 feet below the bottom of the proposed foundations, whichever is deeper. The limits of over-excavation should extend a minimum of 3 feet beyond the outside perimeter of foundations, where possible. The excavated earth materials should be removed and replaced as compacted fill, as described below. Note that the requirement to over-excavate a minimum of 3 feet below the bottom of footings includes the elevator pit footings as well.

d. In areas to receive new exterior hardscape (i.e. concrete paving, sidewalks, curbs, walkways, etc.) or other miscellaneous surface improvements, all existing fill materials and any other loose or disturbed soil should be removed and recompacted. The depth of over-excavation in these areas should be a minimum of either 12 inches below existing grade, or 12 inches below the bottom of any improvements, or supporting aggregate base section, whichever is deeper.

e. A careful search shall be made for any deeper areas of existing fill or loose soil during grading operations. If encountered, these loose areas should be properly removed to the firm underlying soil and properly backfilled and compacted as directed by a field representative of the Project Geotechnical Engineer.

5.2.2 Bottom Stabilization

a. In the event that the soils at the bottom of over-excavation are very moist or wet at the time of grading, additional stabilization of the bottom of over-excavation with large float rock, gravel, and/or geogrid may be required, and/or the use of track-mounted equipment or excavators may be necessary. Stabilization of the bottom of over-excavation may be required, depending on the time of year and recent precipitation at the time of grading, and the type of equipment utilized. Based on the soil moisture conditions and earth material types encountered at the time of our field exploration, however, bottom stabilization is not expected to be required.

5.2.3 Suitable Fill Material

a. The excavated site soils, cleaned of deleterious material, may be utilized for fill. Rock larger than 6 inches should *not* be buried or placed in compacted fill. Rock fragments less than 6 inches may be used provided the fragments are *not* placed in concentrated pockets, and a sufficient percentage of finer grained material surrounds and infiltrates the rock voids.

b. Imported material should generally have engineering properties similar to, or more favorable than those on the subject site, and have an expansion index less than 50. Imported material will require testing to verify the engineering properties, and must be approved by the Geotechnical Engineer *prior* to placement on the site.

5.2.4 Placement of Compacted Fill

a. All fill materials should be placed in controlled, horizontal layers *not* exceeding 6 to 8 inches thick, and moisture conditioned to at least optimum moisture content, but no more than approximately 5% above optimum. Fill materials should be compacted to a minimum 90% of the laboratory maximum dry density, as determined by ASTM D1557. If the relative compaction does not meet this criteria, the contractor should rework the fill until it does meet the criteria. If the fill materials pump (flex) under the weight of construction equipment, difficulties in obtaining the required minimum compaction may be experienced. Therefore, if soil pumping occurs, it may be necessary to control the moisture content to a closer tolerance (e.g., 2 to 3% above optimum), use construction equipment that is not as prone to cause pumping, and/or a stabilizing layer of float rock, gravel, geogrid, or a combination of these, as described above.

b. The field test methods to be used to determine the in-place dry density of the compacted fill shall be in conformance with either ASTM D1556 (sand cone test method) or ASTM D2922 (nuclear gauge method).

c. Subgrade for the support of any concrete pavement subject to vehicular traffic, including the parking garage slab and entry driveways, shall be moisture conditioned as required, and be recompacted to at least 95% of the maximum dry density to a depth of at least 12 inches.

5.2.5 Testing of Compacted Fill

a. At least one compaction test shall be performed for every 500 yd^3 of the fill material. In addition, at least one test shall be performed for every 2 feet of fill thickness.

5.2.6 Inclement Weather and Construction Delays

a. If construction delays or the weather result in the surface of the fill drying, the surface should be scarified and moisture conditioned before the next layer of fill is added. Each new layer of fill should be placed on a rough surface so planes of weakness are not created in the fill.

b. During periods of wet weather and before stopping work, all loose material shall be spread and compacted, surfaces shall be sloped to drain to areas where water can be removed, and erosion protection or drainage provisions shall be made in accordance with the plans provided by the Civil Engineer. After the rainy period, the Geotechnical Engineer and/or his field representative shall *review* the site for authorization to resume grading and to provide any specific recommendations that may be required. As a minimum, however, surface materials previously compacted before the wet weather shall be scarified, brought to the proper moisture content, and recompacted *prior* to placing additional fill.

c. During the construction of concrete foundations and flatwork, construction sequences should be scheduled to reduce the time interval between foundation excavation, subgrade preparation and concrete placement to avoid drying and cracking of the earth materials, or the surface should be covered or periodically wetted to prevent drying and cracking.

5.2.7 Responsibilities

a. Representative samples of material to be used as compacted fill should be analyzed in the laboratory by the Geotechnical Engineer to determine the physical properties of the materials. If any materials other than those previously tested are encountered during grading, the appropriate analysis of this material shall be conducted by the Geotechnical Engineer as soon as practicable. Any imported soil from off-site sources shall be approved *prior* to placement.

b. All grading work shall be observed and tested by the Project Geotechnical Engineer or their field representative to confirm proper site preparation, excavation, scarification, compaction of on-site soil, selection of satisfactory fill materials, and placement and compaction of fill. All removal areas and footing excavations shall be observed by the field representative of the Project Geotechnical Engineer before any fill or steel is placed.

c. The lateral limits and the depths of the required over-excavation should be shown by the Civil Engineer on the grading plans.

d. The grading contractor has the ultimate responsibility to achieve uniform compaction in accordance with the geotechnical report and grading specifications.

5.3 Utility Trench Backfill

The on-site soils are suitable for backfill of utility trenches from 1-foot above the top of the pipe to the surface, provided the material is free of organic matter and deleterious substances. The natural soils should provide a firm foundation for site utilities, but any soft or unstable material encountered at pipe invert should be removed and replaced with an adequate bedding material.

The site Civil Engineer in accordance with manufacturer's requirements should specify the type of bedding materials. Granular soils will need to be imported for bedding and shading of utilities. Jetting of bedding materials should *not* be permitted unless appropriate drainage is provided and the bedding has a sand equivalent greater than 50.

Trench backfill should be placed in 6 to 8-inch lifts, moisture conditioned and properly compacted, as described in the *Site Preparation* section of this report. The upper 1 foot below subgrade in any areas subject to vehicular traffic

should be compacted to a minimum of 95% of the maximum dry density. Jetting of trench backfill is *not* acceptable to compact the backfill.

In areas where utility trenches pass through an existing pavement section, the trench width at the surface shall be enlarged a minimum of 6 inches on each side to provide bearing on undisturbed material for the new base and paving section to match the existing section.

Major underground utilities shall *not* cross beneath buildings unless specifically approved by the Project Civil Engineer and respective utility company. If approved, trenches crossing building areas shall be backfilled with a select gravelly sand compacted to 95% relative compaction.

5.4 Temporary Excavations

It is anticipated that temporary excavations made as part of the required removal and recompaction operations may be made to a maximum vertical height of approximately 5 feet, with excavations over 5 feet in height sloped back at a 1:1 gradient, where space allows. Where there is insufficient space to allow safe temporary excavations, the excavations required as part of the removal and recompaction operations should either be slot cut or shored. It is anticipated that the majority of the temporary excavations where the building perimeter is located in close proximity to the property line could be slot-cut. Shoring will likely be required however, for the removal and recompaction in the elevator pit area, which is located immediately adjacent to the property lines in the southwest corner of the site, since the excavations are anticipated to be approximately 8 to 9 feet deep, and will expose a large vertical cross-section of primarily sandy soils, and may be prone to caving. If permission could be obtained from the city to encroach a sufficient distance into adjacent areas outside the property lines, temporary sloped excavations may be possible, without the need for slot cuts or shoring.

Excavations should *not* be allowed to become soaked with water or to dry out. Surcharge loads should *not* be permitted within a horizontal distance equal to the height of the excavation from the top of the excavation, unless the excavation is properly shored. Excavations that might extend below an imaginary plane inclined at 45 degrees below the edge of an existing foundation should be properly shored to maintain foundation support for the existing structure. All excavations should be observed by a representative of the Geotechnical Engineer during initial excavation, to confirm the anticipated soil conditions, and recommend modifications if necessary.

5.4.1 Slot Cuts

Where safe, temporary vertical or sloped excavations will not be possible, the required removal and recompaction operations should either be performed utilizing the A-B-C slot cut method, or the excavation should be shored, depending on the height of the excavation, proximity to property lines, and earth materials exposed in the excavations. For slot cuts, the individual slots should be a maximum of 8 feet in width. The following sequence of construction should be followed during the removal and recompaction in the A-B-C slots:

a. Make an initial excavation at a 1:1 slope gradient (45 degrees).

b. Excavate the initial A-slots to a sufficient depth to achieve a minimum of 5-foot depth below the current or future grade, whichever is deeper, and also provide a minimum of 3 feet of compacted fill below the bottom of footings. Recompact the earth materials back into the A-slots.

c. Repeat the above procedure in the B-slots, and finally the C-slots, benching the fill into the compacted fill placed in the adjacent slot(s).

During slot cutting operations, additional loads (such as; vehicles, heavy equipment, etc.) should *not* be allowed to operate within 5 feet laterally of the top of the excavation, or within a lateral distance equal to the excavation height, whichever is greater.

5.4.2 Shoring

It is recommended that shoring consisting of drilled soldier piles be utilized to allow safe removal and recompaction in the proposed elevator pit area in the southwest corner of the site, unless permission can be obtained from the city to encroach a sufficient distance into adjacent areas outside the property lines, to allow safe, temporary sloped excavations. Soldier piles typically consist of steel beams placed in drilled holes, and backfilled with concrete up to the anticipated bottom of excavation, and slurry above.

It is anticipated that the soldier piles will be designed as cantilevers, due to the relatively small retained height expected. A triangular distribution of lateral earth pressure may be utilized in the design of cantilever shoring, and any surcharge from adjacent traffic or structures should be added, if necessary.

The following recommendations can be utilized in the design of the shoring system:

a. Soldier piles founded into competent native earth materials can be used for the shoring system. The spacing of the soldier piles should *not* be greater than 8 feet on center.

b. Soldier piles should be embedded a minimum of 8 feet into competent native earth materials, but not less than the depth required for adequate vertical support and lateral resistance. Soldier piles can be assumed fixed at 5 feet below the bottom of temporary excavation.

c. A skin friction of 330 psf can be used to determine vertical support.

d. A triangular distribution of lateral earth pressure may be utilized in the design of the soldier piles, utilizing an equivalent fluid pressure of 30 pcf, plus surcharge loading due to any adjacent structures or other surcharge.

e. Passive earth pressure may be computed as an equivalent fluid having a density of 250 pounds per cubic foot (pcf), with a maximum passive earth pressure of 2500 psf. The allowable passive earth pressure may be increased by 100% for isolated piles. Piles with spacing greater than 3 pile diameters on center can be considered isolated.

f. Drilling of piles should be observed and approved on a continuous basis by a representative of the Geotechnical Engineer. The City Inspector should be notified of the pile drilling *prior* to drilling piles.

g. The exposed earth materials should be inspected during excavation to determine where lagging may be necessary, although due to the sandy nature of the soils, continuous lagging is expected to be required. Due to the arching effect of the soils, a maximum lagging pressure of 400 pounds per square foot may be used for design, providing piles are not spaced greater than 8 feet on center. All lagging should be placed as soon as possible after the excavation is made.

Earth materials exposed in the temporary excavations should be kept moist but not saturated, to limit raveling and sloughing during construction. If wood lagging is used, care should be taken to fill all void spaces between the excavation face and the lagging. All timber lagging must be removed *prior* to permanent construction unless the timbers are properly treated, which they typically are. Any materials used for backfill behind the excavation walls should be free-draining. It is recommended that AGS be allowed to regularly inspect the temporary excavation as work progresses in order to monitor the excavations and verify that conditions assumed for design remain unchanged.

5.5 Foundation Design

After removal and recompaction of the upper site soils as previously discussed in this report, conventional, shallow footings founded exclusively in newly placed, certified compacted fill can be utilized for foundation support for the proposed structure. For footings located adjacent to the property lines, the existing native soil beyond the property line may be utilized for passive resistance. The following design parameters may be used in the design of conventional, shallow footings.

5.5.1 Minimum Footing Dimensions

Minimum required foundation depths and widths are provided below. These embedment depths are into the recommended bearing material, or below the lowest adjacent, final grade, whichever is deeper. Where located adjacent to utility trenches, footings shall extend below a 1:1 plane projected upward from the inside bottom of the trench.

Minimum Footing Embedment Depth, Inches	Minimum Continuous Footing Width, Inches	Minimum Isolated or Pad Footing Width, Inches
24	18	24

5.5.2 Allowable Bearing Pressure and Lateral Resistance

Allowable net vertical soil bearing pressure, including dead and live loads, are given below for footings founded in the recommended bearing material, at the minimum required embedment depths. The bearing capacity can be increased by ⅓ when considering short duration wind or seismic loads.

Bearing Material	Allowable Bearing Pressure, psf	Allowable Sliding Friction Coefficient	Allowable Passive Resistance, psf per foot of depth	Maximum Passive Resistance, psf
COMPACTED FILL	2500	0.35	250	2500

Resistance to lateral loads can be assumed to be provided by friction acting along the base of the foundation, and by passive earth pressure on the side of the footing. For footings located adjacent to the property lines, the existing native soil beyond the property line may be utilized for passive resistance. The allowable friction coefficient may be used with the vertical dead loads, and the allowable lateral passive pressure can be utilized for the sides of footings. These allowable values can be increased by a factor of 1.5 to convert from allowable to ultimate values.

5.5.3 Foundation Settlement

Static settlement of proposed foundations due to dead and frequently applied live loads is not expected to exceed approximately ½ to ¾-inch under the assumed loading conditions, and is expected to occur primarily upon initial application of loading. Differential settlement is not expected to exceed approximately ¼ to ½-inch.

The maximum settlement of the foundations as a result of dynamic dry settlement of the underlying soils in response to strong seismic shaking is anticipated to be a relatively negligible 0.08 inches. The potential differential dynamic dry settlement is typically assumed to be up to approximately ½ of the total settlement, which would be approximately 0.04 inches, and would occur over a distance of 30 feet.

5.5.4 Steel Reinforcement

All foundations should be reinforced with a minimum of four #4 steel bars. Two of these should be placed near the top of the foundation, and two should be placed near the bottom. Final structural details of the footings, such as footing thickness, concrete strength, and amount of reinforcement, should be established by the project Structural Engineer, but should comply with the above minimums. The upper site soils were determined to have an expansion index of 29, which is in the *low* expansion category. Expansion index testing should be performed at the completion of grading to confirm the expansion index at subgrade level of the finished building pad.

5.5.5 Required Observations

Prior to placing concrete in the footing excavations, an observation should be made by a field representative of the Project Geotechnical Engineer to confirm that the footing excavations are free of loose and disturbed soils and are embedded in the recommended earth materials.

5.6 Slab-On-Grade

If earthwork operations are conducted such that the construction sequence is not continuous or if construction operations disturb the surface soils, it is recommended that the exposed subgrade to support concrete slabs be tested within a day of the concrete pour to verify adequate compaction and moisture conditions. If adequate compaction and moisture conditions are not demonstrated, the disturbed subgrade should be over-excavated, scarified, and recompacted in accordance with the guidelines in the *Site Preparation* section of this report *prior* to the slab being poured.

5.6.1 Steel Reinforcing

It is recommended that the proposed concrete slab on grade be a minimum of 5 inches thick, and be reinforced with a minimum of #4 steel bars placed on 18-inch centers each way. The final structural details, such as (1) slab thickness, (2) concrete strength, (3) type, amount, and placement of reinforcing, and (4) joint spacing, should be determined by the project Structural Engineer, but it is recommended that the thickness and steel reinforcing comply with the minimum values provided above. The upper onsite soils are in the *low* expansion range, with an expansion of 29.

Cracking of concrete floor slabs can occur and is relatively common. Steel reinforcement, crack control joints and proper concrete curing are intended to reduce the risk of concrete slab cracking. Fiber reinforced concrete can also be utilized to reduce the risk of slab cracking. In addition, concrete slabs are generally not perfectly level, but they should be within tolerances included in the project specifications.

Tile flooring can crack, reflecting cracks in the underlying concrete slab. Therefore, if tile flooring is used, the slab designer should consider additional steel reinforcement, above minimum requirements, in the design of concrete slabs where tile will be installed. Furthermore, the tile installer should consider installation methods, such as using a vinyl crack isolation membrane between the tile and concrete slab, to reduce the potential for tile cracking.

5.6.2 Vapor Barrier

It is recommended that a minimum 10-mil thick plastic vapor barrier be used under floor slabs in any moisture sensitive areas. The vapor barrier should be installed in accordance with the recommendations contained in the latest version of ASTM E1643. In accordance with our understanding of the latest standard of practice, it is recommended that the concrete slab be poured directly on top of the vapor barrier. It is recommended that no sand be placed between the vapor barrier and concrete slab, however, due to the expansive nature of the onsite soils, it is recommended that 4 inches of sand be placed on top of the finished subgrade, and below the vapor barrier. Seams of the vapor barrier should be overlapped and sealed. Where pipes extend through the vapor barrier, the barrier should be sealed to the pipes. Tears or punctures in the vapor barrier should be completely repaired *prior* to placement of concrete. The concrete mix should be designed so as to minimize possible curling of the slab. The concrete slab should be allowed to cure properly before placing vinyl or other moisture-sensitive floor coverings.

5.7 Concrete and Asphalt Pavement Design

All areas to be paved with asphalt or concrete should be graded in accordance with the recommendations provided in the *Site Preparation* section of this report. Compaction tests will be required for all asphalt and aggregate base. A minimum relative compaction of 95% is required for the asphalt, aggregate base, and upper 12 inches of subgrade soils in areas subject to vehicular traffic. The aggregate base should have a minimum *R*-value of 78 and meet Caltrans Class II specifications. Base materials should be placed and compacted in lifts not exceeding 6 inches. Asphalt should *not* be placed if the base is pumping. Base materials are *not* required beneath curbs and gutters. However, if base materials are not utilized beneath the curbs and gutters, it is recommended that the subgrade soils

be scarified to a minimum depth of 12 inches below the bottom of curb, and recompacted to at least 95% relative compaction.

5.7.1 Asphalt Pavements

The following design criteria are provided in the event that asphalt paving will be utilized for the small exterior parking area proposed at the northwest corner of the site. Asphalt pavement section calculations were performed for asphalt pavement design for a range in traffic indices. Selection of the appropriate traffic index to use should be made by the Project Civil Engineer based on their knowledge of traffic flow and loadings, however, a traffic index of 5 would likely be sufficient for regular passenger car and truck parking.

The structural sections for asphalt pavement were computed in general accordance with the Caltrans method (**California Department of Transportation Highway Design Manual**), using an assumed *R*-value of 15 for the upper site soils. The recommended pavement sections for various traffic indices are summarized in the following table. The City of Oxnard will likely require that additional traffic index testing be performed on a representative sample of the subgrade soils after completion of the parking lot grading.

Traffic Index	Thickness, Inches	
	Asphalt Concrete	Aggregate Base
5.0	4.0	6.0
6.0	4.5	9.0
7.0	5.0	12.0

5.7.2 Concrete Pavements

It is recommended that all exterior concrete pavement subject to vehicular traffic be a minimum of 5 inches thick, and be underlain by a minimum of 4 inches of aggregate base. Concrete flatwork subject only to pedestrian traffic (i.e. walkways, sidewalks, etc.) should be a minimum of 4 inches thick, and may be placed directly on compacted subgrade. All exterior concrete should be reinforced with a minimum of #4 steel bars placed on 24-inch centers each way.

5.7.3 Pavement Maintenance

Pavement section design assumes that proper maintenance practices, such as sealing and repair of localized areas of distress, are employed throughout the design life of the pavement.

5.8 Retaining Wall Design Criteria

The following general retaining wall design criteria is provided for use in the design of elevator pit retaining walls, and any other miscellaneous small retaining walls which may be incorporated into the project design, although the exact locations and heights of any other miscellaneous proposed retaining walls which may be utilized are not yet known. It is anticipated that all proposed retaining walls will retain less than 6 feet of earth materials, and therefore seismic lateral forces need not be incorporated into the design.

Retaining wall foundations may be designed utilizing the criteria provided in the *Foundation Design* section of this report.

5.8.1 Lateral Earth Pressures

The earth pressure behind retaining walls depends on the allowable wall movement, type of backfill materials, backfill slopes, surcharges, and hydrostatic pressures if any. The following equivalent fluid pressures are recommended for vertical walls with no hydrostatic pressure, no surcharge, no seismic effects, and a backfill slope with a gradient less (flatter) than 5(H):1(V). Seismic lateral forces would be in addition to the static wall pressures provided below, and would be required for walls retaining more than 6 feet, which is not currently anticipated.

	Equivalent Fluid Unit Weight, pcf			
Wall Movement	Clean Sand or Gravel Backfill (GW, GP, SW, SP)	Silty Sand or Silty Gravel Backfill (SM, GM)	Clayey Sand, Clayey Gravel Backfill (SC, GC)	Silts, Clays (ML, CL)
FREE TO DEFLECT	30	40	45	55
RESTRAINED	40	50	60	80

In areas where the retaining walls retain sloping ground steeper than 5(H):1(V), the equivalent unit weights in the above table should be increased by 13 pcf for gradients up to 2(H):1(V).

These values are applicable for backfill placed between the wall stem and an imaginary plane rising at a 45-degree angle from below the edge (heel) of the wall footing. If the onsite soil is used as backfill within this zone, the equivalent fluid unit weight associated with a soil classification of SC should be used.

The surcharging effect of anticipated adjacent loads on the wall backfill due to traffic, footings, or other loads, should be included in the wall design. The magnitude of lateral load due to surcharging depends on the magnitude of the surcharge, the size of the surcharge-loaded area, the distance of the surcharge from the wall, and the restraint of the wall. We can provide assistance in evaluating the effects of surcharge loading, if desired, once details are known and provided.

5.8.2 Backfill and Drainage

Except for the upper 18 to 24 inches, the soil immediately adjacent to backfilled retaining walls should be free-draining filter material (such as Caltrans Class 2 permeable material), or gravel wrapped in filter fabric, within a minimum horizontal distance of 1-foot from the back face of the wall. As an alternative to either one of these, a drainage tile product such as Miradrain may be applied to the back face of wall, over the waterproofing. Weep holes and/or a subdrain pipe, as appropriate, should be installed at the base of retaining walls. Subdrain pipe should consist of a minimum 4-inch diameter perforated PVC pipe meeting ASTM D2729 or better, surrounded by a minimum of 1 cubic foot of gravel per lineal foot of pipe, and the entire pipe and gravel system should be wrapped in filter fabric, such as Mirafi 140N. Accordion or similar type pipe is *not* acceptable for subdrain pipe. The top 18 to 24 inches should be backfilled with less permeable compacted fill to reduce infiltration.

During grading and backfilling operations adjacent to any wall, heavy equipment should not be allowed to operate within 5 feet laterally of the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment should be used to compact the backfill soils.

6. OBSERVATIONS AND TESTING

Prior to the start of site preparation and/or construction, *it is recommended that a meeting be held with the Contractor to discuss the project*. We recommend that AGS be retained to perform the following tasks prior to, and/or during construction. Please *advise* AGS a minimum 24 hours *prior* to any required site visit. *All approved plans, permits, and geotechnical reports must be at the jobsite and be made available during inspections.*

a. *Review* grading, foundation, and drainage plans to *verify* that the recommendations contained in this report have been properly interpreted and are incorporated into the project specifications. *If we are not accorded the opportunity to review these documents, we can take no responsibility for misinterpretation of our conclusions and recommendations.*

b. *Observe and advise* during all grading activities, including site preparation and placement of fill, temporary excavations and slot cutting, installation of shoring, and all foundation excavations, to *confirm* that suitable fill soils are placed upon competent material, and to allow

design changes if subsurface conditions differ from those anticipated, *prior* to the start of construction.

c. *Observe* the installation of all drainage devices.

d. *Test* all fill placed for engineering purposes to *confirm* that suitable fill materials are used and properly compacted.

7. LIMITS AND LIABILITY

All building sites are subject to elements of risk that cannot be wholly identified and/or entirely eliminated. Building sites are subject to many detrimental geotechnical hazards, including but *not* limited to the effects of water infiltration, erosion, concentrated drainage, total settlement, differential settlement, expansive soil movement, seismic shaking, fault rupture, landsliding, and slope creep. The risks from these hazards can be reduced by employing subsurface exploration, laboratory testing, analyses, and experienced geotechnical judgment. Many geotechnical hazards, however, are highly dependent on the property owner properly maintaining the site, drainage facilities, and slope and by correcting any deficiencies found during occupancy of the property in a timely manner. Even with a thorough subsurface exploration and testing program, significant variability between test locations and between sample intervals may exist. Ultimately, geotechnical recommendations are based on the experience and judgment of the geotechnical professionals in evaluating the available data from site observations, subsurface exploration, and laboratory tests. Latent defects can be concealed by earth materials, deposition, geologic history, and existing improvements. If such defects are present, they are beyond the evaluation of the geotechnical professionals. No warranty, expressed or implied, is made or intended in connection with this report, by furnishing of this report, or by any other oral or written statement. Owners and developers are responsible for retaining appropriate design professionals and qualified contractors in developing their property and for properly maintaining the property. Retaining the services of a geotechnical consultant should *not* be construed to relieve the Owner, Developer, or Contractors of their responsibilities or liabilities.

The analysis and recommendations submitted in this report are based in part on our subsurface exploration, laboratory testing, site observations, and provided data on geology and the proposed site development. Our descriptions and the boring logs may show distinctions between fill and native soils, between native (e.g., alluvium, colluvium, slopewash) and bedrock formation, and between soil type (e.g., sands and silty sands). Such distinctions were based on geologic information, grading plans when available, intermittent recovered soil/bedrock samples, and judgment. Delineations between these categories of materials may not be perfect and may be subject to change as more information becomes available. For example, judgments may be clouded when recovered samples are intermittent and small in comparison to the volume of soil under study, and macrostructure that would aid the identification process are not as apparent as they would be when the borehole is geologically downhole logged by entering the excavation. When the age of the fill is old, the difference between the structure of the fill and native materials may be less pronounced, or the degree of bedrock formation weathering sometimes makes it difficult to distinguish between overlying alluvium, colluvium, or slopewash and weathered bedrock formational material. In general, our recommendations are based more on the properties of the materials than on the category of the material type such as fill, alluvium, colluvium, slopewash, or bedrock formation. Furthermore, the actual stratigraphy may be more variable than shown on the logs.

