Appendix A

CalEEMod

Stow Grove Park Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Stow Grove Park
Construction Start Date	6/1/2024
Operational Year	2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.40
Precipitation (days)	24.0
Location	34.44931263578158, -119.84607506125394
County	Santa Barbara
City	Goleta
Air District	Santa Barbara County APCD
Air Basin	South Central Coast
TAZ	3372
EDFZ	8
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.14

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

Parking Lot	1.60	1000sqft	0.04	0.00	0.00	—	—	Parking lot/addtl entrance
City Park	0.26	Acre	0.27	0.00	0.00	0.00	—	Playground + Restroom
Other Non-Asphalt Surfaces	13.0	1000sqft	0.30	0.00	13,000	13,000	—	Multi Use Field

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.	1.52	1.24	12.5	11.4	0.03	0.55	2.31	2.86	0.50	1.07	1.57	—	2,548	2,548	0.12	0.14	1.73	2,594
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.72	2.69	5.60	6.98	0.01	0.26	0.11	0.32	0.23	0.03	0.23	—	1,305	1,305	0.05	0.01	0.01	1,309
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.23	0.23	1.91	2.30	< 0.005	0.09	0.05	0.13	0.08	0.02	0.10	—	442	442	0.02	0.01	0.03	444
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.04	0.35	0.42	< 0.005	0.02	0.01	0.02	0.01	< 0.005	0.02	—	73.1	73.1	< 0.005	< 0.005	< 0.005	73.5

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.52	1.24	12.5	11.4	0.03	0.55	2.31	2.86	0.50	1.07	1.57	—	2,548	2,548	0.12	0.14	1.73	2,594
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.72	2.69	5.60	6.98	0.01	0.26	0.11	0.32	0.23	0.03	0.23	—	1,305	1,305	0.05	0.01	0.01	1,309
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.23	0.23	1.91	2.30	< 0.005	0.09	0.05	0.13	0.08	0.02	0.10	—	442	442	0.02	0.01	0.03	444
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.04	0.35	0.42	< 0.005	0.02	0.01	0.02	0.01	< 0.005	0.02	—	73.1	73.1	< 0.005	< 0.005	< 0.005	73.5

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.	0.51	0.49	0.32	2.51	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	469	469	0.04	0.03	2.04	480
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.51	0.49	0.35	2.71	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	462	462	0.04	0.03	0.05	472
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.51	0.49	0.34	2.60	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	462	462	0.04	0.03	0.88	472
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.09	0.06	0.48	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	< 0.005	76.6	76.6	0.01	< 0.005	0.15	78.2

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	0.51	0.48	0.32	2.51	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	465	465	0.03	0.03	2.04	476
Area	0.00	0.01	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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2.04	2.04	< 0.005	< 0.005	—	2.05
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Waste	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Total	0.51	0.49	0.32	2.51	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	469	469	0.04	0.03	2.04	480
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.51	0.48	0.35	2.71	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	458	458	0.04	0.03	0.05	468
Area	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2.04	2.04	< 0.005	< 0.005	—	2.05
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Waste	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Total	0.51	0.49	0.35	2.71	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	462	462	0.04	0.03	0.05	472
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.51	0.47	0.34	2.60	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	458	458	0.04	0.03	0.88	468

Area	0.00	0.01	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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	2.04	2.04	< 0.005	< 0.005	—	2.05
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Waste	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Total	0.51	0.49	0.34	2.60	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	0.01	462	462	0.04	0.03	0.88	472
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.09	0.06	0.48	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	75.9	75.9	0.01	< 0.005	0.15	77.6
Area	0.00	< 0.005	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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.34	0.34	< 0.005	< 0.005	—	0.34
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.32	0.32	< 0.005	< 0.005	—	0.32
Waste	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	0.09	0.09	0.06	0.48	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	< 0.005	76.6	76.6	0.01	< 0.005	0.15	78.2

3. Construction Emissions Details

3.1. Site Preparation (2024) - 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	0.60	0.50	4.60	5.56	0.01	0.24	—	0.24	0.22	—	0.22	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.1	14.1	< 0.005	< 0.005	—	14.2
Dust From Material Movement	—	—	—	—	—	—	< 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	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.34
Dust From Material Movement	—	—	—	—	—	—	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.20	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.1	32.1	< 0.005	< 0.005	0.15	32.7
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	0.07	0.02	1.13	0.39	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	787	787	0.05	0.12	1.51	826
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.53
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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
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	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25

3.3. Grading (2024) - 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	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	2.07	2.07	—	1.00	1.00	—	—	—	—	—	—	—
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	0.02	0.19	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3

Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	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	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.66	4.66	< 0.005	< 0.005	—	4.68
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.30	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	48.1	48.1	< 0.005	< 0.005	0.22	49.0
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	0.07	0.02	1.13	0.39	0.01	0.01	0.19	0.20	0.01	0.05	0.06	—	787	787	0.05	0.12	1.51	826
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
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	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.9	12.9	< 0.005	< 0.005	0.01	13.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
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	—	2.14	2.14	< 0.005	< 0.005	< 0.005	2.25

3.5. Building Construction (2024) - 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	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
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	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
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	0.18	0.15	1.53	1.91	< 0.005	0.07	—	0.07	0.06	—	0.06	—	357	357	0.01	< 0.005	—	359
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	0.03	0.03	0.28	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.2	59.2	< 0.005	< 0.005	—	59.4
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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. Paving (2024) - 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	0.63	0.53	4.52	5.32	0.01	0.21	—	0.21	0.19	—	0.19	—	823	823	0.03	0.01	—	826
Paving	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
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	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	110	110	0.01	< 0.005	0.01	112
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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
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	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
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

3.9. Architectural Coating (2024) - 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	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	2.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30
Architectural Coatings	—	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.51	0.48	0.32	2.51	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	465	465	0.03	0.03	2.04	476
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	0.51	0.48	0.32	2.51	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	465	465	0.03	0.03	2.04	476
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.51	0.48	0.35	2.71	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	458	458	0.04	0.03	0.05	468
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	0.51	0.48	0.35	2.71	< 0.005	< 0.005	0.39	0.39	< 0.005	0.10	0.10	—	458	458	0.04	0.03	0.05	468
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.09	0.09	0.06	0.48	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	75.9	75.9	0.01	< 0.005	0.15	77.6

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	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	0.09	0.09	0.06	0.48	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	75.9	75.9	0.01	< 0.005	0.15	77.6

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.04	2.04	< 0.005	< 0.005	—	2.05
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.04	2.04	< 0.005	< 0.005	—	2.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.04	2.04	< 0.005	< 0.005	—	2.05
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2.04	2.04	< 0.005	< 0.005	—	2.05
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.34	0.34	< 0.005	< 0.005	—	0.34
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.34	0.34	< 0.005	< 0.005	—	0.34

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	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	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	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	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	0.01	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	1.95	1.95	< 0.005	< 0.005	—	1.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.32	0.32	< 0.005	< 0.005	—	0.32
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.32	0.32	< 0.005	< 0.005	—	0.32

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01

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

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
Site Preparation	Site Preparation	6/1/2024	6/10/2024	5.00	6.00	—
Grading	Grading	6/11/2024	6/18/2024	5.00	6.00	—
Building Construction	Building Construction	6/19/2024	11/5/2024	5.00	100	—
Paving	Paving	11/6/2024	11/12/2024	5.00	5.00	—
Architectural Coating	Architectural Coating	11/13/2024	11/19/2024	5.00	5.00	—

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
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41

Site Preparation	Tractors/Loaders/Backh	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backh oes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backh oes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Tractors/Loaders/Backh oes	Diesel	Average	1.00	7.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
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
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	8.80	LDA,LDT1,LDT2
Site Preparation	Vendor	—	5.30	HHDT,MHDT
Site Preparation	Hauling	10.5	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	8.80	LDA,LDT1,LDT2
Grading	Vendor	—	5.30	HHDT,MHDT

Grading	Hauling	10.5	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	8.80	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	5.30	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	8.80	LDA,LDT1,LDT2
Paving	Vendor	—	5.30	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	8.80	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	5.30	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	0.00	0.00	563	188	876

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 (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	500	3.00	0.00	—
Grading	0.00	500	4.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.34

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	0.04	100%
City Park	0.00	0%
Other Non-Asphalt Surfaces	0.30	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	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
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	110	110	110	40,143	548	548	548	199,900
Other Non-Asphalt Surfaces	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

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)
0	0.00	563	188	876

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)
Parking Lot	1,402	532	0.0330	0.0040	0.00

City Park	0.00	532	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	532	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)
Parking Lot	0.00	0.00
City Park	0.00	0.00
Other Non-Asphalt Surfaces	0.00	345,032

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
City Park	0.02	—
Other Non-Asphalt Surfaces	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

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	10.8	annual days of extreme heat
Extreme Precipitation	10.1	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	37.9	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth 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 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
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	N/A	N/A	N/A	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	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
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	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	22.2
AQ-PM	13.7
AQ-DPM	63.6
Drinking Water	30.9
Lead Risk Housing	39.2
Pesticides	27.6
Toxic Releases	25.3
Traffic	46.1
Effect Indicators	—
CleanUp Sites	61.8
Groundwater	96.5
Haz Waste Facilities/Generators	86.0
Impaired Water Bodies	58.7
Solid Waste	2.52
Sensitive Population	—
Asthma	25.9
Cardio-vascular	41.2
Low Birth Weights	18.0
Socioeconomic Factor Indicators	—
Education	40.5
Housing	12.0