Although this report may comment on or discuss construction techniques or procedures for the design engineer's guidance, this report should *not* be interpreted to prescribe or dictate construction procedures or to relieve the contractor in any way of their responsibility for the construction.

Please be aware that the contract fee for our services to prepare this report does not include additional work that may be required, such as grading observation and testing, footing observations, plan review, or responses to governmental (regulatory) plan reviews associated with you obtaining a building permit. Where additional services

are requested or required, you will be billed for any equipment costs and on an hourly basis for consultation or analysis.

The Geotechnical Engineer's actual scope of work during construction is very limited and does *not* assume the day-to-day physical direction of the work, minute examination of the elements, or responsibility for the safety of the contractor's workers. Our scope of services during construction consists of taking soil tests and making visual observations, sometimes on only an intermittent basis, relating to earthwork or foundation excavations for the project. We do *not* guarantee the contractor's performance, but rather look for general conformance to the intent of the plans and geotechnical report. Any discrepancy noted by us regarding earthwork or foundations will be referred to the Owner, project Engineer, Architect, or Contractor for action.

This report is issued with the understanding that it is the responsibility of the Owner, or of their representative, to ensure that the information and recommendations contained herein are called to the attention of the Architect and Engineers for the project and incorporated into the plan and that the necessary steps are taken to see that the Contractor carry out such recommendations in the field. Advanced Geotechnical Services, Inc., (AGS) has prepared this report for the exclusive use of the Client and authorized agents, and this report should *not* be considered transferable. We do recommend, however, that the report be given to future property Owners for the sole purpose of disclosing the report findings.

Findings of this report are valid as of the date of issuance. Changes in conditions of a property may occur with the passage of time whether attributable to natural processes or works of man on this or adjacent properties. Furthermore, changes in applicable or appropriate standards occur due, for example, to legislation and broadening of knowledge. Accordingly, findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, *this report is subject to our review and remains valid for a maximum period of one year*, unless we issue a written opinion of its continued applicability thereafter.

In the event of any changes in the nature and design of the proposed improvements, the conclusions and recommendations contained in this report shall *not* be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

This report may be subject to review by controlling agencies, and any modifications they deem necessary should be made a part thereof, subject to our technical acceptance of such modifications. All submissions of this report should be in its entirety. Under no circumstances should this report be summarized and synthesized to be quoted out of context for any purpose.

Test findings and statements of professional opinion do *not* constitute a guarantee or warranty, and *no* warranties, either expressed or implied, are made as to the professional advice provided under the terms of this agreement. We have strived, however, to provide our services in accordance with generally accepted geotechnical engineering practices in this community at the time of this report.

Appendix A

Field Exploration and Boring Logs

Appendix A
Field Exploration and Boring Logs

The field exploration included a site reconnaissance and subsurface exploration. During the site reconnaissance, the surface site conditions were noted, and the approximate locations of any exploration points were determined. The following descriptions of exploration methods are generic and may include methods not used on this project. Reference to the boring logs can be made to determine which methods are applicable to this project, and any differences between what is described below and actually occurred is described on the boring logs or in the main body of the report.

The test borings were advanced by either hand digging, digging with a backhoe, or drilling. In the case of drilling, a truck-mounted rotary drilling rig with a hollow-stem auger or bucket was used to advance the borings. When we expect to encounter shallow groundwater, a wet rotary drilling operation is usually used. The method actually used is noted on the boring logs. For geologic studies when the need for visual examination of the bedding and other stratigraphic features is needed along with engineering data, the larger bucket augers are used to allow a geologist to enter the excavation for visually logging the hole. When geologically logging borings and trenches, the sides are scraped prior to logging. A prefix B is used to designate a boring made with a drilling rig. When hand dug, the boring numbers have a prefix HB. When a backhoe was used, prefixes TP (test pit) or T (trench) are used. The difference between a trench and test pit being the length of the exploration; a trench being a long narrow exploration, most commonly used for fault studies. In each case, the soils were logged by technical personnel from our office and visually classified in the field in general accordance with the Unified Soil Classification system. The field descriptions have been modified as appropriate to reflect laboratory results when preparing the final boring logs.

Relatively undisturbed samples of the subsurface materials were obtained at appropriate intervals in the borings using a steel drive sampler (2.5-inches inside diameter, 3-inches outside diameter) lined with brass, one-inch-high sample rings with a diameter of 2.4 inches. This is referred to as a modified California sampler. The boring may be advanced by drilling with a hollow-stem auger or with a wet rotary operation. If below the groundwater, the hollow-stem is filled with water or drilling mud to counteract the fluid pressure of the groundwater. The sampler was usually driven into the bottom of the borehole with successive drops of a 140-pound safety hammer connected to the sampler with either A or AW rod and falling 30 inches. An automatic hammer is usually used when drilling with a CME dill rig, and a Safe-T-Driver is used when drilling with a Mobile drill rig. When above the groundwater level, a downhole Safe-T-Driver is usually used. Studies have shown that hammer efficiencies of the automatic hammer is over 90% while that of the Safe-T-Driver is about 70%, based on impact velocities. When a bucket auger is used to advance the boring, the driving weights change with depth, depending on the weight characteristics of the telescoping kelley bar, but the height of fall is usually 18 inches. Sampler driving resistance, expressed as blows per 6 inches of penetration, is presented on the boring logs at the respective sampling depths. When the borings or trenches are excavated with a backhoe, the sampler is pushed into the soil with the force of the backhoe. A hand sampler is used when the borings or trenches are advanced by hand digging or in some cases when a backhoe is used to make the excavation. This hand sampler is similar to the conventional California sampler, but lighter weight. An approximately 8-pound hammer falling about 18 inches is used to drive the hand sampler about 6 inches into the bottom of the exploration. The type of sampler used is noted on the boring logs. In some cases the hammer weight and falling distance deviate from those given above. The actual conditions are shown on the boring logs and supersede the conditions given above.

Ring samples were retained in close-fitting, moisture tight containers for transport to our laboratory for testing. Bulk samples, which were collected from cuttings, were placed in bags and transported to our laboratory for testing.

When noted on the boring logs, standard penetration test (SPT) samples were obtained using either a 20-inch or a 32-inch long split-barrel sampler with a 2-inch outside diameter and a 1.375-inch inside diameter when liners are used (1.5-inch inside diameter without liners). Unless noted otherwise, liners are used. This sampler is driven into

the soil with successive drops of a 140-pound, safety hammer falling 30 inches. The blows are recorded for each 6 inches of penetration for a total penetration of 18 or 24 inches. The sum of the number of blows for the last 12 inches of an 18-inch penetration or the middle 12 inches of a 24-inch penetration is referred to as the *N* value.

Logs, which are presented on Plates at the end of this Appendix, include a description and classification of each stratum, sample locations, blow counts, groundwater conditions encountered during drilling, results from selected types of laboratory tests, and drilling information. Keys to *Soil and Bedrock Symbols and Terms* are included on Plate A-1 and Plate A-2.

Each boring or trench, unless noted otherwise, was backfilled with cuttings at the completion of the logging and sampling. The backfill, however, may settle with time, and it is the responsibility of our client to ensure that such settlement does *not* become a liability.

Advanced Geotechnical Services

Key to Soil Symbols and Terms

Major Divisions			USCS Group Symbols	Typical Names
Coarse-Grained Soils (More than half of material is larger than No. 200 sieve)	Gravels (More than half of coarse fraction is larger than No. 4 sieve)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand, clay mixtures
	Sands (More than half of coarse fraction is smaller than No. 4 sieve)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sand, little or no fines
			SP	Poorly graded sands, gravelly sands little or no fines
		Sands and fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
Fine-Grained Soils (More than half of material is smaller than No. 200 sieve)	Silts and Clays Liquid Limit < 50		ML	Silts and very fine sands, rock-flour, silty or clayey fine sands, or clayey silts with slight plasticity
			CL	Inorganic clays of low or medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays Liquid Limit > 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
	Highly Organic Soils		Pt	Peat and other highly organic soils

Legend of Laboratory Tests

G - Grain Size	C - Consolidation	PP - Pocket Penetrometer
A - Atterberg Limits	DS - Direct Shear	CH - Chemical
P - Compaction	U - Unconfined	
S - Swell/Expansion	T - Triaxial	

Sampler Type

Modified California / Hand Sampler — SPT / Shelby Tube — Rock Core / Bulk — No Recovery

Terms used in this report for describing soils according to their texture or grain size distributions are generally in accordance with the Unified Soil Classification System.

Terms Describing Density and Consistency

Coarse Grained soils (major portion retained on No. 200 sieve) include (1) clean gravels, (2) silty or clayey gravels, and (3) silty, clayey, or gravelly sands. Relative density is related to SPT blow count corrected for overburden pressure or drive energy.

Density		SPT *N* Value Blows/Ft	Relative Density %
Very Loose	vl	0 to 4	0 to 15
Loose	l	4 to 10	15 to 35
Medium Dense	md	10 to 30	35 to 65
Dense	d	30 to 50	65 to 85
Very Dense	vd	> 50	85 to 100

Fine Grained soils (major portions passing No. 200 sieve) inlcude (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shear strength as indicated by penetrometer readings, direct shear, or SPT blow count.

Consistency	Shear Strength, ksf	SPT *N* Value
Very Soft	< 0.25	0 to 2
Soft	0.25 to 0.50	2 to 4
Firm	0.50 to 1.00	4 to 8
Stiff	1.00 to 2.00	8 to 16
Very Stiff	2.00 to 4.00	16 to 32
Hard	> 4.00	> 32

Terms Characterizing Soil Structure

Slickensided	Having inclined planes of weakness that are slick and glossy in appearance.
Fissured	Containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.
Laminated	Composed of thin layers of varying color and texture.
Interbedded	Composed of alternate layers of different soil types.
Calcareous	Containing appreciable quantities of calcium carbonate.
Well Graded	Having wide range in grain sizes and substantial amounts of intermediate particle sizes.
Poorly Graded	Predominately one grain size, or having a range of grain sizes with some intermediate sizes missing.
Porous	Having visibly apparent void spaces through which water, air, or light may pass.

Soil Moisture

From low to high, the moisture content is indicated by:

Dry	D
Slightly Moist	Sl M
Moist (near optimum for compaction)	M
Very Moist	V M
Wet	W

Size Proportions

Designation	Percent by Weight
Trace	< 5
Few	5 to 10
Little	15 to 25
Some	30 to 45

Grain Size Distribution

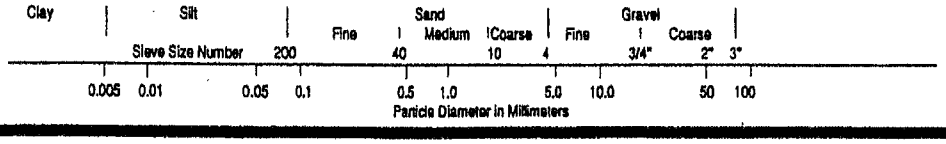


Plate A-1

Advanced Geotechnical Services

Key to Bedrock Symbols and Terms

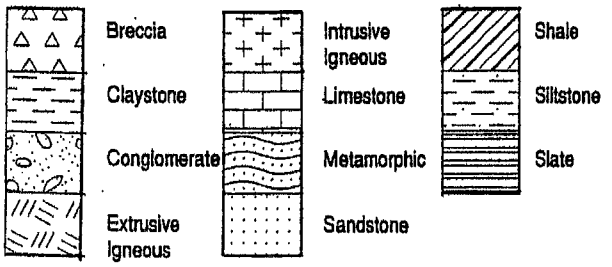
Degree of Weathering
Diagnostic Feature

Descriptive Term	Discoloration Extent	Fracture Condition	Surface Characteristics	Original Texture	Grain Boundary Condition
Unweathered	None	Closed or discolored	Unchanged	Preserved	Tight
Slightly Weathered	Less 20% of fracture spacing on both sides of fracture	Discolored, may contain thin filling	Partial discoloration	Preserved	Tight
Moderately Weathered	Greater than 20% of fracture spacing on both sides of fracture	Discolored, may contain thick filling, cemented rock	Partial to complete discoloration, not friable except poorly cemented rocks	Preserved	Partial Opening
Highly Weathered	Throughout		Friable and possibly pitted	Mainly Preserved	Partial Separation
Completely Weathered	Throughout		Resembles a soil	Partly Preserved	Complete Separation

Discontinuity Spacing

Description for Structural Feature: Bedding, Foliation, or Flow Banding	Spacing		Description for Joints, Faults, or Other Fractures
Very Thickly (Bedded, Foliated, or Banded)	More than 2 m	More than 6 ft	Very Widely (Fractured or Jointed)
Thickly	60 cm to 2 m	2 to 6 ft	Widely
Moderately	20 to 60 cm	8 to 24 in.	Medium
Thinly	60 to 200 mm	2.5 to 8 in.	Closely
Very Thinly	20 to 60 mm	0.75 to 2.5 in.	Very Closely
Description for Microstructural Features: Bedding, Foliation, or Cleavage			
Intensely (Laminated, Foliated, or Cleaved)	6 to 20 mm	0.25 to 0.75 in.	Extremely Close
Very Intensely	< 6 mm	< 0.25 in.	

Graphic Symbols - Bedrock



Rock Hardness

Classification	Field Test
Very Weak	Can be dug by hand and crushed with fingers.
Weak	Friable, can be gouged deeply with a knife and will crumble readily under light hammer blows.
Moderately Strong	Can be peeled with a knife. Material crumbles under firm blows with the sharp end of a geologic pick.
Strong	Cannot be scaped or peeled with a knife point. Hand held specimen breaks with firm blows of the pick.
Very Strong	Difficult to scratch with knife point. Cannot break hand held specimen.

Separation of Fracture Walls

Description	Separation of Walls, mm
Closed	0
Very Narrow	0 to 0.1
Narrow	0.1 to 1.0
Wide	1.0 to 5.0
Very Wide	> 5.0

Fracture Filling

Description	Definition
Clean	No fracture filling material
Stained	Discoloration of rock only. No recognizable filling material.
Filled	Fracture filled with recognizable filling material.

Surface Roughness

Description	Classification
Smooth	Appears smooth and is essentially smooth to the touch. May be slickensided.
Slightly Rough	Asperities on the fracture surfaces are visible and can be distinctly felt.
Medium Rough	Asperites are clearly visible and fracture surface feels abrasive to the touch.
Rough	Large angular asperites can be seen. Some ridge and high-side angle steps evident.
Very Rough	Near vertical steps and ridges occur on the fracture surface.

Where slickensides are observed, the direction of the slickensides should be recorded after the standard discontinuity surface description.

PLATE A-2

advanced geotechnical services, inc.

Boring Log B-1

Sheet 1 of 2

Project **Many Mansions** Client No. **5045** Date Drilled **5/21/20**

Comment **536 Meta Street, Oxnard**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **CMW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Alluvium (Qa) Dark brown Clayey to Silty SAND, moist, med. dense, fine grained					E.I.=29
		3 3 5				102.4	16.5		
5		5 5 9		@5 feet grades Sandier		115.1	11.7		
				Dark yellowish-brown fine grained SAND with some medium and coarse grains, moist, medium dense, poorly graded					
		9 12 27		@8 feet becomes dense		102.3	3.9		
				Light gray fine to coarse SAND, moist, dense, well-graded					
10		15 19 32				109.2	2.6		
		19 27 40				111.5	4.3		
15		12 19 25				111.8	4.7		
				@18 feet Groundwater					
20		17 21 28		Gray fine to coarse SAND, saturated, dense, well-graded		119.8	13.0		
25		19 15 12		Dark gray Sandy to Silty CLAY, very moist, very stiff (no recovery)					

Plate A- 3

advanced geotechnical services, inc.

Boring Log B-1

Sheet 2 of 2

Project **Many Mansions** Client No. **5045** Date Drilled **5/21/20**

Comment **536 Meta Street, Oxnard**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **CMW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
		9 12 15		@30 feet-No Recovery					
		9 13 18				100.7	25.8		
				Gray Clayey to Silty SAND, very moist, medium dense, fine grained					
35		12 19 22				105.1	21.3		
				Dark gray Silty CLAY, very moist, very stiff					
40		32 50-5"				103.2	24.2		
				Dark gray fine SAND, very moist, dense, poorly graded					
				Dark gray Silty CLAY, very moist, very stiff					
45		9 12 16				97.3	27.6		
				Dark gray to black Silty CLAY, very moist, very stiff					
50		9 12 18				96.7	26.3		
				Total Depth Explored 51.5 feet **Groundwater Encountered @ 18 feet** **Boring backfilled with Cuttings 5/21/2020**					
55									

This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.

advanced geotechnical services, inc.

Boring Log B-2

Sheet 1 of 1

Project **Many Mansions** Client No. **5045** Date Drilled **5/21/20**

Comment **536 Meta Street, Oxnard**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **CMW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
				Alluvium (Qa) Medium brown Silty SAND, moist, medium dense, fine grained					
		6 6 8		Becomes Coarser with depth		97.3	16.0		
5		5 6 7				96.7	7.8		
		5 12 16		Light gray fine SAND, moist, medium dense, poorly graded		107.4	6.4		
10		15 19 27		Gray fine to coarse SAND interbeds, stained yellow and orange (Fe), slightly moist, medium dense to dense, well-graded		106.1	27.4		
15		15 18 50-4"		Grayish brown fine to medium SAND, slightly moist to moist, very dense, moderately well-bedded		104.3	3.8		
20		19 27 37		Dark gray fine to coarse SAND with small sub-rounded GRAVELS, saturated, dense, well-graded, groundwater @ 18 feet		86.7	11.9		
25		15 17 21							
				Total Depth Explored 26.5 feet **Groundwater Encountered @ 18 feet** **Boring backfilled with Cuttings 5/21/2020**					

Plate A- 5

advanced geotechnical services, inc.

Boring Log B-3

Sheet 1 of 1

Project **Many Mansions** Client No. **5045** Date Drilled **5/21/20**

Comment **536 Meta Street, Oxnard**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **CMW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
		6 9 13		**Alluvium (Qa)** Medium brown Silty SAND, moist, medium dense, minor white calcium carbonate staining, fine grained		116.9	13.4		
5		6 9 11		Gray fine to medium SAND with some coarse grains and infrequent small sub-rounded Gravels, stained yellow and orange (Fe), slightly moist, medium dense, moderately well graded. Coarsening with depth to yellow brown fine to coarse SAND with small Gravels		106.4	4.9		
		10 12 18				103.7	4.0		
				Yellowish-brown fine SAND, slightly moist, medium dense, friable, poorly graded					
10		10 17 21		Light gray fine to coarse SAND with small sub-angular to sub-rounded, slightly moist, medium dense, well graded		107.6	3.3		
15		19 21 32		Light gray fine to medium SAND, slightly moist, dense, poorly graded		115.1	3.8		
				Gray coarse SAND and GRAVEL, poorly graded, and fine to coarse SAND, saturated, dense, well-graded @18 feet Groundwater					
20		10 24 30				108.5	16.5		
25		18 21 35		Gray fine to medium SAND with some coarse grains, very moist to saturated, dense, poorly graded		99.9	24.0		
				Total Depth Explored 26.5 feet **Groundwater Encountered @ 18 feet** **Boring backfilled with Cuttings 5/21/2020**					

Plate A- 6

advanced geotechnical services, inc.

Boring Log B-4

Sheet 1 of 1

Project **Many Mansions** Client No. **5045** Date Drilled **5/21/20**

Comment **536 Meta Street, Oxnard**

Drilling Company/Driller **Choice Drilling** Equipment **Hollow Stem Auger**

Driving Weight (lbs) **140** Average Drop (in.) **30** Hole Diameter (in.) **8**

Elevation _____ ft Depth to Water _____ ft After _____ hrs on _____ Logged By **CMW**

Depth, ft	Sample	Blows/6"	Graphic Symbol	Description of Material	Attitudes	Dry Unit Weight, pcf	Moisture Content, %	-#200, %	Other Tests
				This log, which is part of the report prepared by Advanced Geotechnical Services, Inc. for the named project, should be read together with that report for complete interpretation. This summary applies only at this boring location and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.					
		3 4 6		**Alluvium (Qa)** Medium brown Clayey to Silty SAND with some Gravels, moist, med. dense, fine grained		104.9	16.9		
5		5 7 14		Light gray fine to coarse SAND with some small Gravels, slightly moist, medium dense, well-graded		106.1	3.1		
		10 12 19		Yellowish-brown fine to medium SAND with some small Gravels, slightly moist, dense, well-graded		99.3	2.5		
10		15 19 22		Yellow brown fine to medium SAND and sub-rounded Gravel, slightly moist, dense, moderately well-graded		112.7	3.3		
15		18 27 32		Gray fine to coarse SAND and GRAVEL, moist, dense, well-graded, occasional brown and gray Clay lenses		84.8	10.7		
				@18 feet Groundwater					
20		27 37 50-6"		Gray fine to coarse SAND with small Gravels, saturated, very dense		118.9	15.3		
				Total Depth Explored 21.5 feet **Groundwater Encountered @ 18 feet** **Boring backfilled with Cuttings 5/21/2020**					
25									

Plate A- 7

Appendix B

Laboratory Testing

Appendix B
Laboratory Testing

A laboratory test program is designed for each project to evaluate the physical and mechanical properties of the soil and bedrock materials encountered at the site during our field exploration program. Laboratory tests were conducted on representative samples for the purpose of classification and determining their properties for use in analyses and evaluations. The most common laboratory tests include moisture-density, Atterberg limits, grain-size analyses (sieve and hydrometer analyses), sand equivalent, direct shear, consolidation, compaction, expansion index, and *R*-values. The following descriptions of test methods are generic and may include methods not used on this project. Reference to the boring logs and test results on Plates attached to this appendix will show which tests were performed for this project. Laboratory testing is performed in general accordance with the most recent ASTM (2007) test designations available at the time of testing.

Classification Tests

Classification testing is performed to identify differences in material behavior and to correlate the results with shear strength and volume change characteristics of the materials. Classification testing includes unit weight (e.g., dry density), moisture content, Atterberg limits, grain size analyses (sieve and hydrometer), and sand equivalent.

Moisture-Density Test

Site soils were classified in the laboratory in accordance with the Unified Soil Classification System. Moisture contents are performed in general accordance with ASTM Test Designation D2216 and unit weights were determined in general accordance with ASTM Test Designation D2937. Field moisture contents and dry unit weights were determined for the ring samples obtained in the field. Field moisture contents and dry unit weights are shown on the boring logs in Appendix A.

Sieve Analysis

Sieve analysis tests were conducted on the on-site soils in general accordance with sieve analysis test procedure from ASTM Test Designation D422. This method covers the quantitative determination of the distribution of particle sizes in soils. If this test was performed, the results are presented on Plates attached to this appendix.

Hydrometer Test

Hydrometer tests were performed in general accordance with ASTM Test Designation D422. If this test was performed, the results are presented on Plates attached to this appendix. Samples with obviously little course material and a high percentage of fines were prepared with a wet method (ASTM Test Designation D2217) rather than air-drying the sample and pulverizing with a mortar and pedestal.

Shear Tests

Direct shear tests were performed in general accordance with ASTM D3080 to determine the shear strength parameters of undisturbed on-site soils or remolded soil specimens. The samples are usually tested in an artificially saturated condition. This is accomplished by soaking the specimens in a confined container for a period of one or 2 days, depending on the permeability of the material. The specimen, 1-inch-high and 2.4-inch-diameter, is placed in the shear device, and a vertical stress is applied to the specimen. The specimen is allowed to reach an equilibrium state (swell or consolidate). The specimen is then sheared under a constant rate of deformation. The rate of deformation for a slow test, sufficiently slow to presumably allow drainage, is selected from computed or measured consolidation rates to simulate full drainage (full dissipation of any tendency for pore water pressure changes) during shear. A rate of displacement of 0.005 inches per minute was used for the most tests. The process usually is repeated for 3 specimens, each under different vertical stresses. The results from the 3 tests are plotted on a diagram of shear stress and normal (vertical) stress at failure, and linear approximations are drawn of the failure curves to determine the angle of internal friction and cohesion. The first moisture content shown on the graphs (associated with peak values) is for either the in-situ condition or the remolded condition, and the second moisture content (associated with ultimate value) is for the soaked condition.

Consolidation Test

Consolidation tests were performed in general accordance with ASTM D2435 and D5333 on selected samples to evaluate the load-deformation characteristics of the earth soils. The tests were performed primarily on material that would be most susceptible to consolidation under anticipated foundation loading. The soil specimen, contained in a 2.4-inch-diameter, 1.0-inch-high sampling ring, is placed in a loading frame under a seating pressure of 0.1 ksf. Vertical loads are applied to the samples in several geometric increments, and the resulting deformations were recorded at selected time intervals. When the pressure reaches a preselected effective overburden pressure (often 2 ksf) and the specimen has consolidated under that pressure, the laboratory technician adds water to the test cell and records the vertical movement. After the specimen reaches equilibrium with the addition of water, the technician continues the loading process, usually up to a pressure of about 8 ksf. The specimen is then unloaded in increments, and the test is dismantled. The results of the test are presented in terms of percent volume change versus applied vertical stress. If this test was performed, the results are presented on Plates attached to this appendix.

Compaction Test

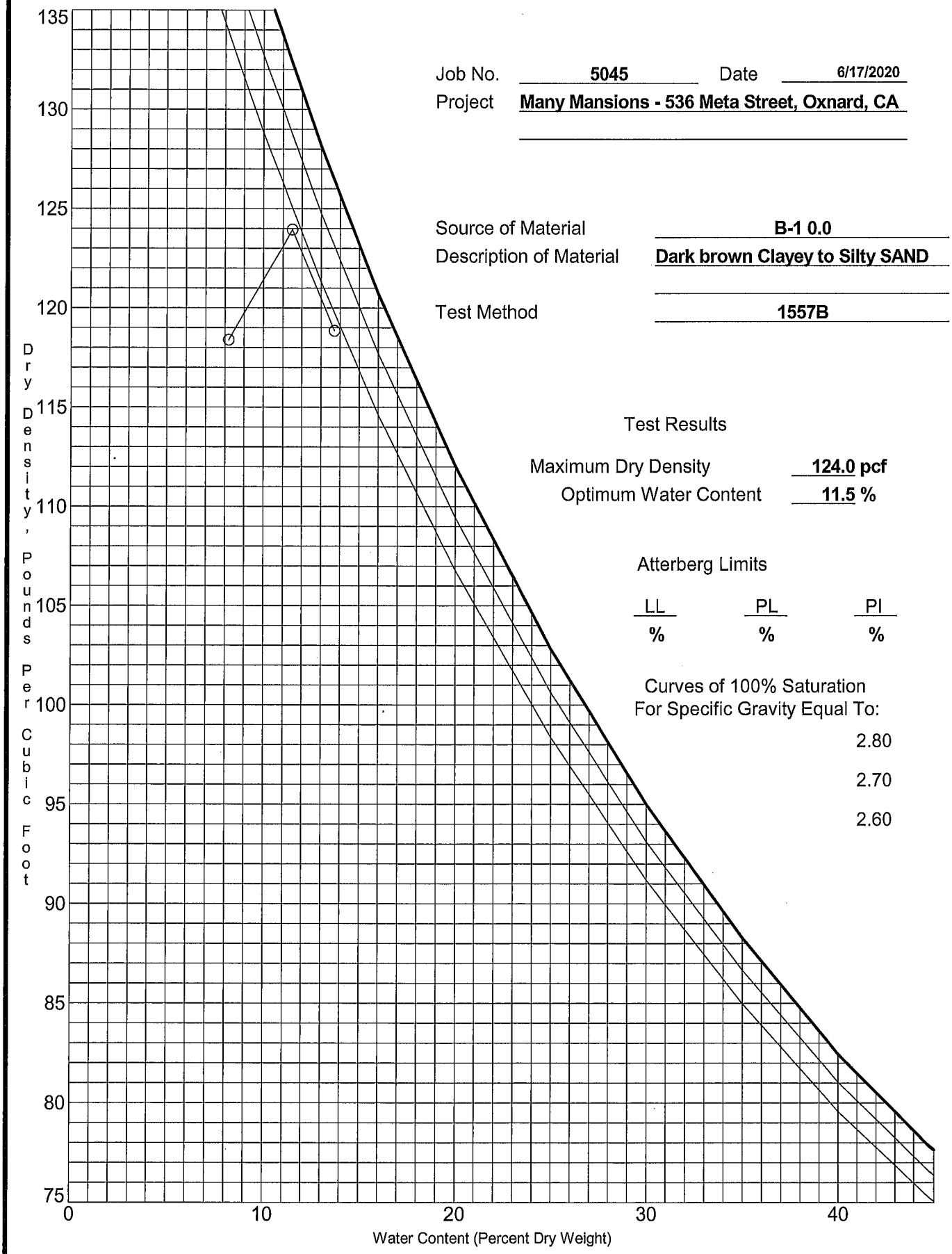
Compaction tests provide information on the relationship between moisture content and dry density of the soil compacted in a given manner. The maximum density is obtained for a given compaction effort at an optimum moisture content. Specifications for earthwork are in terms of the unit weight (or dry density) expressed as a percentage of the maximum density, and the moisture content compared to the optimum moisture content. Compaction tests were performed in general accordance with ASTM Test Designation D1557 to determine the maximum dry densities and optimum moisture contents of the on-site soils. If this test was performed, the results are presented on Plates attached to this appendix.

Expansion Index Test

The expansion index test provides an assessment of the potential for expansion or heave that could be detrimental to foundation or slab performance. Expansion Index tests are performed on shallow on-site soils in general accordance with expansion test procedures in ASTM D4829. In this test, a specimen is compacted at a degree of saturation between 45% and 55% in a 4.01-inch-diameter, 1.0-inch-high ring. The specimen is subjected to a seating pressure of 144 psf, water is added to the test cell, and swell is monitored until the expansion stops. The volume of swell is converted to an expansion index. Any test results are summarized on the boring logs in Appendix A.

Sample Remolding

In some cases remolded samples are used when performing direct shear tests and consolidation tests. Samples are remolded to a specified moisture and density by compacting the soil in a 2.42-inch-diameter sample ring. The specified moisture content is either at optimum or a few percentage points above optimum. The specified dry density is usually at a relative compaction of 90%. The required moisture is added to and mixed with dry soil, providing a homogeneous mixture. A 2.42-inch-diameter ring is placed in a 6-inch-diameter compaction mold, and soil is placed in the mold to above the ring. The soil is then compacted with a 5.5-pound hammer with a free-fall drop of 12 inches. The sample is trimmed, and the dry density is determined. If the dry density deviates more than about one pound per cubic foot from the specified dry density, the process is repeated with the number of blows altered to better achieve the specified dry density.



Job No. 5045 Date 6/17/2020

Project Many Mansions - 536 Meta Street, Oxnard, CA

Source of Material B-1 0.0

Description of Material Dark brown Clayey to Silty SAND

Test Method 1557B

Test Results

Maximum Dry Density 124.0 pcf

Optimum Water Content 11.5 %

Atterberg Limits

LL	PL	PI
%	%	%

Curves of 100% Saturation For Specific Gravity Equal To:

2.80

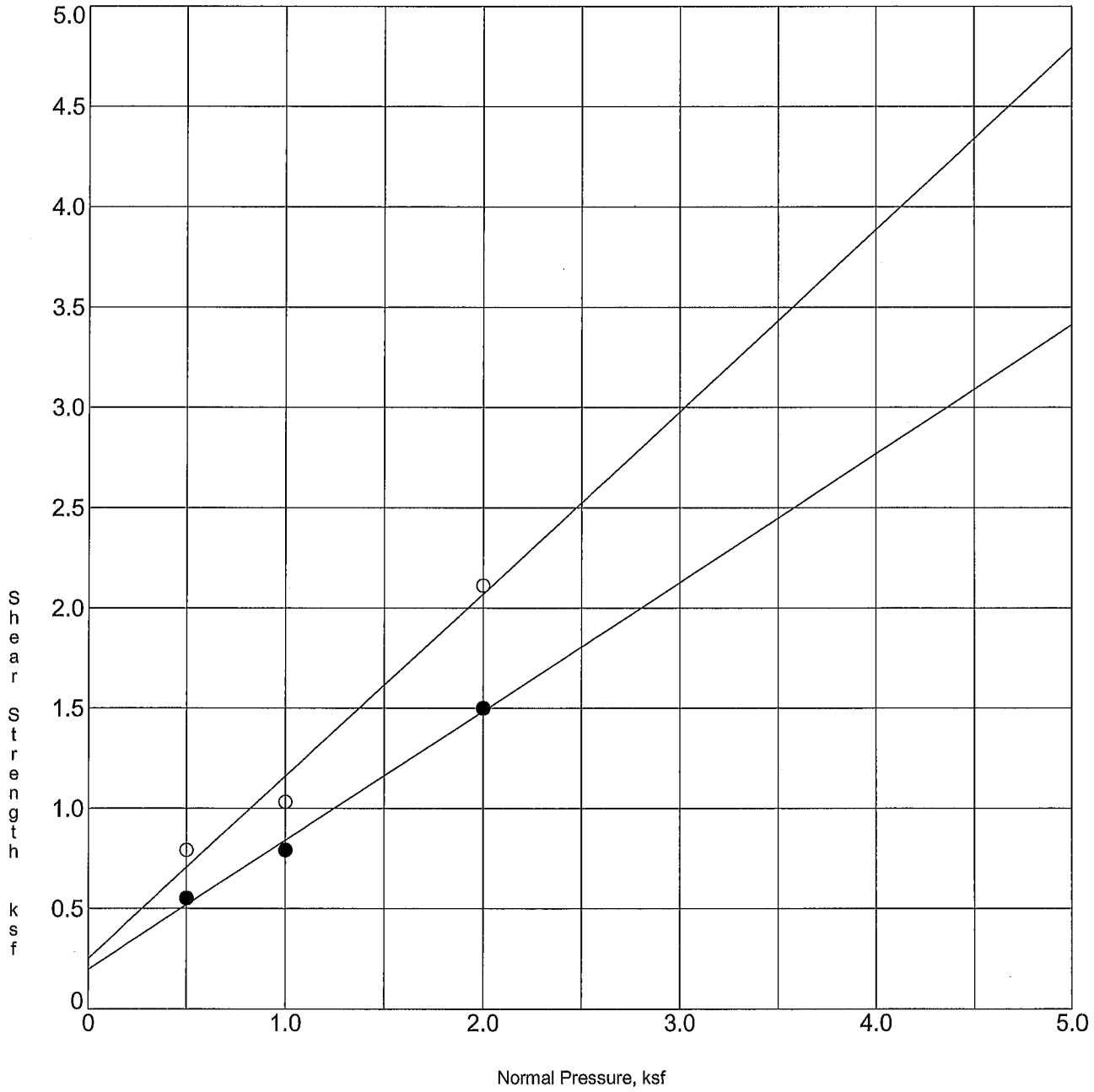
2.70

2.60

Moisture-Density Relationship

Advanced Geotechnical Services, Inc.

Plate B- 3



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-1	0.0	Dark brown Clayey to Silty SAND			0.25	42
●	B-1	0.0	*REMOLD*			0.20	33

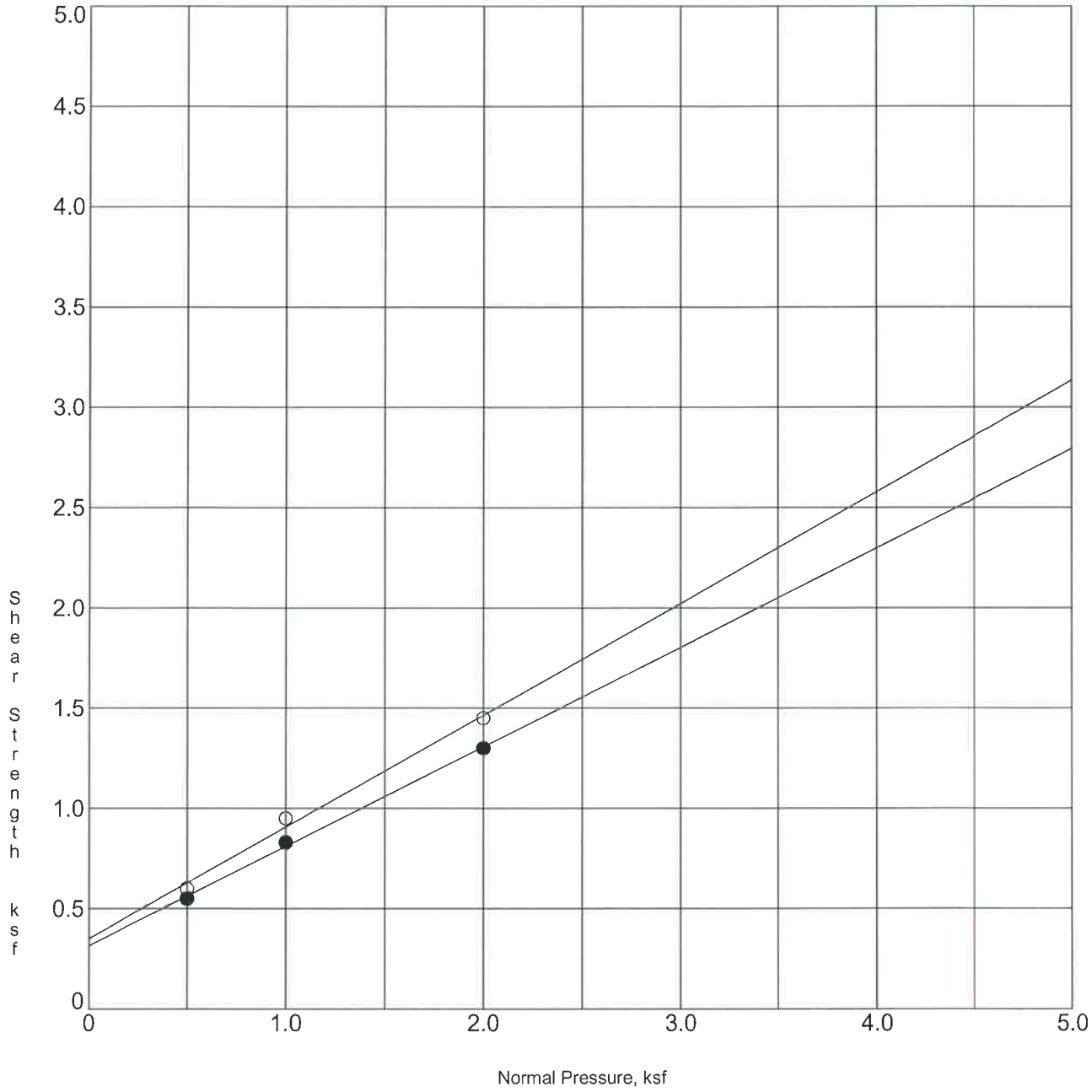
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 4



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-4	2.5				0.35	29
●	B-4	2.5				0.32	26

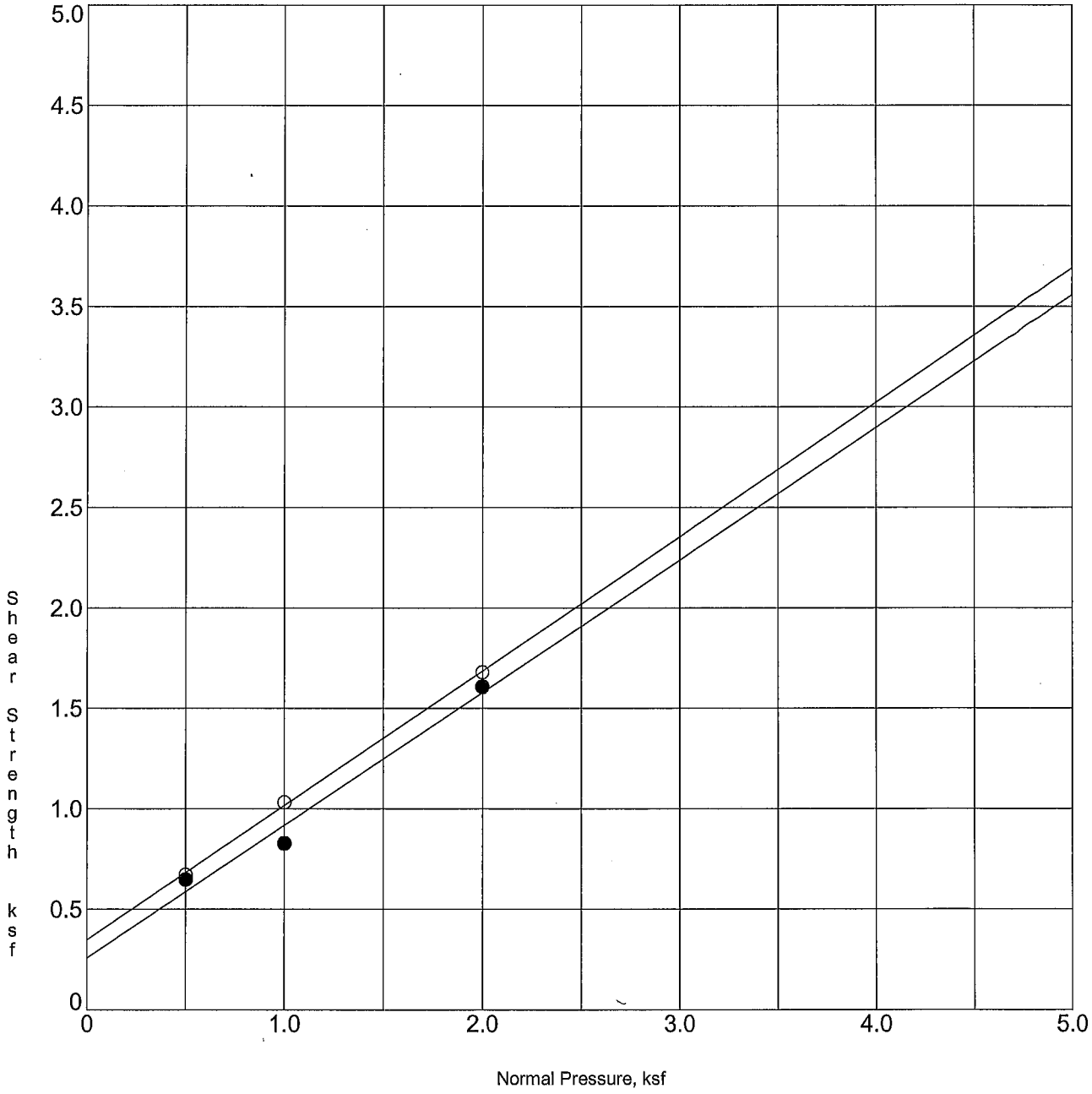
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 5



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

Specimen Identification			Classification	DD	MC%	c, ksf	phi
○	B-3	5.0	Gray fine to medium SAND			0.35	34
●	B-3	5.0	*UNDISTURBED*			0.26	33

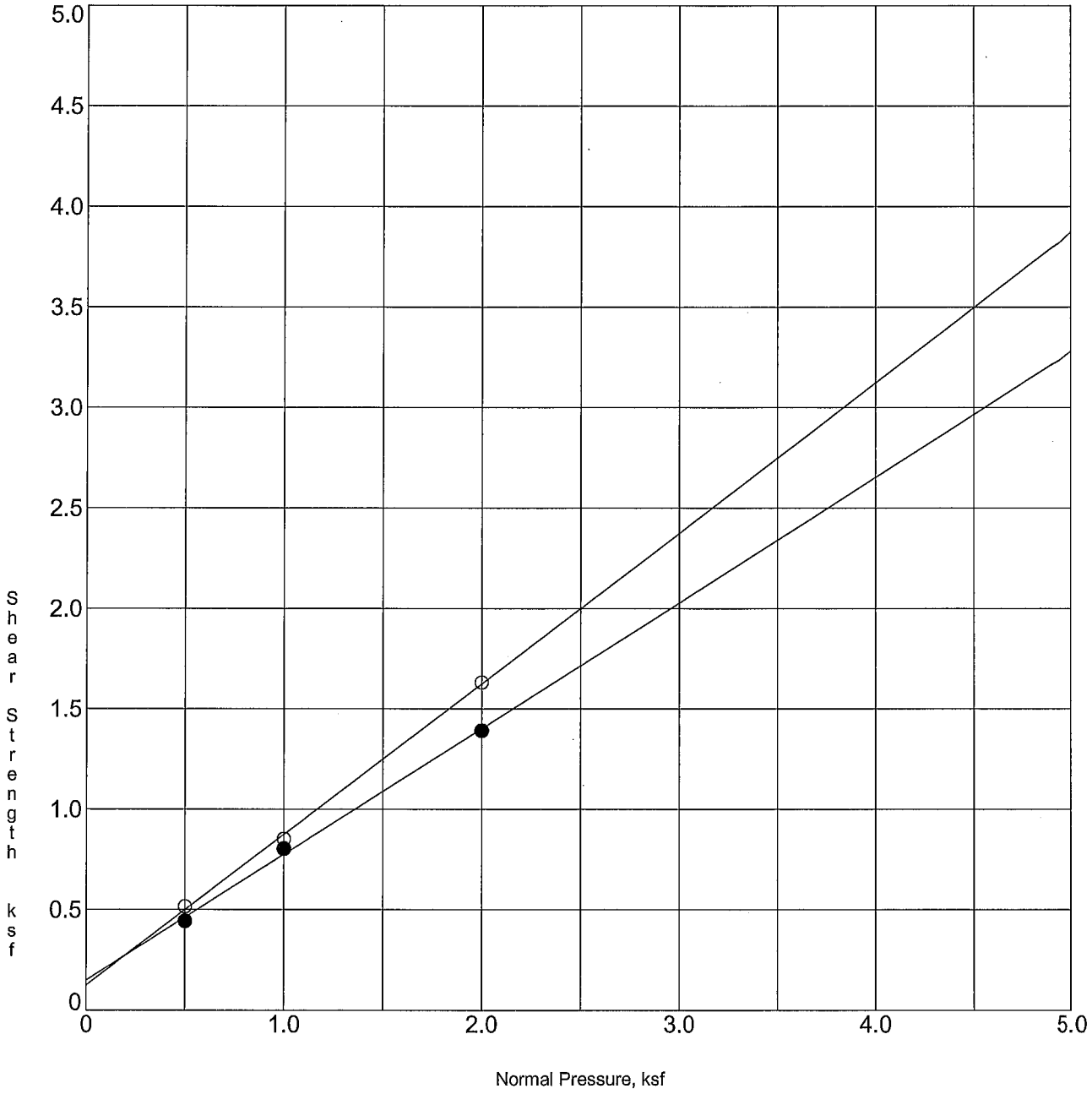
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 6



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

	Specimen Identification		Classification	DD	MC%	c, ksf	phi
○	B-2	7.5	Light gray fine SAND			0.13	37
●	B-2	7.5	*UNDISTURBED*			0.15	32

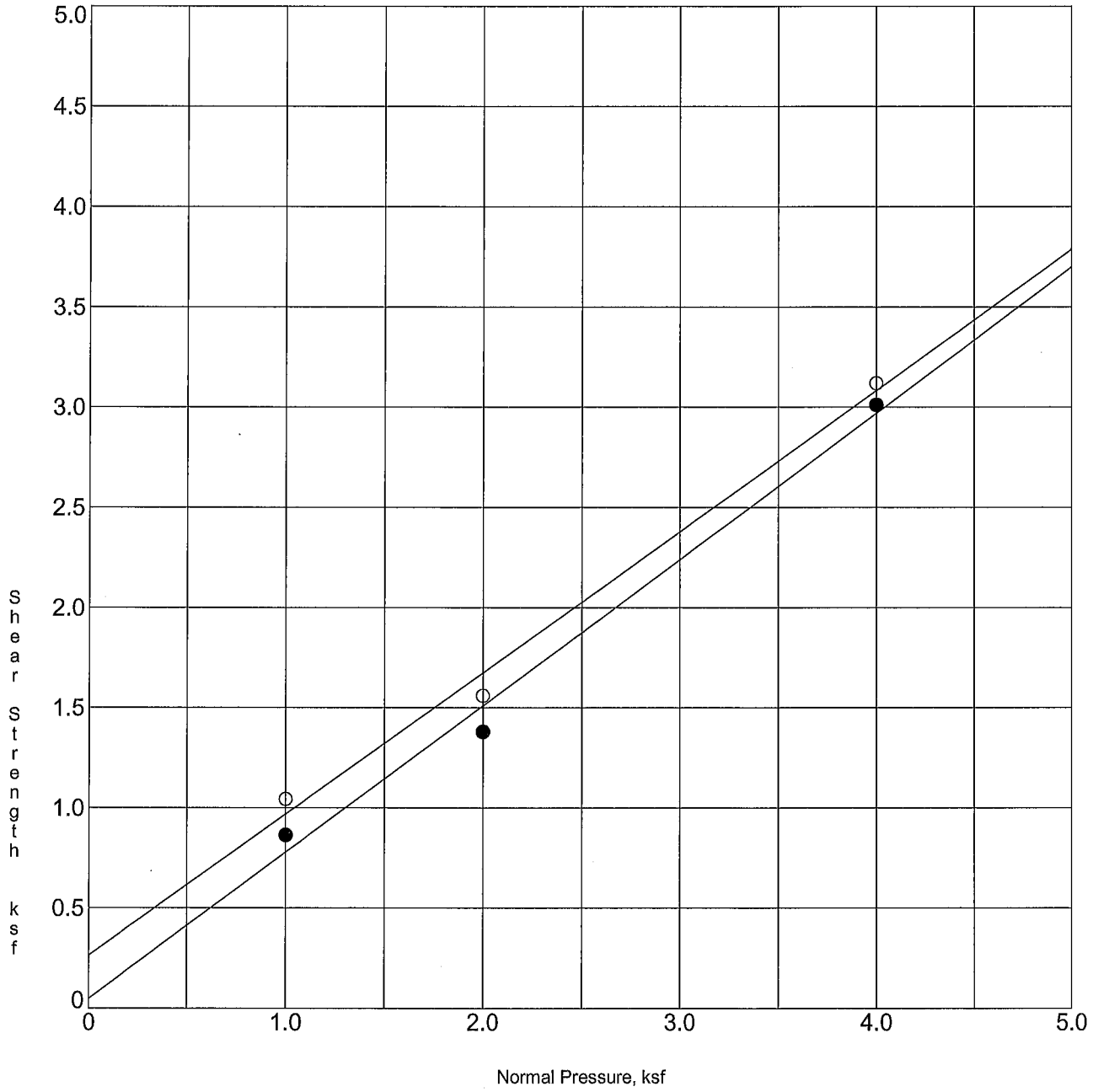
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 7



○ - Peak Shear ● - Ultimate Shear △ - Residual Shear

Specimen Identification			Classification	DD	MC%	c, ksf	phi
○	B-1	10.0	Light gray fine to coarse SAND			0.26	35
●	B-1	10.0	*UNDISTURBED*			0.05	36

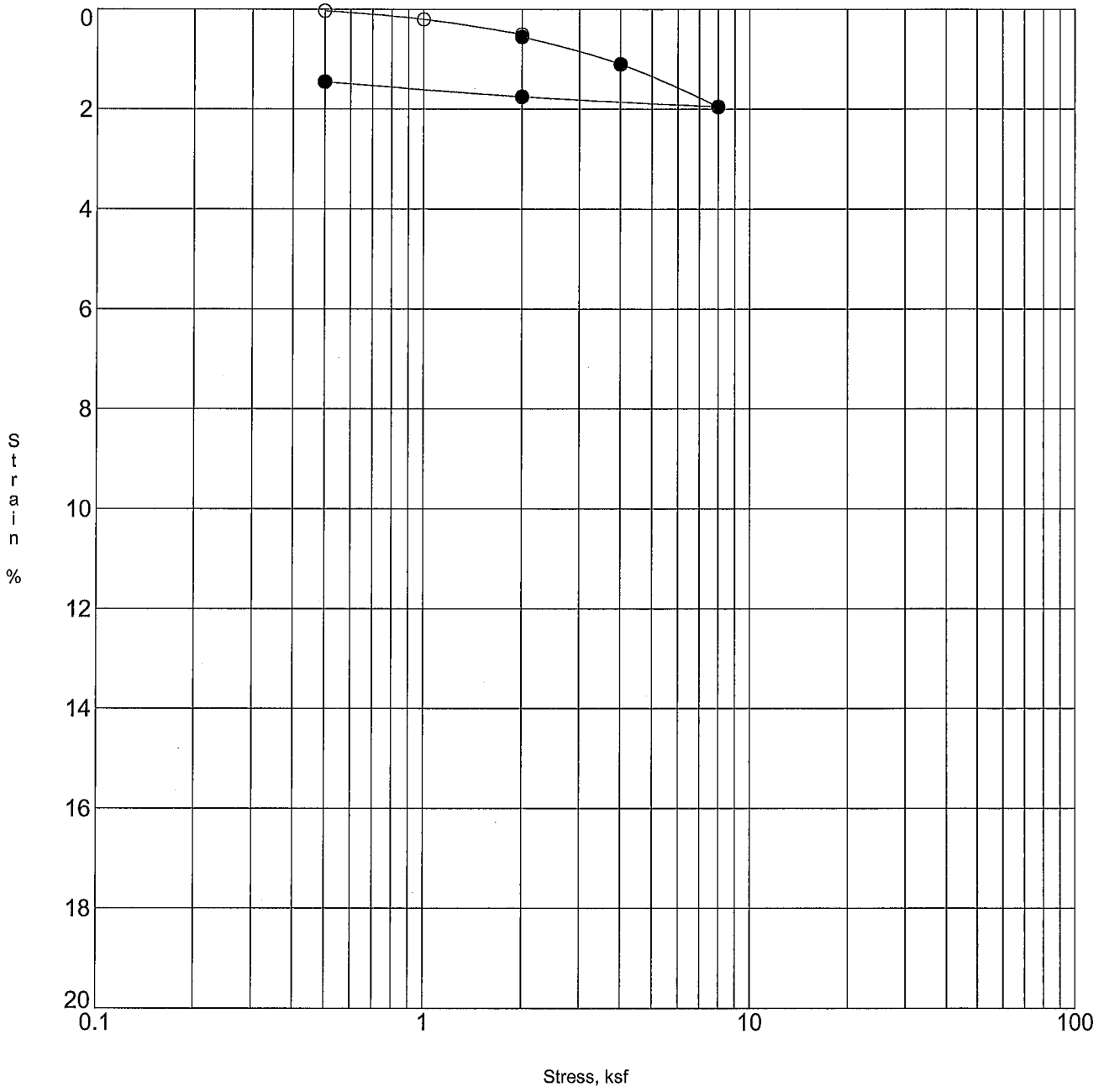
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Shear Test Diagram

Advanced Geotechnical Services, Inc.

Plate B- 8



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

Specimen Identification			Classification	DD	MC%
○	B-1	0.0	Dark brown Clayey to Silty SAND	123.2	10.9
●	B-1	0.0	*REMOLD*	121.6	5.7

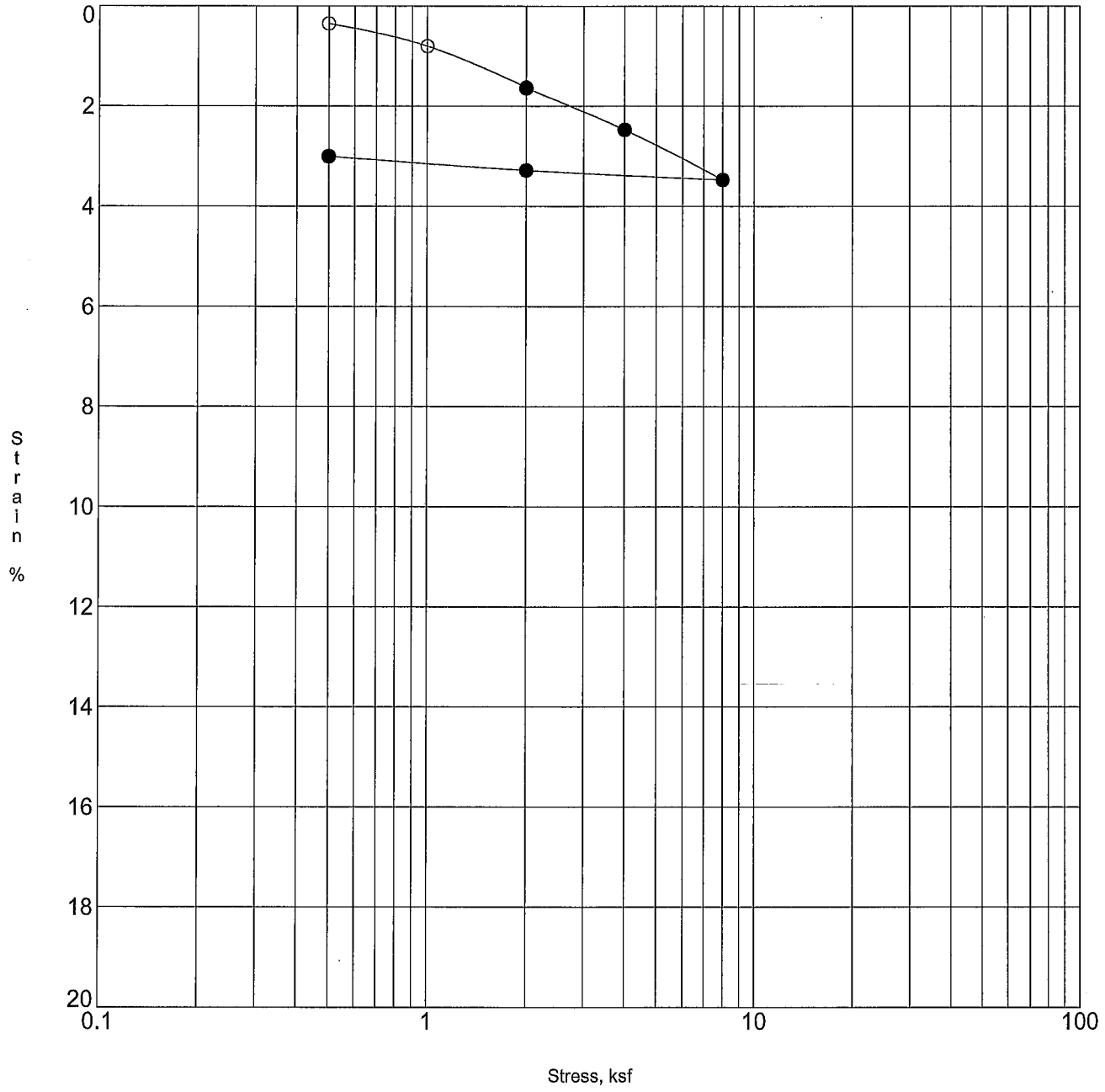
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 9



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-2	5.0	Medium brown Silty SAND	101.8	0.8
●	B-2	5.0	*UNDISTURBED*	104.9	13.8

Project: Many Mansions - 536 Meta Street, Oxnard, CA

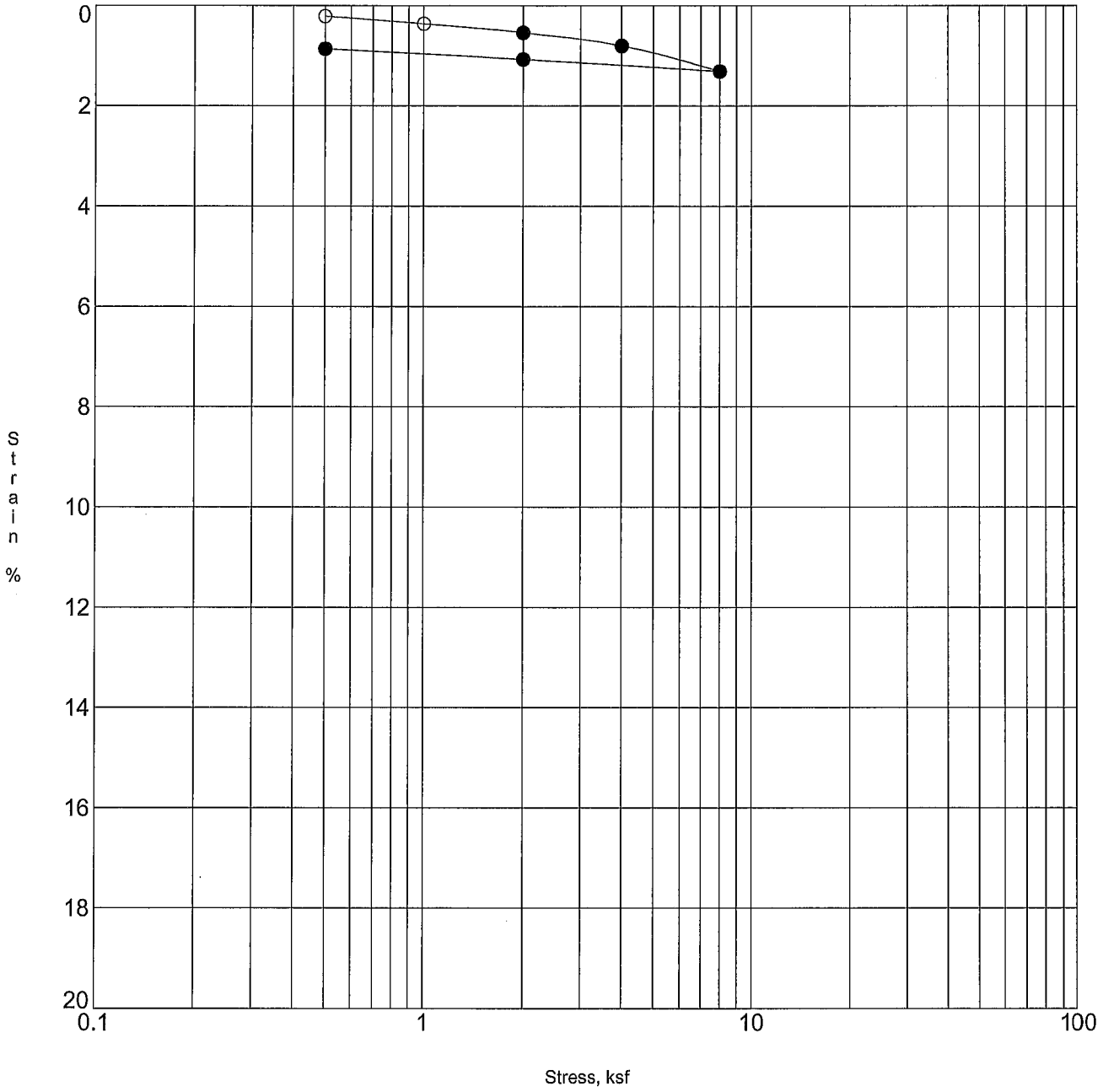
Client No. 5045

Date 6/17/20

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 10



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-4	7.5	Light gray fine to coarse SAND	92.7	5.4
●	B-4	7.5	*UNDISTURBED*	93.5	21.4

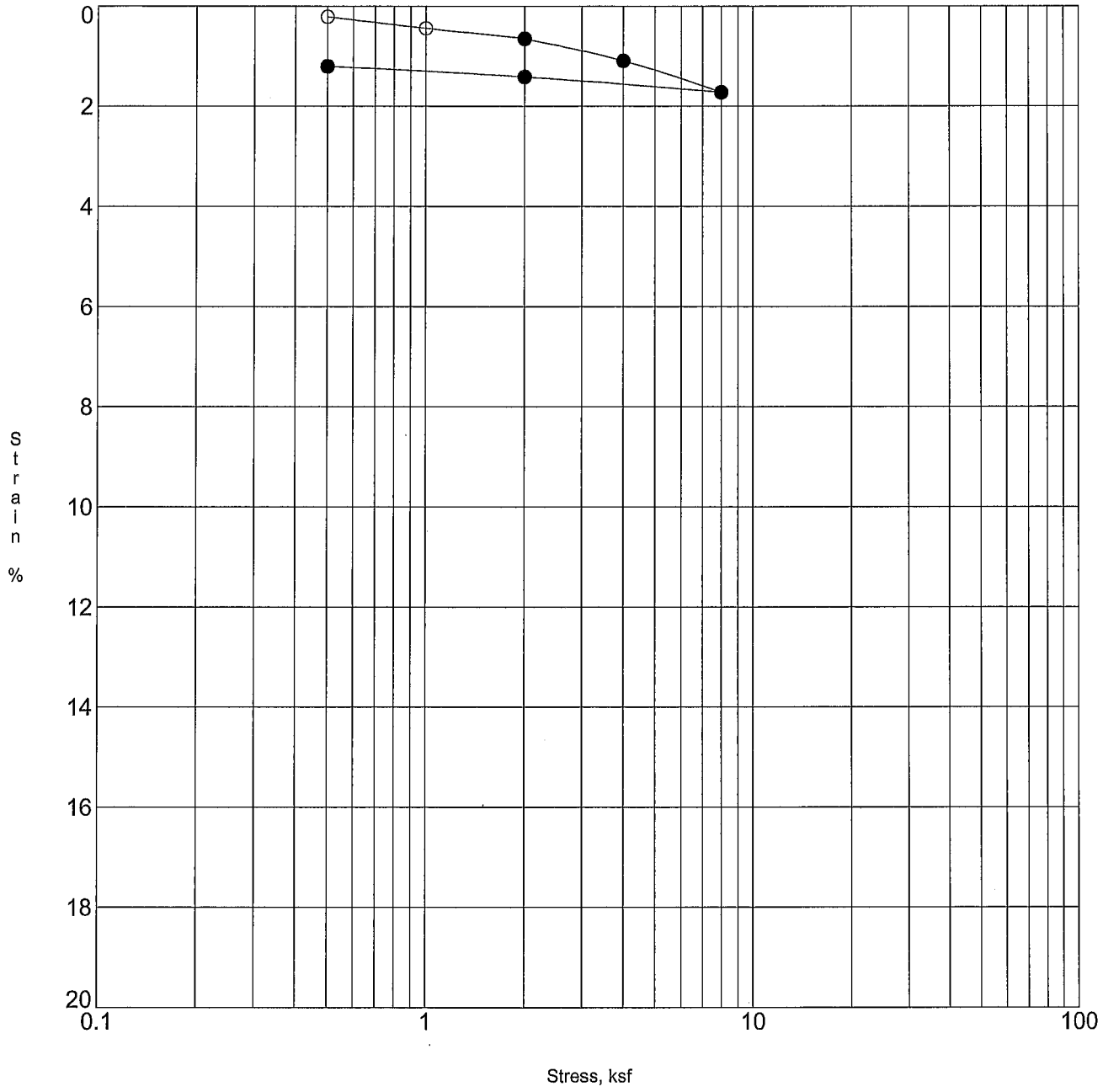
Project: **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 11



Open Symbol At Field Moisture, Solid Symbol After Submersion in Water

	Specimen Identification		Classification	DD	MC%
○	B-3	10.0	Yellowish-brown to light gray SAND	99.3	4.2
●	B-3	10.0	*UNDISTURBED*	100.5	34.2

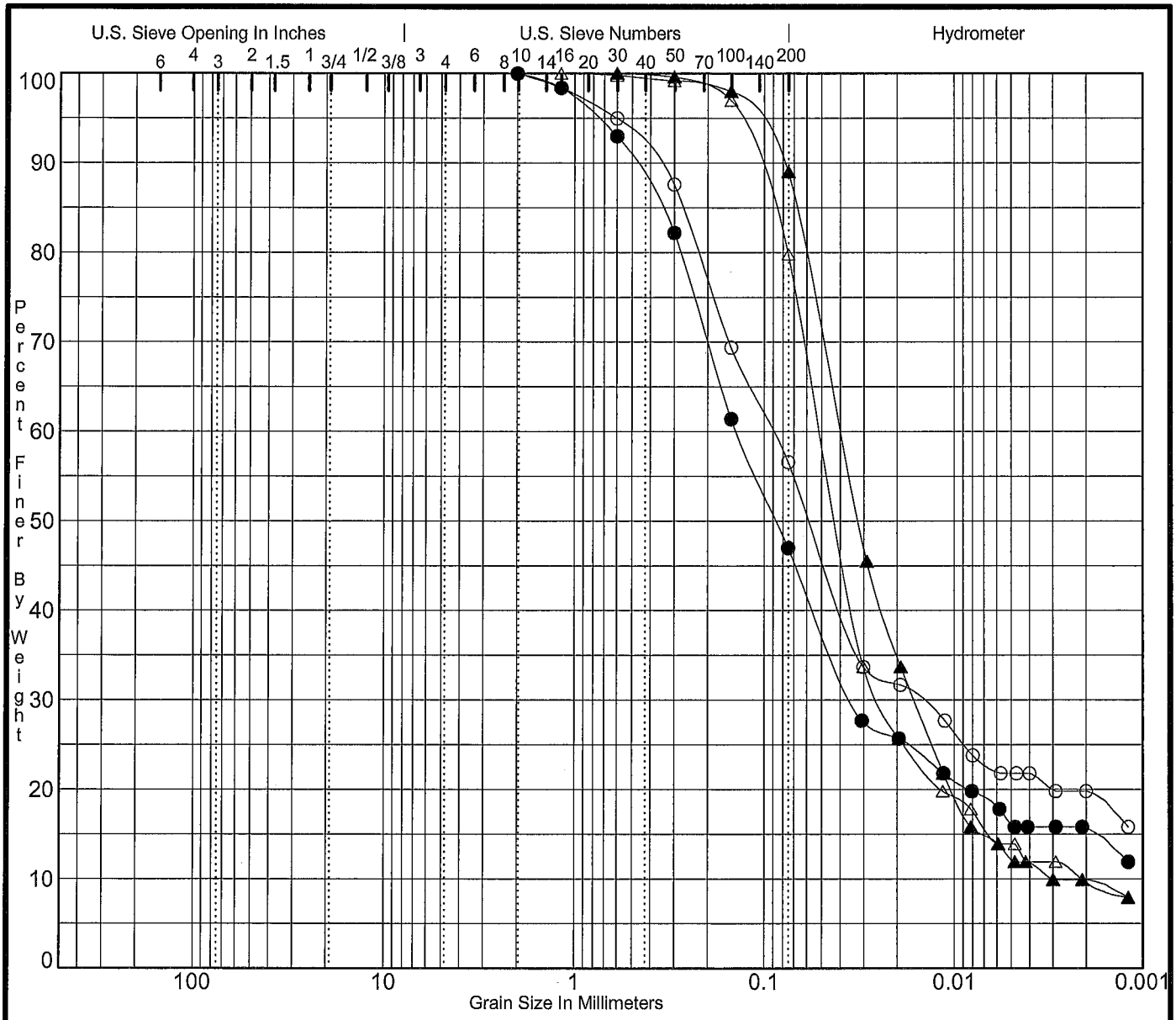
Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Consolidation Test

Advanced Geotechnical Services, Inc.

Plate B- 12



Cobbles	Gravel		Sand			Silt Or Clay
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
○	B-1	32.0	Dark gray Sandy to Silty CLAY		32	17	15		
●	B-1	35.0	Gray Clayey to Silty SAND						
△	B-1	45.0	Dark Gray Silty CLAY						
▲	B-1	50.0	Dark Gray to Black Silty CLAY		35	22	13		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
○	B-1	32.0	2.00				0.0	43.4	34.8	21.8
●	B-1	35.0	2.00				0.0	53.0	30.8	16.2
△	B-1	45.0	1.18				0.0	20.2	65.9	13.9
▲	B-1	50.0	0.60				0.0	11.0	76.7	12.3

Project **Many Mansions - 536 Meta Street, Oxnard, CA**

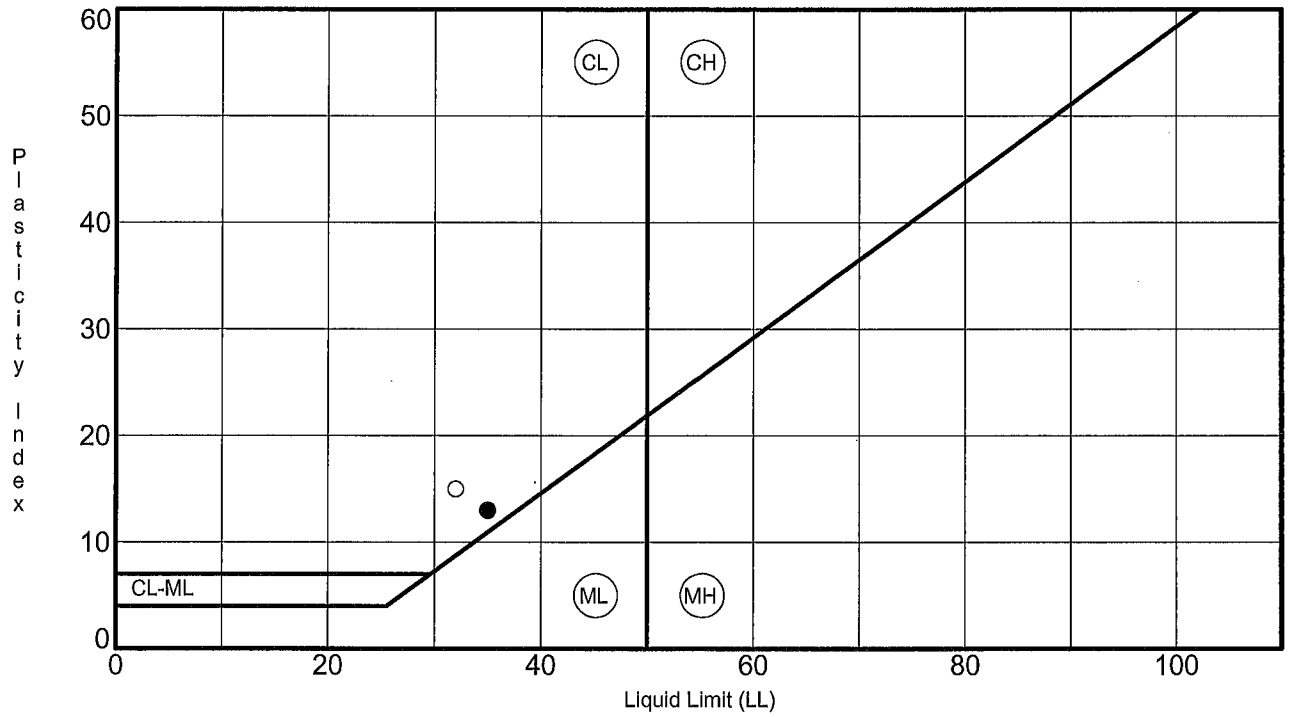
Client No. **5045**

Date **6/17/20**

Gradation Curves

Advanced Geotechnical Services, Inc.

Plate B- 13



	Specimen Identification		LL	PL	PI	Fines	Classification
○	**B-1**	**32.0**	**32**	**17**	**15**		
●	**B-1**	**50.0**	**35**	**22**	**13**		

Project **Many Mansions - 536 Meta Street, Oxnard, CA** Client No. **5045**

Date **6/17/20**

Atterberg Limits' Results

LABORATORY ANALYSIS RESULTS

Client: Advanced Geotechnical Services, Inc.
Project No: 5045
Project Name: Many Mansions

AA Project No: A975199
Date Received: 05/26/20
Date Reported: 06/05/20

ANALYTICAL DATA SUMMARY

Analyte	Sample Name	Result	MRL	Units	Dilution	Prepared	Analyzed	Method
Chloride by Ion Chromatography								
Chloride	B1@0-5	**10**	5.0	mg/kg	1	05/27/20	05/27/20	EPA 300.0
General Chemistry Analyses								
pH	B1@0-5	**8.0**	0.50	pH Units	1	05/27/20	05/27/20	9045C
Specific Conductance (EC)	B1@0-5	**260**		umhos /cm	1	05/27/20	05/27/20	EPA 120.1
Sulfate by Ion Chromatography								
Sulfate	B1@0-5	**260**	10	mg/kg	2	05/27/20	05/27/20	EPA 300.0

Allen Aminian
QA/QC Manager

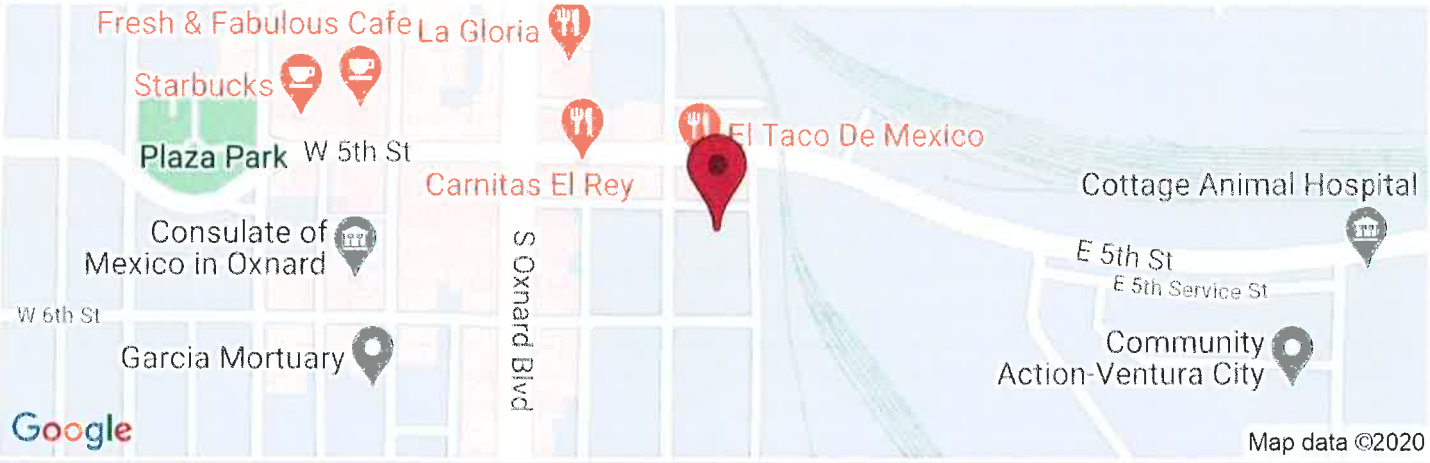
Appendix C

Seismicity Study

OSHPD

Many Mansions, 536 Meta Street Oxnard

Latitude, Longitude: 34.197054, -119.175497



Date	5/29/2020, 2:10:33 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.723	MCE_R ground motion. (for 0.2 second period)
S_1	0.635	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.723	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.148	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.754	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.829	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.723	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.935	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	2.281	Factored deterministic acceleration value. (0.2 second)
S1RT	0.635	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.714	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.738	Factored deterministic acceleration value. (1.0 second)
PGAd	0.903	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.89	Mapped value of the risk coefficient at short periods
C_{R1}	0.889	Mapped value of the risk coefficient at a period of 1 s

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Appendix D

Liquefaction and Dynamic Dry Settlement Evaluation

Client Number	5045	Client Name	Many Mansions Meta Street
Date Drilled	5/21/20	Boring	B-1

a_{max}/g	0.829		N Adjustments - (for Calif. Sampler)	0.667		Field Groundwater Depth (ft)	18	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.15	(8" Diam.)	Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	8.0	(Historic High)	N Adjustments - Energy (from Calibration)	1.33		Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\ (liq)}$	2.1164		Nc	10.08				
Reference Pressure, $p_{a\ (dry)}$	1.0582							

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations* , Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

Yould, T. L. and Idriss, I. M. (1997), *Summary Report* , **Proceedings of the NCEER Workshop on Evaluation of liquefaction Resistance of Soils**

Seed, H. B., Tokimatsu, K.,(1987), *Chart for Estimation of Liquefaction-Induced Settlement,* **Journal of Geotechnical Engineering**, ASCE

Pradel, Daniel. (1998), *Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils* , **Journal of Geotechnical Engineering**, ASCE, Vol. 124, No. 4, pp. 364 - 368.

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B-1 Liquefaction Evaluation

Depth, Feet	Total Unit Weight, γ_t	Overburden Pressure, σ_v	LIQ Effective Overburden Pressure, σ_v'	Field Effective Overburden Pressure, σ_v'	C_N	r_d	$CSR_{M=7.5}$	Soil Type*	% Fines	N for California Sampler **	$(N_1)_{60}$	Adjusted for Fines Content $(N_1)_{60}$	Rod Length Adjust	K_s	$CRR_{M=7.5}$	Safety Factor, SPT Method	Volumetric Strain	Layer Settlement, (inches)	Cumulative Liquefaction Settlement, (inches)
0.0		0.00	0.00	0.00															
2.5	0.130	0.33	0.33	0.33	1.70	1.00	0.434			50.0	65.0	65.0	0.75	1.00	5.000	Above GWT	0.000	0.000	0.000
5.0		0.65	0.65	0.65															
5.8	0.130	0.75	0.75	0.75	1.68	0.99	0.430			14.0	18.0	18.0	0.75	1.00	0.196	Above GWT	0.000	0.000	0.000
6.5		0.85	0.85	0.85															
7.8	0.130	1.01	1.01	1.01	1.45	0.98	0.428			39.0	43.2	43.2	0.75	1.00	5.000	Above GWT	0.000	0.000	0.000
9.0		1.17	1.11	1.17															
10.8	0.130	1.40	1.23	1.40	1.23	0.98	0.485			51.0	54.4	54.4	0.85	1.00	5.000	NL	0.000	0.000	0.000
12.5		1.63	1.34	1.63															
13.8	0.130	1.79	1.43	1.79	1.09	0.97	0.511			67.0	63.2	63.2	0.85	1.00	5.000	NL	0.000	0.000	0.000
15.0		1.95	1.51	1.95															
17.5	0.130	2.28	1.68	2.28	0.96	0.96	0.542			44.0	41.1	41.1	0.95	1.00	5.000	NL	0.000	0.000	0.000
20.0		2.60	1.85	2.48															
22.5	0.130	2.93	2.02	2.64	0.89	0.95	0.566			49.0	42.5	42.5	0.95	1.00	5.000	NL	0.000	0.000	0.000
25.0		3.25	2.19	2.81															
29.3	0.130	3.80	2.48	3.10	0.83	0.92	0.579	C	56.6	27.0	22.7	32.3	1.00	0.99	0.412	NL	0.000	0.000	0.000
33.5		4.36	2.76	3.39															
36.8	0.130	4.78	2.98	3.61	0.77	0.88	0.580		47.0	41.0	32.0	43.4	1.00	0.96	5.000	NL	0.000	0.000	0.000
40.0		5.20	3.20	3.83															
42.0	0.130	5.46	3.34	3.96	0.73	0.83	0.575			82.0	61.1	61.1	1.00	0.94	5.000	NL	0.000	0.000	0.000
44.0		5.72	3.47	4.10															
46.0	0.130	5.98	3.61	4.23	0.71	0.79	0.570	C	79.8	28.0	20.2	29.2	1.00	0.93	0.370	NL	0.000	0.000	0.000
48.0		6.24	3.74	4.37															
49.8	0.130	6.47	3.86	4.49	0.69	0.75	0.563	C	89.0	30.0	21.0	30.2	1.00	0.92	0.582	NL	0.000	0.000	0.000
51.5		6.70	3.98	4.60															

* Note: C = Clayey soils not susceptible to liquefaction

** Note: Cal Blow Counts of 50 assumed for the future newly placed compacted fill in the upper 5 feet

Total, Inches = 0.00

Plate D-1

Client Number	5045	Client Name	Many Mansions Meta Street
Date Drilled	5/21/20	Boring	B-1

a_{max}/g	0.553		N Adjustments - (for Calif. Sampler)	0.667		Field Groundwater Depth (ft)	18	(Current)
Magnitude	6.90		N Adjustments - Hole Diameter	1.15	(8" Diam.)	Method (S = SPT)	S	(Ring Sample Data Converted to Equiv. SPT)
Groundwater Depth (ft)	8.0	(Historic High)	N Adjustments - Energy (from Calibration)	1.33		Unit Weight of Water (kcf)	0.0624	
Reference Pressure, $p_{a\,(liq)}$	2.1164		Nc	10.08				
Reference Pressure, $p_{a\,(dry)}$	1.0582							

NL = Not Susceptible to Liquefaction

References

Seed, H. B., Tokimatsu, K., (1985), *Influence of SPT Procedures in Soil Liquefaction Resistance Evaluations*, Journal of Geotechnical Engineering, ASCE, Vol. 111, No. 12, pp. 1425 - 1445.

Yould, T. L. and Idriss, I. M. (1997), *Summary Report*, **Proceedings of the NCEER Workshop on Evaluation of liquefaction Resistance of Soils**

Seed, H. B., Tokimatsu, K.,(1987), *Chart for Estimation of Liquefaction-Induced Settlement,* **Journal of Geotechnical Engineering**, ASCE

Pradel, Daniel. (1998), *Procedure to Evaluate Earthquake-Induced Settlements in Dry Sandy Soils*, **Journal of Geotechnical Engineering**, ASCE, Vol. 124, No. 4, pp. 364 - 368.

Evaluation of Earthquake Induced Settlements in Dry Sand

Mid-Layer Depth (feet)	$\tau_{induced}$	$(N_1)_{60\text{-}cs}$	σ_V	p	G_{max}	a	b	γ	ε_{15} (%)	ε_{Nc} (%)	Layer Settlement (inches)	Cumulative Settlement (inches)
2.5	0.058	65.0	0.16	0.109	610	0.128	25047	0.00020	0.000049	0.000041	0.0025	0.002
5.8	0.133	18.0	0.37	0.250	603	0.133	15196	0.00093	0.001053	0.000880	0.0158	0.018
7.8	0.178	43.2	0.50	0.338	938	0.136	12704	0.00042	0.000167	0.000140	0.0042	0.023
10.8	0.246	54.4	0.70	0.468	1192	0.141	10440	0.00040	0.000120	0.000100	0.0042	0.027
13.8	0.312	63.2	0.89	0.599	1417	0.146	9006	0.00040	0.000100	0.000083	0.0025	0.029
17.5	0.394	41.1	1.14	0.762	1385	0.152	7793	0.00059	0.000249	0.000208	0.0125	0.042

Total, inches 0.042

Double for Multi-Directional Shaking, inches 0.083

Plate D-2

Appendix E
References

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Robertson, P. K. and Wride, C. E. (1997), *Cyclic Liquefaction and Its Evaluation based on the SPT and CPT*, **Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils,** National Center for Earthquake Engineering Research, Technical Report NCEER-97-0022, pp. 41 – 87.

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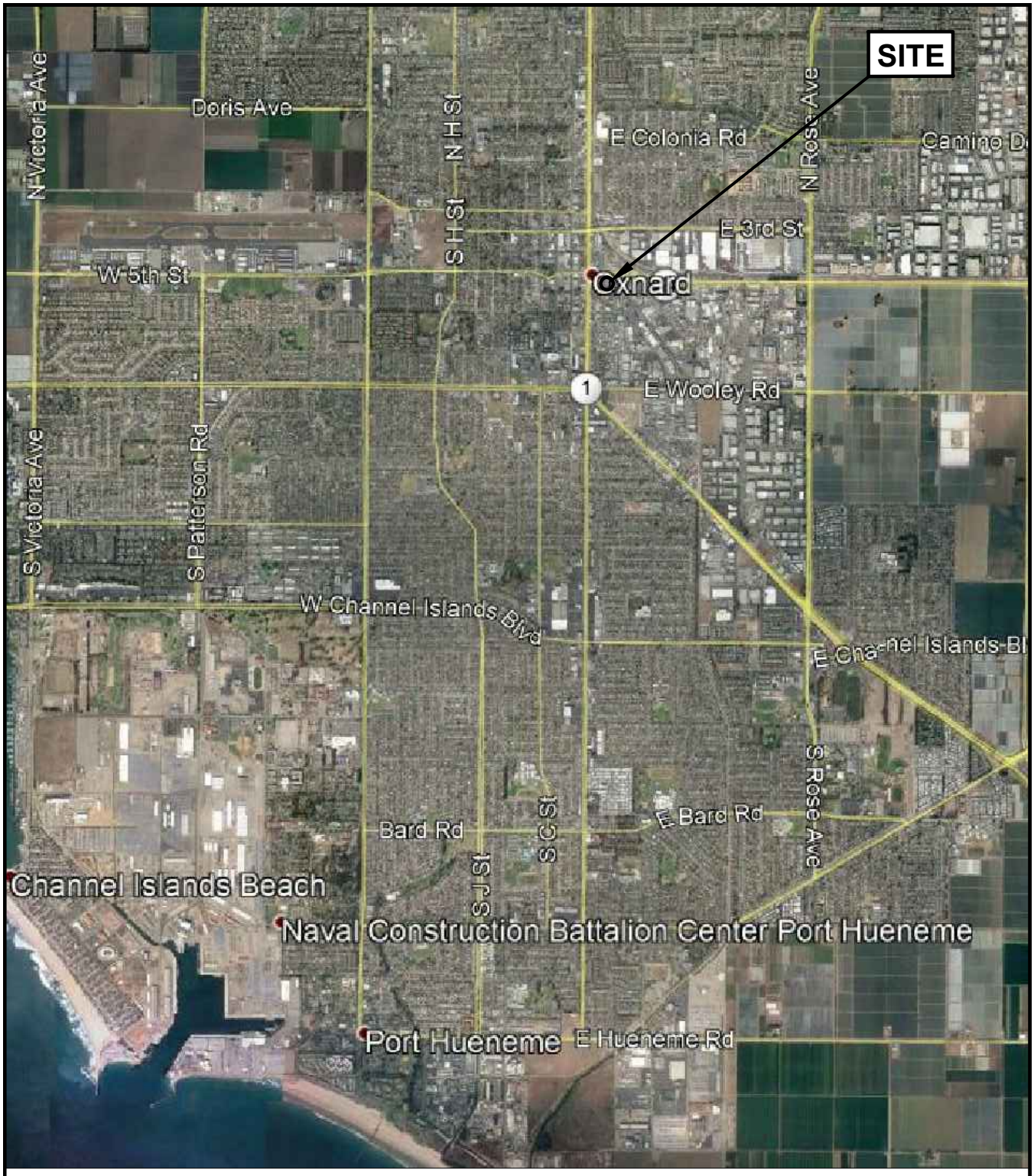
Appendix F

Report Figures and Plates

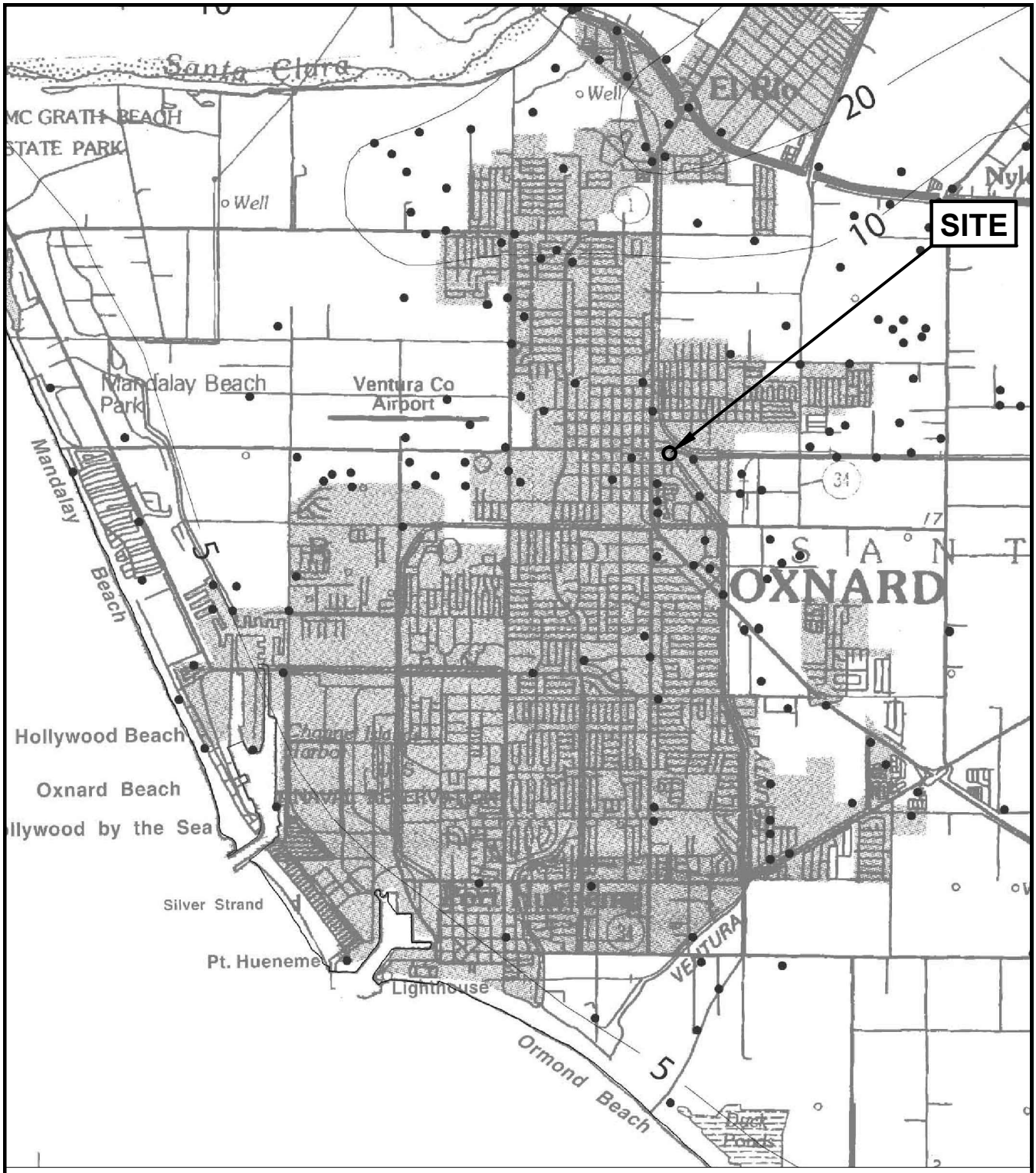


Reference: Google Earth 2020

N

No Scale

Advanced Geotechnical Services	**SITE LOCATION MAP**	**Many Mansions** **536 Meta Street** **Oxnard, California**	
		Client # 5045 **Report # 10616**	**FIGURE 1**



Reference: CDMG, 2002, Seismic Hazard Zone Report 052

N

Scale: 1" = ½ mile

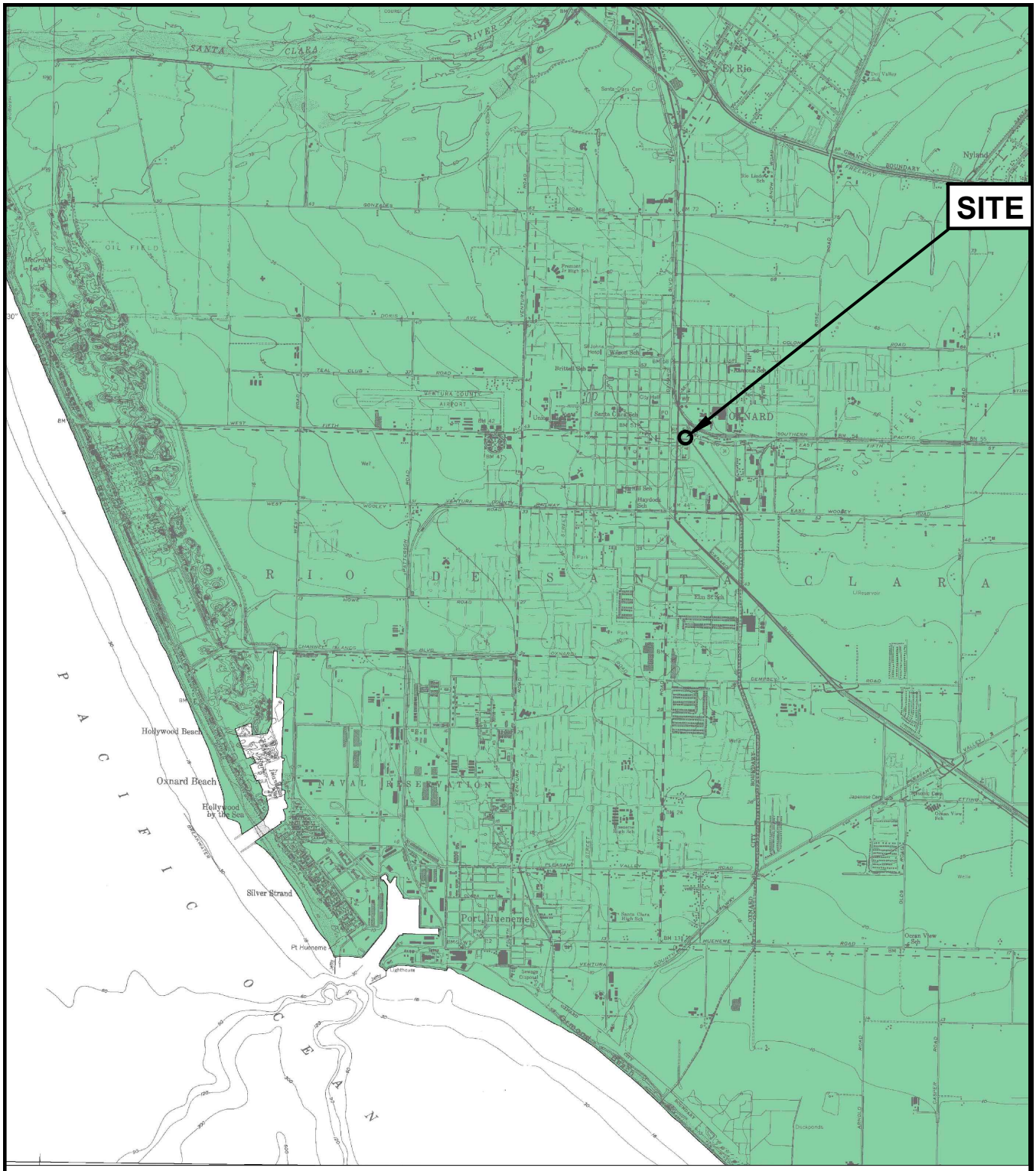
Advanced Geotechnical Services

DEPTH TO HISTORICALLY HIGH GROUNDWATER

Many Mansions
536 Meta Street
Oxnard, California

Client # 5045
Report # 10616

FIGURE 2



Reference: CDMG, 2002, Seismic Hazard Zones - Oxnard Quadrangle

N

Scale: 1" = $\frac{1}{2}$ mile

Advanced Geotechnical Services

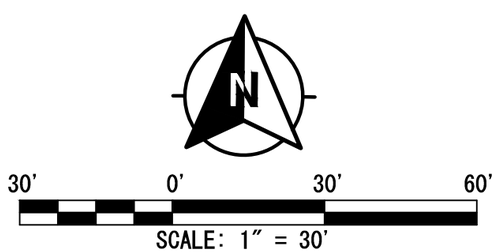
SEISMIC HAZARD ZONES MAP

Many Mansions
536 Meta Street
Oxnard, California

Client # 5045
Report # 10616

FIGURE 3

EXISTING SITE PLAN



EXPLANATION

B-4 Approximate Location of Exploratory Boring

Advanced Geotechnical Services
5251 Verdugo Way, Suite L
Camarillo, California 93012
Office (805) 388-6162/Fax (805) 388-6167

MANY MANSIONS

Geotechnical Engineering Study
Proposed Housing Development
536 Meta Street
Oxnard, California

Client No.	5045	PLATE
Report No.	10616	1
Date	6/17/2020	
Drawing No.	10616cn5045	

PROPOSED SITE PLAN

30' 0' 30' 60'

SCALE: 1" = 30'

EXPLANATION

B-4 Approximate Location of Exploratory Boring

Advanced Geotechnical Services
5251 Verdugo Way, Suite L
Camarillo, California 93012
Office (805) 388-6162/Fax (805) 388-6167

MANY MANSIONS

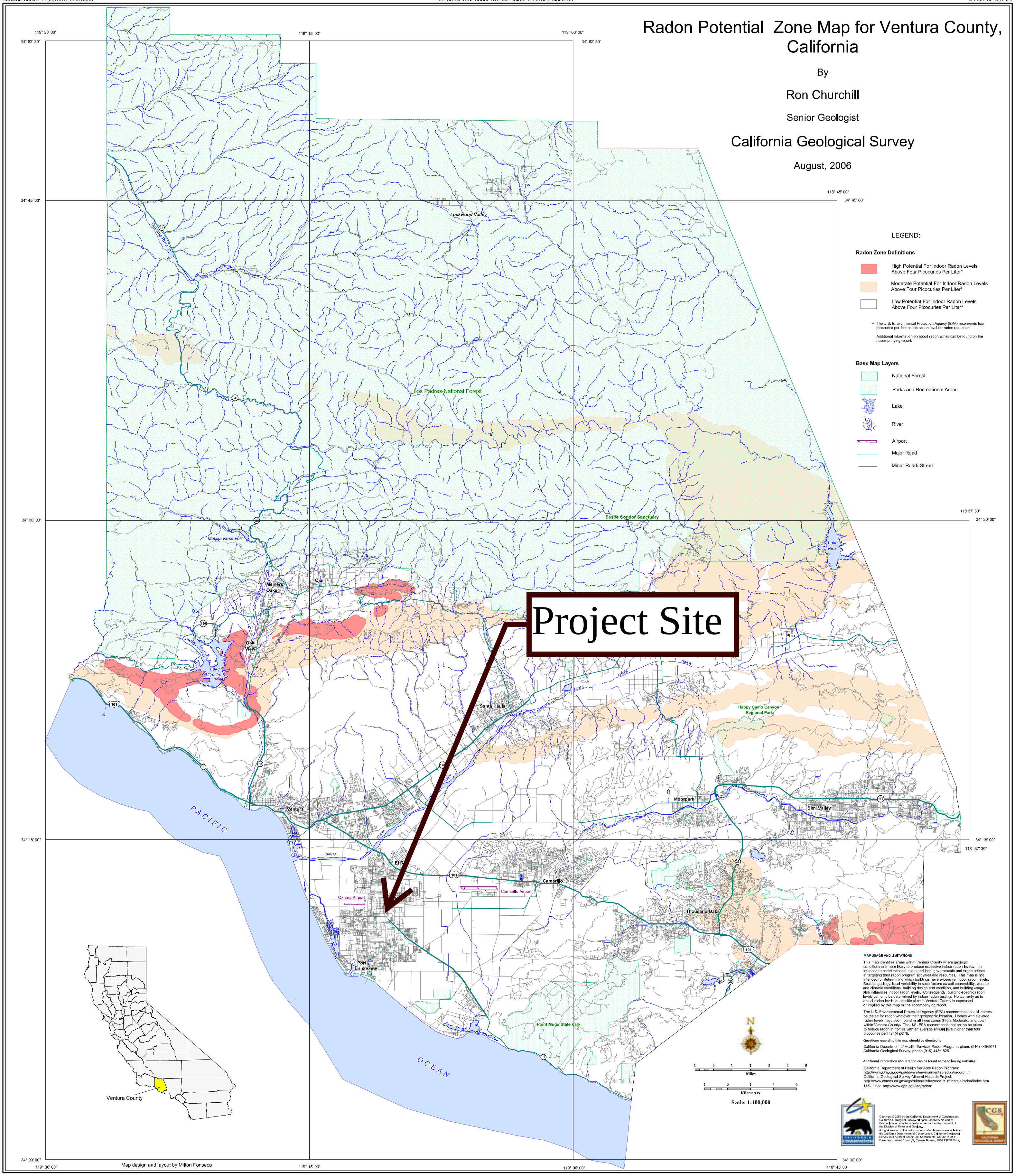
Geotechnical Engineering Study
Proposed Housing Development
536 Meta Street
Oxnard, California

Client No.	5045
Report No.	10616
Date	6/17/2020
Drawing No.	10616cn5045

PLATE 2

Attachment

Ventura County Radon Potential Zone Map


Radon Potential Zone Map for Ventura County, California
By
Ron Churchill
Senior Geologist
California Geological Survey
August, 2006
LEGEND:
Radon Zone Definitions
High Potential For Indoor Radon Levels Above Four Picocuries Per Liter*
Moderate Potential For Indoor Radon Levels Above Four Picocuries Per Liter*
Low Potential For Indoor Radon Levels Above Four Picocuries Per Liter*
* The U.S. Environmental Protection Agency (EPA) recommends four picocuries per liter as the action level for radon reduction.
Additional information on about radon zones can be found on the accompanying report.
Base Map Layers
National Forest
Parks and Recreational Areas
Lake
River
Airport
Major Road
Minor Road/ Street
Project Site
Los Padres National Forest
Lockwood Valley
Sespe Condor Sanctuary
Matilija Reservoir
Meiners Oaks
Ojai
Oak View
Lake Casitas
Santa Paula
Piru
Lake Piru
Happy Camp Canyon Regional Park
Ventura
Moorpark
Simi Valley
Camarillo
Camarillo Airport
Oxnard Airport
Thousand Oaks
Port Hueneme
Point Mugu State Park
PACIFIC
OCEAN
Ventura County
Miles
Kilometers
Scale: 1:100,000
MAP USAGE AND LIMITATIONS
This map identifies areas within Ventura County where geologic conditions are more likely to produce excessive indoor radon levels. It is intended to assist national, state and local governments and organizations in targeting their radon program activities and resources. This map is not intended for determining which buildings have excessive indoor radon levels. Besides geology, local variability in such factors as soil permeability, weather and climatic conditions, building design and condition, and building usage also influences indoor radon levels. Consequently, building-specific radon levels can only be determined by indoor radon testing. No warranty as to actual radon levels at specific sites in Ventura County is expressed or implied by this map or the accompanying report.
The U.S. Environmental Protection Agency (EPA) recommends that all homes be tested for radon whatever their geographic location. Homes with elevated radon levels have been found in all three zones (High, Moderate, and Low) within Ventura County. The U.S. EPA recommends that action be taken to reduce radon in homes with an average annual level higher than four picocuries per liter (4 pCi/l).
Questions regarding this map should be directed to:
California Department of Health Services Radon Program, phone (916) 449-5674
California Geological Survey, phone (916) 445-1825
Additional information about radon can be found at the following websites:
California Department of Health Services Radon Program:
http://www.dhs.ca.gov/ps/ddwem/environmental/radon/radon.htm
California Geological Survey-Mineral Hazards Project:
http://www.consrv.ca.gov/cgs/minerals/hazardous_minerals/radon/index.htm
U.S. EPA: http://www.epa.gov/iaq/radon/
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A digital version of the radon zone location layers is available from the California Department of Conservation, California Geological Survey, 801 K Street, MS 08-38, Sacramento, CA 95814-3531.
Base map derived from U.S. Census Bureau, 2000 TIGER Data.
Map design and layout by Milton Fonseca

Attachment

Critical Habitat and Endangered Species Mapper

About | Content | Legend

Critical Habitat for Threatened & Endangered Species [USFWS]

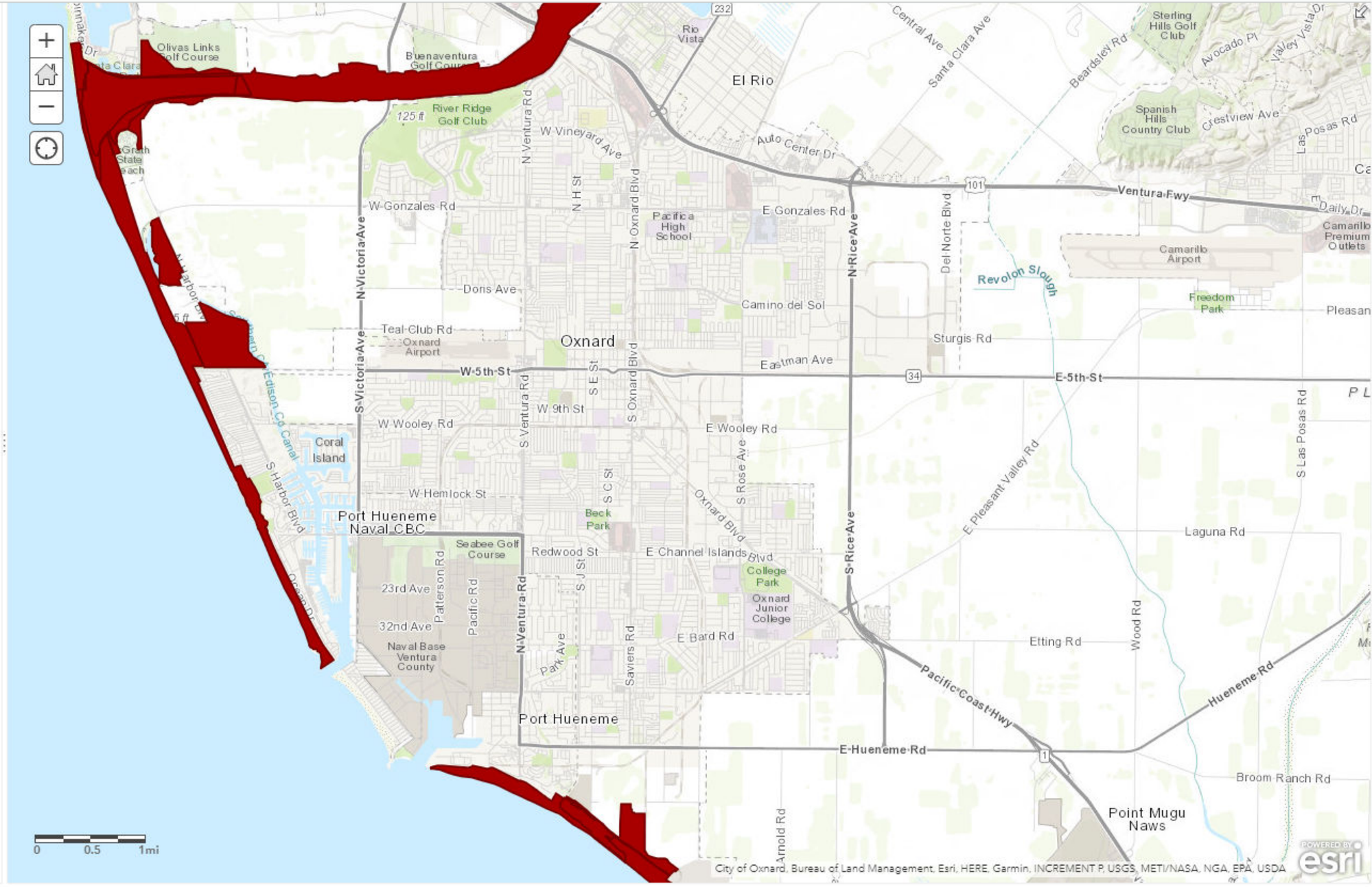
A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Web Map by aditya_sastry@fws.gov_fws

Last Modified: December 9, 2022

★★★★★ (0 ratings, 0 comments, 232,085 views)

More Details...



Attachment

Explosives and Flammable Hazards Documentation

CalEPA Facilities within 1-Mile (Yellow required follow up)

SiteID	SiteName	Address	City	ZIP	Latitude	Longitude	Status
3123	Adon's Autobody & Paint	141 WOOLEY RD. EAST	OXNARD	93030	34.19039	-119.176	Determined to not present a risk to the Proposed Project
5108	American Food Company	921 RICHMOND AVE.	OXNARD	93030	34.19179	-119.17	Outside of 500' mark / containers less than 4,170 gallons
17517	Cemex Construction Materials Pacific, LLC	548 DIAZ AVE.	OXNARD	93030	34.19671	-119.168	Determined to not present a risk to the Proposed Project
19794	City of Oxnard Police Department	251 S C ST	OXNARD	93030	34.20079	-119.181	Outside of 500' mark / containers less than 4,170 gallons
24564	Delgado's Automotive Repair	250 WOOLEY RD., SUITE B, WEST	OXNARD	93030	34.18991	-119.18	Determined to not present a risk to the Proposed Project
25532	Diversified Minerals, Inc.	1135 WOOLEY RD., EAST	OXNARD	93030	34.19084	-119.167	Outside of 500' mark / containers less than 4,170 gallons
25622	Dob's Brake & Auto Center	330 OXNARD BLVD., SOUTH	OXNARD	93030	34.19971	-119.177	Outside of 500' mark / containers less than 4,170 gallons
26905	E & I one stop shop	270 WOOLEY RD., WEST	OXNARD	93030	34.18991	-119.18	No covered chemicals
27957	Electric Motor Service	200 FIFTH ST., EAST	OXNARD	93030	34.19741	-119.176	No covered chemicals
30361	Firestone Complete Auto Care #011053	321 SOUTH OXNARD BOULEVARD	OXNARD	93030	34.20004	-119.178	Outside of 500' mark / containers less than 4,170 gallons
31971	Sunrise Growers, Inc.	808 THIRD ST., EAST	OXNARD	93030	34.20051	-119.171	Outside of 500' mark / containers less than 4,170 gallons
32467	Isaias Auto Service	830 FIFTH STREET, EAST	OXNARD	93030	34.19629	-119.17	Determined to not present a risk to the Proposed Project
36414	HIGH TECH AUTO REPAIR	311 E WOOLEY RD	OXNARD	93030	34.19018	-119.175	Outside of 500' mark / containers less than 4,170 gallons
37287	Humberto's Auto	290 WOOLEY RD., WEST	OXNARD	93030	34.18991	-119.18	Determined to not present a risk to the Proposed Project
39090	J/R Auto and Equipment	149 WOOLEY RD., EAST UNIT B	OXNARD	93030	34.19005	-119.176	Outside of 500' mark / containers less than 4,170 gallons
40639	JR's Mobile Service	554 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19614	-119.172	Determined to not present a risk to the Proposed Project
40688	Judy Lee DDS	500 W 5TH ST	OXNARD	93030	34.19767	-119.183	Determined to not present a risk to the Proposed Project
43561	Toopak Oil Corporation	105 OXNARD BLVD., NORTH	OXNARD	93030	34.20325	-119.178	Determined to not present a risk to the Proposed Project
46051	Magic Auto Center of Oxnard	760 OXNARD BLVD., SOUTH	OXNARD	93030	34.19395	-119.177	Outside of 500' mark / containers less than 4,170 gallons
58485	Precision Automotive Repair	141 OXNARD BLVD. SOUTH	OXNARD	93030	34.20216	-119.178	Outside of 500' mark / containers less than 4,170 gallons
66329	Seaboard Produce Dist, Inc.	601 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19511	-119.172	Outside of 500' mark / containers less than 4,170 gallons
71006	St. Francis Cooling	841 COMMERCIAL AVE.	OXNARD	93030	34.1928	-119.173	Outside of 500' mark / containers less than 4,170 gallons
78049	Tune-Up USA	720 FIFTH ST STE A	OXNARD	93030	34.1963	-119.171	Outside of 500' mark / containers less than 4,170 gallons
78050	Tune-Ups Plus	540 FIFTH ST., EAST	OXNARD	93030	34.1968	-119.173	Outside of 500' mark / containers less than 4,170 gallons
78795	Union Pacific Railroad - Oxnard	273 FIFTH ST. EAST	OXNARD	93030	34.19763	-119.175	Determined to not present a risk to the Proposed Project
79803	Vallarta Supermarkets #21(Oxnard, CA)	1050 S A ST	OXNARD	93030	34.19073	-119.178	No covered substances
80002	Valley Spuds of Oxnard	910 COMMERCIAL AVE.	OXNARD	93030	34.19244	-119.172	Outside of 500' mark / containers less than 4,170 gallons
82805	Verizon Wireless: Port Hueneme	650 MOUNTAIN VIEW AVENUE	OXNARD	93030-720	34.19523	-119.171	Outside of 500' mark / containers less than 4,170 gallons
85223	West Coast Engine	854 FIFTH ST., EAST	OXNARD	93030	34.19657	-119.17	Determined to not present a risk to the Proposed Project
86664	Wright Automotive	656 MOUNTAIN VIEW AVE., SUITE G	OXNARD	93030	34.19531	-119.172	Determined to not present a risk to the Proposed Project
87090	Zavala Auto Service	820 FIFTH ST EAST	OXNARD	93030	34.19629	-119.17	Determined to not present a risk to the Proposed Project
93222	ARCO, Oxnard Self Service	700 OXNARD BLVD., SOUTH	OXNARD	93030	34.19481	-119.177	Determined to not present a risk to the Proposed Project
106251	City of Oxnard - Service Center Building	214 S C ST	OXNARD	93030	34.20137	-119.181	Outside of 500' mark / containers less than 4,170 gallons
106255	City of Oxnard Water Production	251 S. HAYES AVE.	OXNARD	93030	34.2003	-119.176	Determined to not present a risk to the Proposed Project
108642	Nutrien Ag Soliutions -Oxnard 660	1015 E WOOLEY RD	OXNARD	93030	34.1902	-119.168	Determined to not present a risk to the Proposed Project
113227	E-Z Tune-Ups, Inc.	740 OXNARD BLVD., SOUTH	OXNARD	93030	34.1943	-119.177	Outside of 500' mark / containers less than 4,170 gallons
113496	Ebenezer Auto Repair	820 FIFTH ST. #A, EAST	OXNARD	93030	34.19629	-119.17	Determined to not present a risk to the Proposed Project
114114	El Puente Auto Care & Muffler	235 OXNARD BLVD., SOUTH	OXNARD	93030	34.20105	-119.178	Outside of 500' mark / containers less than 4,170 gallons
117697	Francisco's Auto Repair	740 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19386	-119.17	Outside of 500' mark / containers less than 4,170 gallons
133339	Master Auto Care Center	955 "A" ST., SOUTH	OXNARD	93030	34.19143	-119.179	Outside of 500' mark / containers less than 4,170 gallons
133547	Mayer Automotive Repair	560 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19609	-119.172	Outside of 500' mark / containers less than 4,170 gallons
145177	Pronto Brake & Muffler	911 OXNARD BLVD., SOUTH	OXNARD	93030	34.19214	-119.178	Outside of 500' mark / containers less than 4,170 gallons
146405	Ramo's Auto Repairs	920 RICHMOND AVENUE, STE B	OXNARD	93030	34.19194	-119.17	Outside of 500' mark / containers less than 4,170 gallons
147876	Rigo's Transmission & Auto Repair	558 MOUNTAIN VIEW AVE	OXNARD	93030	34.1961	-119.172	Outside of 500' mark / containers less than 4,170 gallons
149437	Ruby's CafÃ©	348 OXNARD BLVD, SOUTH	OXNARD	93030	34.19959	-119.177	Determined to not present a risk to the Proposed Project
157865	Sun Coast Calamari	928 THIRD ST.	OXNARD	93030	34.2005	-119.169	Outside of 500' mark / containers less than 4,170 gallons
165440	Valencia Transmissions	640 MOUNTAIN VIEW AVE., UNIT C	OXNARD	93030	34.19544	-119.171	Outside of 500' mark / containers less than 4,170 gallons
169550	Vogue Sign Co.	715 COMMERCIAL AVE.	OXNARD	93030	34.19487	-119.175	Determined to not present a risk to the Proposed Project
171362	Western Precooling Systems/Cal West Cooling	761 COMMERCIAL AVE.	OXNARD	93030	34.1933	-119.174	Outside of 500' mark / containers less than 4,170 gallons
171363	Western Precooling Systems/Commercial Cooler	1001 COMMERCIAL AVE.	OXNARD	93030	34.1909	-119.172	Outside of 500' mark / containers less than 4,170 gallons

171364	Western Precooling Systems/Ocean Breeze Cool	1000 INDUSTRIAL AVE	OXNARD	93030	34.1904	-119.173	Outside of 500' mark / containers less than 4,170 gallons
274259	El primo tire	700 MOUNTAIN VIEW AVE	OXNARD	93030	34.19471	-119.171	Determined to not present a risk to the Proposed Project
277958	A&A Auto Collision Center, Inc.	771 E WOOLEY RD	OXNARD	93030	34.19001	-119.171	Determined to not present a risk to the Proposed Project
373362	JTs Automotive	1028 DONLON AVE.	OXNARD	93030	34.19078	-119.177	Outside of 500' mark / containers less than 4,170 gallons
376319	Performance Transmission Service	236 S OXNARD BLVD	OXNARD	93030	34.20102	-119.177	Outside of 500' mark / containers less than 4,170 gallons
384242	Advanced Structural Technologies, Inc	950 RICHMOND AVE.	OXNARD	93030	34.19119	-119.168	Outside of 500' mark / containers less than 4,170 gallons
384388	AIRGAS USA, LLC	701 RICHMOND AVE	OXNARD	93030	34.19486	-119.17	Determined to not present a risk to the Proposed Project
388145	BOSKOVICH FARMS: OXNARD PLANT	711 DIAZ AVE	OXNARD	93030	34.19523	-119.168	Outside of 500' mark / containers less than 4,170 gallons
388738	Cal-Sun Produce, LLC	511 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19651	-119.173	Outside of 500' mark / containers less than 4,170 gallons
389666	Central Valley Supply	711 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19394	-119.171	Outside of 500' mark / containers less than 4,170 gallons
390614	Cosmetic Specialties, Inc.	550 THIRD ST., EAST	OXNARD	93030	34.19882	-119.173	Determined to not present a risk to the Proposed Project
391872	E F Oxnard LLC	550 DIAZ AVE.	OXNARD	93030	34.1962	-119.167	Outside of 500' mark / containers less than 4,170 gallons
393936	Gold Coast Steel & Supply, Inc.	1140 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19246	-119.167	Outside of 500' mark / containers less than 4,170 gallons
395312	THE J.M. SMUCKER COMPANY	800 COMMERCIAL AVE.	OXNARD	93030	34.19392	-119.173	Determined to not present a risk to the Proposed Project
399085	PapÃ© Material Handling	1061 INDUSTRIAL AVE.	OXNARD	93030	34.19065	-119.173	Outside of 500' mark / containers less than 4,170 gallons
399828	Praxair Distribution Inc	455 WOOLEY RD	OXNARD	93030	34.19025	-119.174	Determined to not present a risk to the Proposed Project
403292	Superior Cooling & Ice	541 MOUNTAIN VIEW AVE.	OXNARD	93030	34.19583	-119.173	Outside of 500' mark / containers less than 4,170 gallons
403632	Terminal Freezers,LLC.	908 THIRD ST.	OXNARD	93030	34.19962	-119.17	Outside of 500' mark / containers less than 4,170 gallons
416467	Anacapa Fresh Logistics	771 MOUNTAIN VIEW AVE	OXNARD	93030	34.19311	-119.17	Outside of 500' mark / containers less than 4,170 gallons
418146	SpectraSite Communications, LLC - Oxnard CA 7	560 E 3RD ST	OXNARD	93030	34.1984	-119.172	Outside of 500' mark / containers less than 4,170 gallons
425231	Daniels Tire Service	1040 COMMERCIAL AVE	OXNARD	93030	34.19099	-119.171	Outside of 500' mark / containers less than 4,170 gallons
425986	E&L Collision	640 MOUNTAIN VIEW AVE	OXNARD	93030	34.19544	-119.171	Determined to not present a risk to the Proposed Project
428192	Oxnard School Dist/Trans & Warehouse Center	516 WOOLEY RD.	OXNARD	93033	34.18994	-119.183	Outside of 500' mark / containers less than 4,170 gallons
439911	Dago's Mobil Auto Repair	700 MOUNTAIN VIEW AVE STE E	OXNARD	93030	34.19471	-119.171	Determined to not present a risk to the Proposed Project
442843	HENRY PEREZ D.D.S	132 S A ST STE B	OXNARD	93030	34.20236	-119.178	Outside of 500' mark / containers less than 4,170 gallons
549797	Alco Pallets Logistics, Inc.	850 RICHMOND AVE	OXNARD	93030	34.19252	-119.17	Outside of 500' mark / containers less than 4,170 gallons
550193	Juarez Pallets	950 MOUNTAIN VIEW AVE	OXNARD	93030	34.19317	-119.168	Outside of 500' mark / containers less than 4,170 gallons
550223	Nutrien Ag Solutions - Oxnard Mission	901 E WOOLEY RD	OXNARD	93030	34.1903	-119.169	Determined to not present a risk to the Proposed Project
561065	Cottage Animal Hospital	906 FIFTH ST., EAST	OXNARD	93030	34.19687	-119.169	Determined to not present a risk to the Proposed Project
561403	Clinicas Del Camino Real, Inc.	650 META ST.	OXNARD	93030	34.19533	-119.176	Determined to not present a risk to the Proposed Project
562391	Steve's Transmissions, Inc.	351 WOOLEY RD., EAST	OXNARD	93030	34.19018	-119.174	Outside of 500' mark / containers less than 4,170 gallons
567839	Malibu Towing	720 MOUNTAIN VIEW AVE	OXNARD	93030	34.19427	-119.17	Determined to not present a risk to the Proposed Project
567847	Oxnard Tow Services	720 MOUNTAIN VIEW AVE	OXNARD	93030	34.19427	-119.17	Determined to not present a risk to the Proposed Project
569056	MaxcoSupply Inc.	1000 FACTORY LN	OXNARD	93030	34.19122	-119.174	Determined to not present a risk to the Proposed Project
569270	Rudy's Tires	730 E 5TH ST	OXNARD	93030	34.19629	-119.171	Outside of 500' mark / containers less than 4,170 gallons
569667	West Coast Electric Motors	1126 FIFTH ST., EAST	OXNARD	93030	34.19704	-119.167	Outside of 500' mark / containers less than 4,170 gallons
572697	Western Dental	455 S C ST	OXNARD	93030	34.19799	-119.181	Outside of 500' mark / containers less than 4,170 gallons
577088	Five Star Financial	900 S OXNARD BLVD	OXNARD	93030	34.19217	-119.177	Determined to not present a risk to the Proposed Project

Hazardous Material Inventory Matrices

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **A&A Auto Collision Center, Inc.**
Facility Name **A&A Auto Collision Center, Inc.**
771 E Wooley Rd, Oxnard 93030

Chemical Location **South West Mixing Room**

CERS ID **10634308**
Facility ID
Status **Submitted** on 7/8/2015 10:52 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Waste Paint** CAS No 78-93-3	**Gallons** State: Liquid Type: Pure	**30** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**30**	Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				
	Water Paint Waste CAS No	**Gallons** State: Liquid Type: Waste	**30** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**30**	Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**Waste paint** CAS No 8052-41-3 Map: H2, H5	**Gallons** State Liquid Type Waste	**25** Storage Container Aboveground Tank Days on Site: 365	**5**	25 Pressue Ambient Temperature Ambient	35 Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Flammable Solid	**Polypro** CAS No 9003-07-0 Map: C2 Grid: F2	**Pounds** State Solid Type Pure	**60000** Storage Container Aboveground Tank, Silo, Other	**45000**	45000 Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Blasocut 2000 Universal	**Gallons**	**110**	**55**							
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue	Waste Code					
	Grid: B2	Type: Mixture	Days on Site: 365		Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Delrin II "P" Acetal Resin	**Pounds**	**3500**	**1050**	2500						
	CAS No	State: Solid	Storage Container: Box		Pressue	Waste Code					
	Map: C2 Grid: C2, E2, G4	Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Cryogen, Explosive	**Argon** CAS No 7440-37-1 Map: C2 Grid: B2	**Cu. Feet** State Gas Type Pure	**672** Storage Container Cylinder	**336**	Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Styron 478	**Pounds**	**5100**	**1050**	2500						
	CAS No	State: Solid	Storage Container: Aboveground Tank, Box, Other		Pressue	Waste Code					
	Map: C2 Grid: E2, G4	Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas, Unstable (Reactive), Class 1	**Acetylene** CAS No 74-86-2 Map: C2 Grid: B2	**Cu. Feet** State Gas Type Pure	**220** Storage Container Aboveground Tank, Cylinder Days on Site: 365	**110**	110 Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Chevron Rando HD 46 Hydraulic oil	**Gallons**	**2010**	**175**	1635						
	CAS No	State: Liquid	Storage Container: Tank Inside Building, Steel Drum, Other		Pressue: Ambient	Waste Code					
	Map: C2 Grid: D1, D2, D3, D4	Type: Mixture			Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Oily water	**Gallons**	**300**	**300**	200						
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Steel Drum, Tote Bin		Pressue: Ambient	Waste Code					
	Map: H5, H2	Type: Waste	Days on Site: 365		Temperature: Ambient						
	Waste Absorbent	**Pounds**	**60**	**500**	40	800					
	CAS No	State: Solid	Storage Container: Aboveground Tank, Steel Drum		Pressue: Ambient	Waste Code					
	Map: F2	Type: Waste	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cosmetic Specialties, Inc.**
Facility Name **Cosmetic Specialties, Inc.**
550 Third St., East, Oxnard 93030

Chemical Location [redacted]

CERS ID **10200502**
Facility ID
Status **Submitted** on 5/4/2021 2:37 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	LPG-5 (odorizer)	**Cu. Feet**	**270**	**18**							
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
	Map: C2 Grid: G3	Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cottage Animal Hospital**
Facility Name **Cottage Animal Hospital**
906 Fifth St., East, Oxnard 93030

Chemical Location **X/Ray Developing Room within Hospital**

CERS ID **10200256**
Facility ID
Status **Submitted** on 9/25/2014 3:10 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Spent Photographic Solution W/Silver	**Gallons**	**5**	**5**							
	CAS No	State: Liquid	Storage Container: Other		Pressue	Waste Code					
		Type: Waste			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **J/R Auto and Equipment**
Facility Name **J/R Auto and Equipment**
149 Wooley Rd., East Unit B, Oxnard 93030

Chemical Location **North Storage Room**

CERS ID **10201768**
Facility ID
Status **Submitted** on 10/29/2021 5:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Antifreeze CAS No	**Gallons** **55** State: Liquid Storage Container: Plastic/Non-metalic Drum Type Pressue Temperature				Waste Code					
	New Oil CAS No	**Gallons** **100** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature				Waste Code					
	Waste Absorbent CAS No	**Pounds** **30** State: Solid Storage Container: Steel Drum Type Pressue Temperature				Waste Code					
	Waste Aqueous Brake Sol'n CAS No	**Gallons** **15** State: Liquid Storage Container: Steel Drum Type Pressue Temperature				Waste Code					
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B, Other Health Hazard	**Waste Oil** CAS No NA	**Gallons** **165** State: Liquid Storage Container: Steel Drum Type: Mixture Pressue Temperature				Waste Code 221	- Fire - Reactive - Pressure Release - Acute Health - Chronic health	Waste Petroleum Hydrocarbons			Mixture
	Waste Solvent CAS No	**Gallons** **30** State: Liquid Storage Container: Steel Drum Type Pressue Temperature				Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **J/R Auto and Equipment**
Facility Name **J/R Auto and Equipment**
149 Wooley Rd., East Unit B, Oxnard 93030

Chemical Location **Storage Room**

CERS ID **10201768**
Facility ID
Status **Submitted** on 10/29/2021 5:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Waste Antifreeze	**Gallons**	**55**								

CAS No

State: Liquid
Storage Container: Plastic/Non-metalic Drum
Pressue
Waste Code
Type
Temperature

Correspondence

Figures

Nik Kilpelainen

From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Friday, May 20, 2022 4:00 PM
To: Nik Kilpelainen
Cc: Luis Hernandez; Derrick Wada
Subject: RE: [EXT] RE: Central Terrace Project Application

Hi Nik,
Thank you for your quick work and follow up on this item!
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Friday, May 20, 2022 3:46 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>
Cc: Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

Tracy,
Nik Kilpelainen of Rincon Consultants received a call from Mario Lomeli at Cosmetic Specialties at 3:28 PM on May 20th, 2022. The phone call lasted 2 minutes at 51 seconds.
Nik provided a lengthy introduction of the nature of the phone call. Mario stated that Cosmetic Specialties does not operate any large propane tanks on-site. Mario stated that Cosmetic operates ~4, ~33 gallon propane tanks for their hydraulic lifts. Mario additionally mentioned that Cosmetic operates an aboveground storage tank comprised of compressed air, ~800 gallons.
Nik thanked Mario and requested Mario's contact information (below). Mario was respectful and welcomed any follow up needed.
Mario Lomeli
805-487-6698 Ext-121

Nik Kilpelainen, Environmental Planner/Project Manager
Rincon Consultants, Inc.
805-804-3966 Direct
805-644-4455 Main
nkilpelainen@rinconconsultants.com

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Environmental Scientists | Planners | Engineers
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Friday, May 20, 2022 3:02 PM
To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

Hi Nik,
I just called the Oxnard CUPA and an inspector and they advised me to complete a CUPA file request form online. Is this the process you already completed? I'm worried about the timing of this request regardless.
They advised me to call Nathan West on Monday morning so I will give that a try. I would appreciate it if you would also continue to try to follow up with Cosmetic Specialties on this.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Friday, May 20, 2022 12:40 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

Hi Tracy,
I called the Oxnard Fire Department first to see which contact information they had on file for me to call. The environmental contact on the CalEPA portal is Mario Lomeli, consistent with the contact the Fire Department has, but Sara at the Oxnard Fire Department did not feel comfortable providing that phone number. Sara provided me with the Cosmetic Specialties mainline which I have called and left a voicemail. In the voicemail, I stated my title and role, and that I am requesting information if they operate a propane tank on-site in regards to an affordable development project and the environmental analysis. I could not decipher the lady's name who I left the voicemail for at Cosmetic, she states it far too quickly and inaudibly, but they have my callback information.
You'll be the first to know if I hear back. If I don't hear back, I would think a next step due to our time constraint will be for the County to call the Oxnard Fire Department and request Mario's contact information. I can then call on your behalf if requested….?
Sara – Administrative Services - Oxnard Fire Department
(805) 385-7722
Cosmetic Specialties Mainline
(805) 487-6698

Nik Kilpelainen, Environmental Planner/Project Manager

Rincon Consultants, Inc.
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805-644-4455 Main
nkilpelainen@rinconconsultants.com
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Friday, May 20, 2022 11:32 AM
To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application
Importance: High

Nik,
Were you able to determine the location of the Propane Tank at the Cosmetic Specialties site? We still aren't meeting the ASD for people on this without additional information on the location of the tank. We could eliminate the seating/gathering area on that side of the building but HCD also mentioned the indoor courtyard potentially being affected, which would require engineering calculations.
Can you provide the location of this tank ASAP? Hopefully it is on the northern part of the Cosmetics site and meets the ASD. I'm very concerned about this as HCD directed my team to submit the RROF while I was out yesterday so we need this resolved as soon as possible.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Friday, May 20, 2022 11:25 AM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

Hi Tracy,
Sounds good.
As we await the other records, I will set up a folder in our file transfer site which I'll use to drop the files into once received. This will save document control and email back and forth with attachments. I will give you a heads up as items are uploaded.
Thank you,

Nik Kilpelainen, Environmental Planner/Project Manager
Rincon Consultants, Inc.

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805-644-4455 Main
nkilpelainen@rinconconsultants.com
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Friday, May 20, 2022 7:33 AM
To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

All,
Thank you for your work on this. It's a relief that HCD determined that the pocket park is in fact separate and does not need to be included in the project description/review. Since the files have been requested, please send them once they are received. Just in case things change during future reviews/monitoring, it could be helpful to have this in our back pocket.
We are still being asked to update the ERR for the Cosmetic Specialties site. Nik, I saw the data on these sites comes through so thank you. We will update our analysis and let you know if any of the tanks are a problem but on first glance, I don't anticipate issues.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Thursday, May 19, 2022 10:25 AM
To: Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: McAulay, Tracy <Tracy.McAulay@ventura.org>
Subject: RE: [EXT] RE: Central Terrace Project Application

Understood; Rincon is placing the records requests.

Nik Kilpelainen, Environmental Planner/Project Manager
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From: Luis Hernandez <luish@manymansions.org>
Sent: Wednesday, May 18, 2022 5:09 PM

To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; McAulay, Tracy <Tracy.McAulay@ventura.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

Thank you Nik, lets move forward with additional scope.
Thank you Tracy for clarifying.

Luis A. Hernandez
Project Manager | Many Mansions
1259 E. Thousand Oaks Blvd. | Thousand Oaks, CA 91362
Office: (805) 496-4948 ext. 255
Cell: (805) 708-5048
Fax: (805) 497-1305
Cal. BRE (Many Mansions) #02003927
www.manymansions.org

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Wednesday, May 18, 2022 5:07 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

The inventory matrix for Cosmetic Specialties was provided through the City of Oxnard's Public Records request in 7 days (attached). The portal notes up to ten days from sending the request, so I'd expect a similar timeline of 7-10 days for the additional facilities. Rincon can send the request for the additional facilities tomorrow. So I'd expect the County can be provided with what we obtain for the additional facilities in that 10 day window.

Nik Kilpelainen, Environmental Planner/Project Manager
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805-644-4455 Main
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Environmental Scientists | Planners | Engineers
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Wednesday, May 18, 2022 4:58 PM
To: Luis Hernandez <luish@manymansions.org>; Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

I'm very concerned about the timing of this work. The sooner the better, unless MM can secure an extension from TCAC.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

P Please consider the environment before printing this e-mail.

From: Luis Hernandez <luish@manymansions.org>
Sent: Wednesday, May 18, 2022 4:55 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

Thank you Nik and Tracy.
Nik, what would the turnaround time look like for report with the location, content and size of the tanks that Tracy specified?

Luis A. Hernandez
Project Manager | Many Mansions
1259 E. Thousand Oaks Blvd. | Thousand Oaks, CA 91362
Office: (805) 496-4948 ext. 255
Cell: (805) 708-5048
Fax: (805) 497-1305
Cal. BRE (Many Mansions) #02003927
www.manymansions.org

From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Wednesday, May 18, 2022 4:29 PM
To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

Hi Nik,
Yes, I think we are on the same page. The County already mapped the sites and completed a "reverse analysis" for sites where we couldn't determine the contents and size of tanks. This wasn't accepted so we are seeking information on each of the listed sites below on the contents and size of each of the tanks so that we can confirm they all meet the ASD. If they do not meet the ASD, then we would ask MM and their consultant to consider what mitigation might be required, per HUD's guidance.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

P Please consider the environment before printing this e-mail.

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Wednesday, May 18, 2022 4:17 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>

Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: [EXT] RE: Central Terrace Project Application

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Hi Tracy,
I just wanted to be clear with your request, as I believe I was mistaken when I followed up with Many Mansions. I think my confusion stemmed around when you had written "we", as that wasn't meant to include Rincon (highlighted below). Rincon is not doing any calculations.
What is requested from Rincon is solely attempting to obtain information regarding the contents and size of hazardous materials at these facilities, and, if the County asks of us once you've run the calculations, potentially any further research into obtaining specific locations of the ASTs (such as directly contacting the facility).
Apologies if this comes across as exhaustive, I'm just trying to clearly understand our expectations. Thank you.

Nik Kilpelainen, Environmental Planner/Project Manager
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Tuesday, May 17, 2022 3:36 PM
To: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: [EXT] RE: Central Terrace Project Application

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Hi Nik,
Generally, I agree with your scope below as the initial review of ASTs; however, staff at the County already reviewed CalEPA data and mapped the distances to the sites identified below (and many more, which were determined to meet the ASD requirements). The issue for the sites identified below is that we could not confirm the size and contents of tanks at the listed sites from the CalEPA Regulated Site Portal to determine if they are even subject to review under Subpart 51 or if they met the ASD. That is the research that Many Mansions needs, determining the contents, size and (if needed for sites where the ASD isn't met from property line to property line) actual location of each of these tanks so that we can determine that they meet the ASD or determine mitigation (hopefully unnecessary). This needs to consider both the building and the outdoor areas at the park.
If your team can provide this research, then MM will likely need to understand the timing and costs of this work to determine next steps.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Nik Kilpelainen <nkilpelainen@rinconconsultants.com>
Sent: Tuesday, May 17, 2022 1:51 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>; Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Cc: Richard Daulton <RDaulton@rinconconsultants.com>
Subject: RE: Central Terrace Project Application

Hi Tracy,
Rincon is currently assisting Many Mansions with additional research into the Cosmetic Specialties Facility. It has been brought to our attention that additional locations/businesses need to reviewed, consistent with the bulleted list in your email.
The Cosmetic Specialties facility was previously identified as a facility operating in the above ground petroleum storage tank program through the EDR search in the Phase I ESA, further reviewed through the through CalEPA regulated site portal information, and now through the City of Oxnard's public records request, identifying their hazardous materials inventory matrix. The process for identifying where AST's are located, size, contents, and if in a diked location, is complex and requires many steps.
The analysis for explosive and flammable hazards requires analysis of hazardous materials pursuant to 24 CFR Part 51 C, Appendix I. As I understand, what's requested is records searches of each of the identified facilities, to discern whether the location operates with materials per 24 CFR Part 51 C, Appendix I, and then running HUD's electronic calculator to disclose ASD for possible ASTs. The inventory matrix provided through records searches, if available, will typically provide materials and sizes only, which can be enough for a conservative analysis. Further information may have been to obtained through calling the facility/business.
I am running through the workflow for this process, as this process will be time consuming, both reporting and waiting for searches. Please let me know if this is accurate and we will expect to have a memorandum prepared, identifying the results. Please note that this memorandum will be prepared by an Environmental Planner, as it includes desktop review, incorporation of aerial imagery and records search results, and utilizing HUD's online calculator. This memorandum will be prepared by a licensed Professional Engineer. Should the acceptable distance be triggered by any of the facilities and contents per 24 CFR Part 51 C, Appendix I, Rincon is incapable of providing further analysis with respect to blast/radiation distances and proposing mitigation to reduce effects. Bigger picture, please note that HUD's online calculator does not incorporate reductions from existing buildings. As you're aware, the Central Terrace project site is in an urbanized area of Downtown Oxnard, and many of the identified facilities (including Cosmetic Specialties) operate with existing buildings intervening between AST's and the project site/pocket park.
Please let me know if this is consistent with your understanding and we will move forward with the memo, which will take more than a couple of weeks to prepare.

Nik Kilpelainen, Environmental Planner/Project Manager
Rincon Consultants, Inc.
805-804-3966 Direct
805-644-4455 Main
nkilpelainen@rinconconsultants.com
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Environmental Scientists | Planners | Engineers
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From: McAulay, Tracy <Tracy.McAulay@ventura.org>
Sent: Monday, May 16, 2022 2:51 PM
To: Luis Hernandez <luish@manymansions.org>; Derrick Wada <derrick.w@manymansions.org>
Subject: FW: Central Terrace Project Application
Importance: High
Good news and not so good news. My guess, in the end, is that we are going to be delayed.

If we can show that there are no issues with above-ground storage tanks, we do not necessarily need to re-publish for the public comment period. We would be able to revise portions of the EA, document our results and request release of funds.
The not so good news is that HCD is not accepting the reverse analysis so we will need additional research into the size, contents and locations of additional tanks in order to ensure they won't impact the buildings or people at the park (more sensitive since there are no building walls). We'll need this information ASAP so that our request for release of funds isn't too far delayed behind our comment period…otherwise I think de-coupling the processes gets a bit suspect.
The list of locations are as follows:

- Isais Auto Service
- JR Mobile Services
- Judy Lee DDS
- West Coast Engine
- Wright Auto
- Zavala Auto
- Ebenezer Auto
- Ruby's Café
- El Primo Tire
- A&A Auto Collision
- Cosmetic Specialties
- E&L Collision
- Dago's Mobile Auto Repair
- Cottage Animal Hospital
- Malibu Towing and Oxnard Towing (same location)
- Five Star Financial

The sites, along with their CalEPA ID's, are listed on the attached document. My hunch is that none of these are problems but we need to demonstrate it.
We will also need information about the park, both a description and site plan or other map showing the location.
Once we have all of that data, we can review, revise the EA and exhibit, and (hopefully – if there are no issues) request a release of funds.
Has your consultant been able to get information about the original tank? I 'm very concerned about how long that process is taking. If this research also takes that long, we will absolutely need the TCAC extension. If we can get the data and resolve these questions quickly, then maybe we can make it close to our original deadline.
Thank you.

Tracy McAulay
Management Analyst
Community Development Division
County Executive Office
(805) 232-1371 (cell)

From: Doug Ganey <doug.ganey@hagertyconsulting.com>
Sent: Monday, May 16, 2022 2:19 PM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>
Cc: Harney, Joe@HCD <Joe.Harney@hcd.ca.gov>; Knacke, Jaime@HCD <Jaime.Knacke@hcd.ca.gov>; Russell, Chelsee <Chelsee.Russell@ventura.org>; Larsen, Kirsten@HCD <Kirsten.Larsen@hcd.ca.gov>; McHenry, Michael@HCD <Michael.McHenry@hcd.ca.gov>
Subject: Re: Central Terrace Project Application

Hi Tracy -
If your team can update the calculations and find that we are outside of the ASDs then I don't see a need to re-publish. That calculation can be summarized in a brief memo and placed in the environmental review record as an update to the EA. If we had no comments on the explosives/flammables hazards section upon original publication (which I'd expect) there wouldn't be any new comments on a new calculation showing we were outside of the ASDs.
If the pocket park and other exterior space at the Central Terrace project site are not outside the ASDs then some mitigation would be required (e.g. engineered protective walls) per HUD regulations. I think that we would need to see that mitigation measure designed before funding was approved. The HCD personnel copied here can reply if they feel otherwise.
Let us know if this does not answer your questions.
Thank you,
Doug
On Mon, May 16, 2022 at 1:26 PM McAulay, Tracy <Tracy.McAulay@ventura.org> wrote:

> Thanks Doug. I will check in with Many Mansions. Although they haven't yet provided a site plan showing the park (because it isn't included in the construction of Central Terrace), my understanding is that it is just north of the housing development. I will follow up with MM today.
>
> Given this additional information, it is clear that we need to revise the EA description and ensure that the calculation of above ground storage tanks accounts for the park. I think the primary questions are:
>
> - Do we need to re-post the document and start a new public comment period?
> - May the evaluation of above ground tanks be considered as part of our mitigation plan or do we need these questions resolved before we finalize the review and request release of funds? I know their consultant was seeking more information on the tank, which (hopefully) will resolve the issue but we have not received additional information from them yet.
>
> Thank you.
>
> Tracy McAulay
>
> *Management Analyst*
>
> *Community Development Division*
>
> *County Executive Office*
>
> *(805) 232-1371 (cell)*
>
>

From: Doug Ganey <doug.ganey@hagertyconsulting.com>
Sent: Monday, May 16, 2022 11:48 AM
To: McAulay, Tracy <Tracy.McAulay@ventura.org>
Cc: Harney, Joe@HCD <Joe.Harney@hcd.ca.gov>; Knacke, Jaime@HCD <Jaime.Knacke@hcd.ca.gov>; Russell, Chelsee

<Chelsee.Russell@ventura.org>
Subject: Re: Central Terrace Project Application

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Hi Tracy & Joe -

Apologies for my late response. I missed the email originally.

Joe - your reply was correct. I am not 100% clear on the location of the pocket park Tracy is referencing but if I recall there looked to be some open space near the center of the site on site plans. The question is how far is that space (and/or the pocket park if separate) from potential explosive/flammables storage tanks on the industrial/cosmetics facility. It is a measuring question to see if hopefully we are beyond the HUD acceptable separation distance. It may require identifying the exact location of the tank(s) on the industrial facility via communication with that property owner or the Oxnard Fire Department.

I'm available for a call if needed.

Thank you,

Doug

916-947-1000

On Mon, May 16, 2022 at 8:44 AM McAulay, Tracy <Tracy.McAulay@ventura.org> wrote:

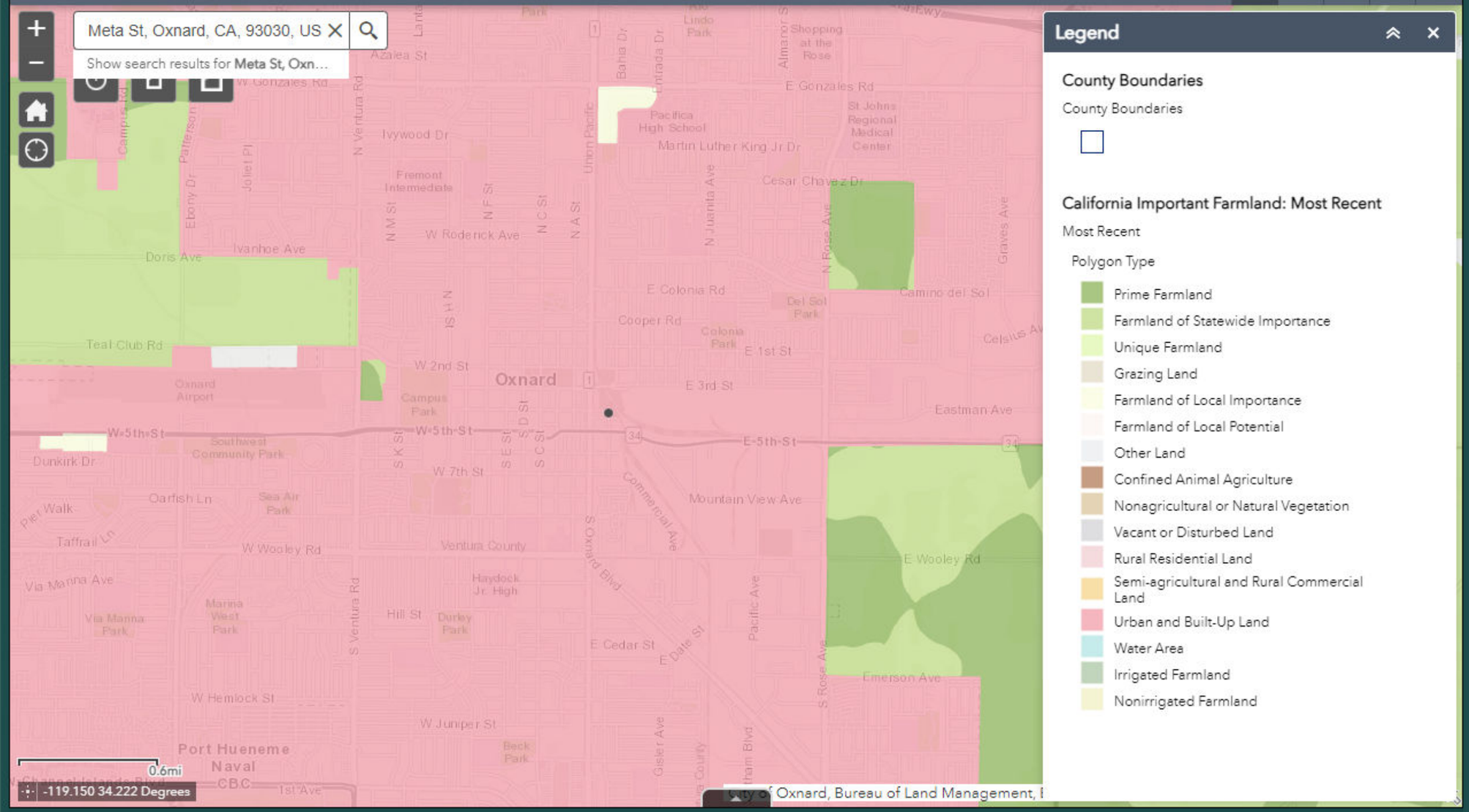
> Thank you for your response Joe. We are seeking guidance from the HCD team on what the next steps are. The original comment period expired on Monday. Are we able to revise the project description and utilize that public comment period or will we need to re-post?
>
> If we need to re-post, please let us know ASAP. It is likely that the project sponsor will need to seek an extension from TCAC if this is the case.
>
> Thank you.
>
>
> Tracy McAulay
>
> *Management Analyst*
>
> *Community Development Division*
>
> *County Executive Office*
>
> *(805) 232-1371 (cell)*
>
>
>

Attachment

Farmland Mapping and Monitoring Program Map

California Important Farmland Finder

CA Department of Conservation



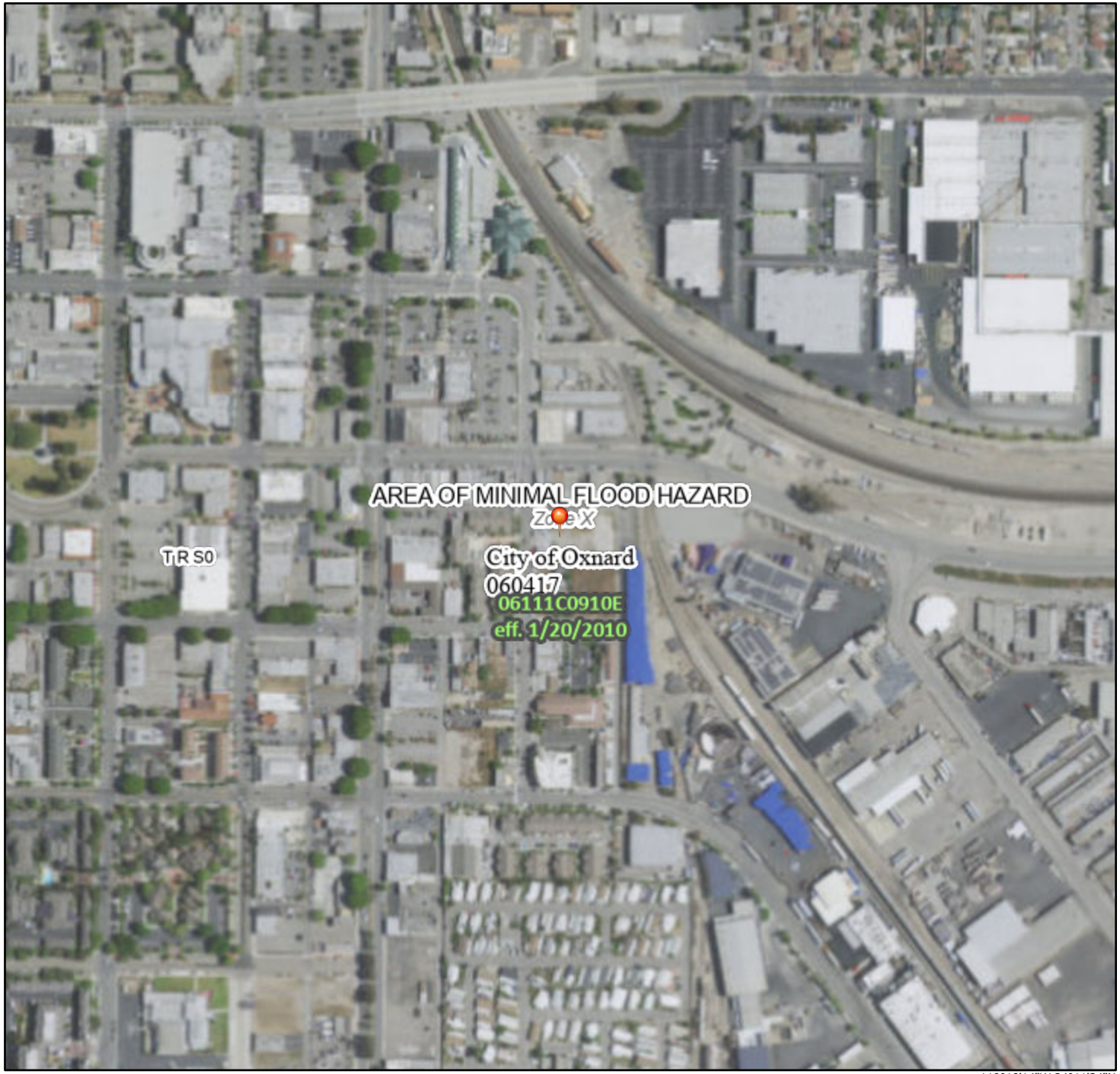
Attachment

FEMA FIRM

National Flood Hazard Layer FIRMette

FEMA

119°10'51"W 34°12'4"N



119°10'14"W 34°11'34"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/12/2024 at 5:08 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment

Noise

LT-1 Noise Data

Date	Time	LAeq
1/2/2023	5:00 AM	61.79
1/2/2023	6:00 AM	75.36
1/2/2023	7:00 AM	59.77
1/2/2023	8:00 AM	59.21
1/2/2023	9:00 AM	55.83
1/2/2023	10:00 AM	55.92
1/2/2023	11:00 AM	56.18
1/2/2023	12:00 PM	58.41
1/2/2023	1:00 PM	61.67
1/2/2023	2:00 PM	56.15
1/2/2023	3:00 PM	57.31
1/2/2023	4:00 PM	75.25
1/2/2023	5:00 PM	57.47
1/2/2023	6:00 PM	56.89
1/2/2023	7:00 PM	55.20
1/2/2023	8:00 PM	53.37
1/2/2023	9:00 PM	52.97
1/2/2023	10:00 PM	57.86
1/2/2023	11:00 PM	53.75
1/3/2023	12:00 AM	50.02
1/3/2023	1:00 AM	47.80
1/3/2023	2:00 AM	54.69
1/3/2023	3:00 AM	52.21
1/3/2023	4:00 AM	53.42

LT-1 CNEL/Ldn

Aspire Apt - LT-1												
Day	**Date**	**Time**	**Duration**	**Leq**	**Energy**	**Leq (hr)**	**Energy+Penalty**	**CNEL**				**Energy+Penalty**
								24-Hr CNEL	69			
								Min =>	48			
								Max =>	75			
Tuesday	2024-01-02	05:00:00	01:00:00.0	61.8	1510096	61.79005	1510096.054					15100960.54
Tuesday	2024-01-02	06:00:00	01:00:00.0	75.4	34351624	75.35947	34351623.73					343516237.3
Tuesday	2024-01-02	07:00:00	01:00:00.0	59.8	948966	59.77251	948966.0362					9489660.362
Tuesday	2024-01-02	08:00:00	01:00:00.0	59.2	833274.2	59.20788	833274.1974					8332741.974
Tuesday	2024-01-02	09:00:00	01:00:00.0	55.8	382820.1	55.82995	382820.0914					3828200.914
Tuesday	2024-01-02	10:00:00	01:00:00.0	55.9	391125.3	55.92316	391125.253					3911252.53
Tuesday	2024-01-02	11:00:00	01:00:00.0	56.2	415037.2	56.18087	415037.1855					4150371.855
Tuesday	2024-01-02	12:00:00	01:00:00.0	58.4	693112.4	58.40804	693112.4368					6931124.368
Tuesday	2024-01-02	13:00:00	01:00:00.0	61.7	1468559	61.66891	1468558.69					14685586.9
Tuesday	2024-01-02	14:00:00	01:00:00.0	56.2	412146.3	56.15051	1303320.907					4121462.588
Tuesday	2024-01-02	15:00:00	01:00:00.0	57.3	538496.3	57.31183	1702874.953					5384963.423
Tuesday	2024-01-02	16:00:00	01:00:00.0	75.3	33514680	75.25235	105982723.4					33514679.84
Tuesday	2024-01-02	17:00:00	01:00:00.0	57.5	558319.7	57.46883	5583197.102					558319.7102
Tuesday	2024-01-02	18:00:00	01:00:00.0	56.9	488900.4	56.8922	4889004.121					488900.4121
Tuesday	2024-01-02	19:00:00	01:00:00.0	55.2	331196.9	55.20086	3311968.926					331196.8926
Tuesday	2024-01-02	20:00:00	01:00:00.0	53.4	217373.3	53.37206	2173733.488					217373.3488
Tuesday	2024-01-02	21:00:00	01:00:00.0	53.0	197994	52.96652	1979939.729					197993.9729
Tuesday	2024-01-02	22:00:00	01:00:00.0	57.9	611050.7	57.86077	6110507.492					611050.7492
Tuesday	2024-01-02	23:00:00	01:00:00.0	53.7	236907.1	53.74578	2369071.32					236907.132
Wednesday	2024-01-03	00:00:00	01:00:00.0	50.0	100374.7	50.01624	1003746.864					100374.6864
Wednesday	2024-01-03	01:00:00	01:00:00.0	47.8	60223.07	47.79763	602230.7111					60223.07111
Wednesday	2024-01-03	02:00:00	01:00:00.0	54.7	294525.6	54.69123	294525.6232					294525.6232
Wednesday	2024-01-03	03:00:00	01:00:00.0	52.2	166473.6	52.21345	166473.5961					166473.5961
Wednesday	2024-01-03	04:00:00	01:00:00.0	53.4	219718.1	53.41866	219718.0976					219718.0976

LT-2 Noise Data

Date	Time	LAeq
1/2/2023	5:00 AM	61.93
1/2/2023	6:00 AM	66.54
1/2/2023	7:00 AM	60.85
1/2/2023	8:00 AM	59.73
1/2/2023	9:00 AM	58.09
1/2/2023	10:00 AM	60.14
1/2/2023	11:00 AM	58.53
1/2/2023	12:00 PM	58.16
1/2/2023	1:00 PM	62.78
1/2/2023	2:00 PM	58.97
1/2/2023	3:00 PM	59.93
1/2/2023	4:00 PM	62.95
1/2/2023	5:00 PM	59.63
1/2/2023	6:00 PM	58.27
1/2/2023	7:00 PM	56.40
1/2/2023	8:00 PM	53.90
1/2/2023	9:00 PM	54.93
1/2/2023	10:00 PM	60.03
1/2/2023	11:00 PM	51.02
1/3/2023	12:00 AM	48.73
1/3/2023	1:00 AM	49.41
1/3/2023	2:00 AM	51.94
1/3/2023	3:00 AM	53.99
1/3/2023	4:00 AM	52.61

LT-2 CNEL/Ldn

Aspire Apt - LT-2												
Day	**Date**	**Time**	**Duration**	**Leq**	**Energy**	**Leq (hr)**	**Energy+Penalty**	**CNEL**				**Energy+Penalty**
								24-Hr CNEL	64			
								Min =>	49			
								Max =>	67			
Tuesday	2024-01-02	05:00:00	01:00:00.0	61.9	1557841	61.92523	1557841.205					15578412.05
Tuesday	2024-01-02	06:00:00	01:00:00.0	66.5	4513158	66.54481	4513157.774					45131577.74
Tuesday	2024-01-02	07:00:00	01:00:00.0	60.8	1215520	60.84762	1215520.395					12155203.95
Tuesday	2024-01-02	08:00:00	01:00:00.0	59.7	939301.5	59.72805	939301.4711					9393014.711
Tuesday	2024-01-02	09:00:00	01:00:00.0	58.1	644806.5	58.09429	644806.5245					6448065.245
Tuesday	2024-01-02	10:00:00	01:00:00.0	60.1	1033063	60.14127	1033062.57					10330625.7
Tuesday	2024-01-02	11:00:00	01:00:00.0	58.5	712107.5	58.52546	712107.477					7121074.77
Tuesday	2024-01-02	12:00:00	01:00:00.0	58.2	655004	58.16244	655004.0473					6550040.473
Tuesday	2024-01-02	13:00:00	01:00:00.0	62.8	1895029	62.77616	1895029.122					18950291.22
Tuesday	2024-01-02	14:00:00	01:00:00.0	59.0	788155.3	58.96612	2492365.856					7881552.867
Tuesday	2024-01-02	15:00:00	01:00:00.0	59.9	984490.7	59.93212	3113232.878					9844906.78
Tuesday	2024-01-02	16:00:00	01:00:00.0	63.0	1974231	62.95398	6243067.393					1974231.255
Tuesday	2024-01-02	17:00:00	01:00:00.0	59.6	918748.3	59.63197	9187482.955					918748.2955
Tuesday	2024-01-02	18:00:00	01:00:00.0	58.3	671371.8	58.26963	6713717.533					671371.7533
Tuesday	2024-01-02	19:00:00	01:00:00.0	56.4	437014.6	56.40496	4370145.626					437014.5626
Tuesday	2024-01-02	20:00:00	01:00:00.0	53.9	245217.2	53.89551	2452172.459					245217.2459
Tuesday	2024-01-02	21:00:00	01:00:00.0	54.9	311016.8	54.92784	3110168.457					311016.8457
Tuesday	2024-01-02	22:00:00	01:00:00.0	60.0	1006144	60.0266	10061440.18					1006144.018
Tuesday	2024-01-02	23:00:00	01:00:00.0	51.0	126563.3	51.02308	1265633.017					126563.3017
Wednesday	2024-01-03	00:00:00	01:00:00.0	48.7	74632.14	48.72926	746321.382					74632.1382
Wednesday	2024-01-03	01:00:00	01:00:00.0	49.4	87238.16	49.40707	872381.6323					87238.16323
Wednesday	2024-01-03	02:00:00	01:00:00.0	51.9	156432.1	51.94326	156432.0818					156432.0818
Wednesday	2024-01-03	03:00:00	01:00:00.0	54.0	250842.6	53.99401	250842.6069					250842.6069
Wednesday	2024-01-03	04:00:00	01:00:00.0	52.6	182334.6	52.60869	182334.5725					182334.5725

ST-1 and ST-2 Noise Data

ST-1																			
Number	Start Date	Start Time	End Time	Duration	LAeq	LASmax	LASmin	LAE	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%
1	1/2/2024	9:43:37 AM	9:44:00 AM	0:00:23	56.5	60.8	54	70.1	81.9	60.7	60.5	60	59.4	58.9	57.8	56.1	54.4	54.2	54
2	1/2/2024	9:44:00 AM	9:45:00 AM	0:01:00	52.2	59.3	46.6	70	93.1	57.7	56.2	55.2	54.9	54.8	53.6	52.1	48	46.8	46.6
3	1/2/2024	9:45:00 AM	9:46:00 AM	0:01:00	50.8	59.2	44.5	68.6	80.2	58.4	57.2	55.3	54.1	53.5	50.8	48.4	45.5	45	44.6
4	1/2/2024	9:46:00 AM	9:47:00 AM	0:01:00	61.8	69.6	48.1	79.6	83.7	69.5	69.4	68.8	68.1	67.4	62.4	53.7	49.3	48.7	48.2
5	1/2/2024	9:47:00 AM	9:48:00 AM	0:01:00	50.2	58.6	45	68	75.2	58.2	56.9	53.2	52.4	51.8	50.4	49.1	47.3	46.9	45.5
6	1/2/2024	9:48:00 AM	9:49:00 AM	0:01:00	50.2	57.7	44.3	68	82.9	57.5	57.2	54.4	53.4	53.1	50.5	48.9	45.5	45.1	44.5
7	1/2/2024	9:49:00 AM	9:50:00 AM	0:01:00	52.6	57.9	46.5	70.4	84.4	57.3	56.6	56.2	55.7	55.5	53.7	51.4	48.4	47.4	46.7
8	1/2/2024	9:50:00 AM	9:51:00 AM	0:01:00	54.6	63.7	45.1	72.4	81.4	63.3	62.5	60.9	59.6	58.7	54.5	51.3	46.6	45.8	45.4
9	1/2/2024	9:51:00 AM	9:52:00 AM	0:01:00	51.7	55.7	46.3	69.5	79	55.2	55	54.5	54.2	53.9	52.9	51.4	47.7	47.3	46.7
10	1/2/2024	9:52:00 AM	9:53:00 AM	0:01:00	49.5	56.2	43.4	67.3	73.8	55.9	55.4	54.2	53.8	53.6	50.4	47.5	45.2	44.2	43.7
11	1/2/2024	9:53:00 AM	9:54:00 AM	0:01:00	53	59.7	47.2	70.8	77.8	59.3	58.8	57.5	56.8	56.5	53.8	50.8	48.2	47.8	47.3
12	1/2/2024	9:54:00 AM	9:55:00 AM	0:01:00	64.7	72	48.3	82.5	85	71.9	71.8	71.4	70.1	69.5	66	61.3	49.3	49	48.5
13	1/2/2024	9:55:00 AM	9:56:00 AM	0:01:00	50	54.8	46.4	67.8	67.4	54.5	54	53	52.8	52.4	50.6	49.3	47.3	46.9	46.5
14	1/2/2024	9:56:00 AM	9:57:00 AM	0:01:00	56.4	65.7	47.9	74.2	91.2	64.2	62.3	60.4	60	59.7	57.3	55.3	49.8	49.1	48.1
15	1/2/2024	9:57:00 AM	9:58:00 AM	0:01:00	54.1	61.6	44.5	71.9	73.1	61.2	60.9	60.2	59.5	58.8	53.7	51.1	46	45.6	44.8
16	1/2/2024	9:58:00 AM	9:59:00 AM	0:01:00	52.4	58.4	45.3	70.2	81.3	57.8	57.3	56.4	55.9	55.6	54.3	51.2	46.9	45.9	45.5
17	1/2/2024	9:59:00 AM	10:00:00 AM	0:01:00	56.1	65.7	45.1	73.9	88.2	64.2	63.6	62.9	61.8	61	55.8	52.2	46.7	46.3	45.5
				15-min Leq:	56.554049														
ST-2																			
Number	Start Date	Start Time	End Time	Duration	LAeq	LASmax	LASmin	LAE	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%
1	1/2/2024	10:24:36 AM	10:39:35 AM	0:14:59	58.8	71.3	47.6	88.3	92.3	67.7	66.2	64.5	63	62.5	59.1	55.5	51.3	50.3	48.2
2	1/2/2024	2:31:05 PM	2:31:13 PM	0:00:08	50.6	59	36.6	59.6	92	58.8	58.5	57.6	56.7	56	51.1	45.9	39.3	37.9	36.9

TL Calcs – Northern Façade

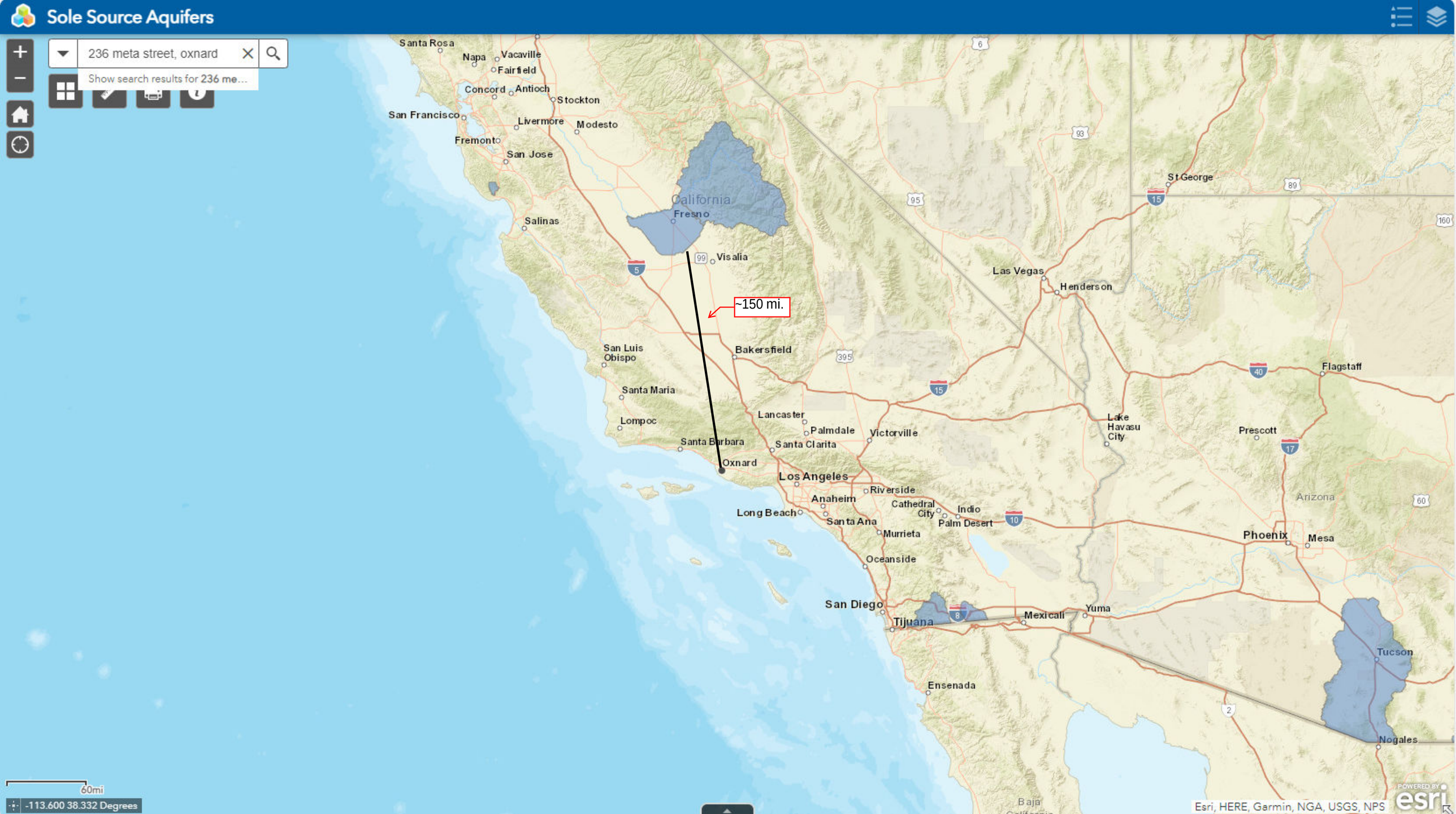
A-weighting Corrections	*-16.1*	*-13.4*	*-10.9*	*-8.6*	*-6.6*	*-4.8*	*-3.2*	*-1.9*	*-0.8*	*0*	*0.6*	*1*	*1.2*	*1.3*	*1.2*	*1*			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	**Ldn**
Ldn Source Spectrum	**70**	**65**	**64**	**60**	**58**	**59**	**59**	**60**	**62**	**62**	**60**	**58**	**56**	**53**	**51**	**47**	**74**	**69.0**	**69.0**
2nd Floor Facing North																			
Total Area=	1053																		
Window Area =	110	0.10																	
Door Area =		0.00																	
Equivalent Wall Area =	943	0.90	1.00																
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*			
Window (Dbl Glaze) -STC 26	18	21	21	23	25	26	27	27	27	25	23	26	28	27	27	30			
Stucco ext 1 lyr. Int insulated wood stud wall STC 46	25	30	42	41	44	43	45	45	46	45	46	48	50	50	50	55			
Derate for Field Construction	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	-2	-3	-3	-4	-4			
Actual TL	**25**	**29**	**41**	**40**	**43**	**42**	**44**	**44**	**44**	**43**	**44**	**46**	**47**	**47**	**46**	**51**			
Composite TL =	**23.2**	**27.3**	**30.5**	**32.2**	**34.3**	**35.0**	**36.1**	**36.1**	**36.2**	**34.3**	**32.5**	**35.4**	**37.4**	**36.4**	**36.4**	**39.5**			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	**Ldn**
Ldn INTERIOR LEVEL	47.0	37.4	33.3	27.8	23.6	23.7	23.4	23.5	25.8	27.4	27.6	22.9	18.7	16.6	14.5	7.1	**48**	**36.1**	**36.1**
																	Reduction =	**32.9**	
Leq Level =	**69**																		
Ldn =	**69.0**																		
Octave Band Numbers	**2**			**3**			**4**			**5**			**6**			**7**			
A-weighting Corrections	*-16.1*	*-13.4*	*-10.9*	*-8.6*	*-6.6*	*-4.8*	*-3.2*	*-1.9*	*-0.8*	*0*	*0.6*	*1*	*1.2*	*1.3*	*1.2*	*1*			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	
Wall assumed by Manufacturer	29	30	30	31	34	36	39	41	43	45	46	47	48	49	51	52			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	27	30	33	36	39	42	**43**	44	45	46	47	48	49	50	51	52	Max Diff.	Sum	
Difference=	-2	0	3	5	5	6	4	3	2	1	1	1	1	1	0	0	6	31	
TS type Z-duct	31	33	34	36	37	39	40	44	47	51	53	55	57	58	60	61			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	32	35	38	41	44	47	**48**	49	50	51	52	53	54	55	56	57	Max Diff.	Sum	
Difference=	1	2	4	5	7	8	8	5	3	0	-1	-2	-3	-3	-4	-4	8	26	
TS type Z-duct without wall	27	30	32	34	35	35	33	40	45	50	52	54	56	58	59	60			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	25	28	31	34	37	40	**41**	42	43	44	45	46	47	48	49	50	Max Diff.	Sum	
Difference=	-2	-2	-1	0	2	5	8	2	-2	-6	-7	-8	-9	-10	-10	-10	8	-51	
6" Metal Stud Wall (USG 3-3200) ~STC 39	27	29	33	38	37	38	40	44	47	49	48	49	38	35	38	40			

TL Calcs – Eastern Façade

A-weighting Corrections	*-16.1*	*-13.4*	*-10.9*	*-8.6*	*-6.6*	*-4.8*	*-3.2*	*-1.9*	*-0.8*	*0*	*0.6*	*1*	*1.2*	*1.3*	*1.2*	*1*			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	**Ldn**
Ldn Source Spectrum	**70**	**65**	**64**	**60**	**58**	**59**	**59**	**60**	**62**	**62**	**60**	**58**	**56**	**53**	**51**	**47**	**74**	**69.0**	**69.0**
2nd Floor Facing East																			
Total Area=	575																		
Window Area =	50	0.09																	
Door Area =		0.00																	
Equivalent Wall Area =	525	0.91	1.00																
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*			
Window (Dbl Glaze) -STC 26	18	21	21	23	25	26	27	27	27	25	23	26	28	27	27	30			
Stucco ext 1 lyr. Int insulated wood stud wall STC 46	25	30	42	41	44	43	45	45	46	45	46	48	50	50	50	55			
Derate for Field Construction	-1	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	-2	-3	-3	-4	-4			
Actual TL	**25**	**29**	**41**	**40**	**43**	**42**	**44**	**44**	**44**	**43**	**44**	**46**	**47**	**47**	**46**	**51**			
Composite TL =	**23.4**	**27.6**	**31.2**	**32.8**	**35.0**	**35.6**	**36.8**	**36.7**	**36.9**	**35.0**	**33.3**	**36.1**	**38.1**	**37.2**	**37.1**	**40.3**			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	**Ldn**
Ldn INTERIOR LEVEL	46.8	37.1	32.5	27.1	22.9	23.1	22.7	22.8	25.1	26.7	26.9	22.2	17.9	15.9	13.8	6.4	**48**	**35.6**	**35.6**
																	Reduction =	**33.4**	
Leq Level =	**69**																		
Ldn =	**69.0**																		
Octave Band Numbers	**2**			**3**			**4**			**5**			**6**			**7**			
A-weighting Corrections	*-16.1*	*-13.4*	*-10.9*	*-8.6*	*-6.6*	*-4.8*	*-3.2*	*-1.9*	*-0.8*	*0*	*0.6*	*1*	*1.2*	*1.3*	*1.2*	*1*			
	125	*160*	*200*	*250*	*315*	*400*	*500*	*630*	*800*	*1000*	*1250*	*1600*	*2000*	*2500*	*3150*	*4000*	**Flat**	**A-wht**	
Wall assumed by Manufacturer	29	30	30	31	34	36	39	41	43	45	46	47	48	49	51	52			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	27	30	33	36	39	42	**43**	44	45	46	47	48	49	50	51	52	Max Diff.	Sum	
Difference=	-2	0	3	5	5	6	4	3	2	1	1	1	1	1	0	0	6	31	
TS type Z-duct	31	33	34	36	37	39	40	44	47	51	53	55	57	58	60	61			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	32	35	38	41	44	47	**48**	49	50	51	52	53	54	55	56	57	Max Diff.	Sum	
Difference=	1	2	4	5	7	8	8	5	3	0	-1	-2	-3	-3	-4	-4	8	26	
TS type Z-duct without wall	27	30	32	34	35	35	33	40	45	50	52	54	56	58	59	60			
Comp. STC (Maximum Fit: 8 dB Max & 32 dB Sum)	25	28	31	34	37	40	**41**	42	43	44	45	46	47	48	49	50	Max Diff.	Sum	
Difference=	-2	-2	-1	0	2	5	8	2	-2	-6	-7	-8	-9	-10	-10	-10	8	-51	
6" Metal Stud Wall (USG 3-3200) -STC 39	27	29	33	38	37	38	40	44	47	49	48	49	38	35	38	40			

Attachment

Sole Source Aquifer Map


Sole Source Aquifers
236 meta street, oxnard
Show search results for 236 me...
Santa Rosa
Napa
Vacaville
Fairfield
Concord
Antioch
Stockton
San Francisco
Livermore
Modesto
Fremont
San Jose
California
Fresno
Salinas
Visalia
~150 mi.
Las Vegas
Henderson
St.George
San Luis Obispo
Bakersfield
Santa Maria
Lompoc
Lancaster
Palmdale
Victorville
Santa Barbara
Santa Clarita
Oxnard
Lake Havasu City
Flagstaff
Prescott
Los Angeles
Riverside
Anaheim
Cathedral City
Indio
Palm Desert
Long Beach
Santa Ana
Murrieta
Oceanside
Arizona
Phoenix
Mesa
San Diego
Tijuana
Mexicali
Yuma
Tucson
Ensenada
Nogales
Baja
60mi
-113.600 38.332 Degrees
Esri, HERE, Garmin, NGA, USGS, NPS

Attachment

National Wetlands Inventory

National Wetlands Inventory
surface waters and wetlands

ABOUT | GET DATA | PRINT | FIND LOCATION

BASEMAPS >

MAP LAYERS >

- [x] Wetlands
- [x] Riparian
- [ ] Riparian Mapping Areas
- [x] Data Source
  - Source Type
  - Image Scale
  - Image Year
- [ ] Areas of Interest
- [ ] FWS Managed Lands
- [ ] Historic Wetland Data

Measure

Project Site

LEGEND

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Riparian

- Forested/Shrub
- Herbaceous

Attachment

Wild and Scenic Rivers
Nationwide Rivers
Rivers Currently Under Study

Nationwide Rivers

El Rio
232
N Victoria Ave
W Gonzales Rd
N Rose Ave
El Camino Real
101
N Lewis Rd
Camarillo
Project Site
Oxnard
E 5th St
34
S Rose Ave
Newbury Pa
11 mi.
Channel Islands Beach
Port Hueneme
NAS Point Mugu
Hidden Valley
Hueneme Canyon
1
© 2020 Google
Data CSUMB SFML, CA OPC
Google Earth
34°14'49.85" N 119°14'32.50" W elev 75 ft eye alt 18.64 mi

Wild and Scenic Rivers

Ojai
Carpinteria
Ventura
Santa Paula
Fillmore
Castaic
Santa Clarita
Moorpark
Simi Valley
Camarillo
Oxnard
Thousand Oaks
Project Site
23 mi.
33
126
5
14
210
27
170
405
Hueneme Canyon

Google Earth

Imagery Date: 8/19/2019 34°25'43.34" N 119°01'19.62" W elev 3300 ft eye alt 63.77 mi

Study Rivers

There are two study provisions in the Act — Section 5(a), through which Congress directs the study of select rivers, and Section 5(d)(1), which directs federal agencies to identify potential additions to the National Wild and Scenic Rivers System (National System) through federal agency plans. A brief explanation is provided in the following respective sections below.

Current Active Studies

Currently, there are two rivers or river systems under “authorized” study under Section 5(a) of the Wild & Scenic Rivers Act. This does not include those that might be under assessment as part of normal agency land-planning processes.

- Kissimmee River, Florida (Public Law 117-328, December 29, 2022) – Study not yet initiated by the National Park Service.
- Little Manatee River, Florida (Public Law 117-328, December 29, 2022) – Study not yet initiated by the National Park Service.

Section 2(a)(ii) Studies

Under Section 2(a)(ii) of the Act, a governor (or governors for a river in multiple states) of a state can request that a river be designated, provided certain conditions are met (refer to the **Council White Paper on Section 2(a)(ii) (/sites/rivers/files/2023-01/2aii.pdf)** for specifics). The National Park Service then conducts a study to determine of certain conditions are met. Here are some of the studies conducted under Section 2(a)(ii). Again, if you don’t see a study listed, we do not have a copy.

Section 2(a)(ii) Studies

- **Allagash River Study Report (/sites/rivers/files/2022-12/allagash-study.pdf)**, Maine