Linguistic	42.1
Poverty	13.7
Unemployment	58.4

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	82.24047222
Employed	98.1265238
Median HI	81.14974978
Education	—
Bachelor's or higher	75.91428205
High school enrollment	100
Preschool enrollment	22.87950725
Transportation	—
Auto Access	83.51084306
Active commuting	21.95560118
Social	—
2-parent households	49.58295907
Voting	98.04953163
Neighborhood	—
Alcohol availability	87.39894777
Park access	62.19684332
Retail density	44.01385859
Supermarket access	48.99268574
Tree canopy	51.94405235

Housing	—
Homeownership	90.85076351
Housing habitability	92.15963044
Low-inc homeowner severe housing cost burden	47.94045939
Low-inc renter severe housing cost burden	88.29718979
Uncrowded housing	74.48992686
Health Outcomes	—
Insured adults	53.9715129
Arthritis	0.0
Asthma ER Admissions	68.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	81.3
Cognitively Disabled	58.3
Physically Disabled	28.8
Heart Attack ER Admissions	80.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	56.5
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	76.4
Elderly	3.5
English Speaking	85.6
Foreign-born	16.4
Outdoor Workers	47.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	64.7
Traffic Density	43.6
Traffic Access	0.0
Other Indices	—
Hardship	18.3
Other Decision Support	—
2016 Voting	97.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	87.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
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	Parking lot and maintenance entrance modeled as parking lot. Playground and restroom modeled as city park. Multi use field/loop modeled as non asphalt surfaces
Construction: Construction Phases	Demolition phase (10 days) removed and reallocated to site prep and grading phases. All else retained as default
Operations: Refrigerants	No refrigerants per project description
Operations: Vehicle Data	Based on applicant indication of a nominal increase in trips of 110 trips per day.

Appendix B

Biological Resources Assessment

Stow Grove Park Master Plan Project

Biological Resources Assessment

prepared for

City of Goleta
Parks and Recreation Department
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July 2023

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Executive Summary

This report documents the findings of a Biological Resources Assessment (BRA) conducted by Rincon Consultants, Inc. (Rincon) for the City of Goleta's (City's) Stow Grove Park Master Plan Project. This BRA documents the biological resources that occur, or have the potential to occur, within the park, based on results of field visits and a desktop review, and also provides an assessment of impacts to those resources as a result of proposed activities. In particular, this BRA addresses the potential for direct and indirect impacts to the Monarch butterfly (*Danaus plexippus*), Cooper's hawk (*Accipiter cooperii*), and white-tailed kite (*Elanus leucurus*), and Environmentally Sensitive Habitat Areas (ESHAs).

The following habitats in Goleta are considered to be ESHA: marine resources, beach and shoreline resources, coastal dunes, coastal bluff scrub, foredune, oak woodlands/savannah, dense stands of native grasslands, all wetlands such as vernal pools, riparian habitats, monarch butterfly overwintering roosts, raptor roosts and nests, and habitats that support special status-plant and wildlife species. In the Conservation Element (CE) of the Goleta General Plan/Coastal Land Use Plan (GP/CLUP), ESHAs in Goleta are generally mapped in Figure 4-1 (updated 2023). However, per CE Policy 1.3, any area not designated on the ESHA map in Figure 4-1 that meets the ESHA criteria shall be granted the same protections as if the area was shown on the map. As shown in Figure 4-1, a part of the Biological Study Area is designated ESHA in Stow Grove Park, including coast live oak woodland and the eucalyptus grove that provides habitat for monarch butterfly aggregations (City of Goleta 2023).

This BRA recommends the following mitigation measures for protection of sensitive resources occurring in the property:

- BIO-1: Monarch Butterfly Roost Protection
- BIO-2: Tree Removal and Monarch Roost Protection Plan
- BIO-3: Pollinator Garden Landscaping
- BIO-4: Pre-Construction Nesting Bird Survey
- BIO-5: Tree Protection Plan

1 Introduction

Rincon Consultants, Inc. has prepared this biological resources assessment (BRA) to document the existing conditions and evaluate the potential impacts to biological resources associated with the Stow Grove Park Master Plan Project (project) located in the City of Goleta, Santa Barbara County, California. For the purpose of this report, the project site is referred to as the biological study area (BSA).

1.1 Project Location

The project is identified as Assessor's Parcel Number (APN) 077-160-009 and is located along the east side of North La Patera in the city of Goleta (City) (Figure 1). The project site is located in Township 4 north, Range 28 west (San Bernardino meridian), and is depicted on the *Goleta* U.S. Geological Survey 7.5-minute quadrangle map (USGS 2023). The project site is an 11.44 acre public park and is southeast of the intersection of North La Patera Lane and Cathedral Oaks Road (Figure 2). The approximate center of the project is located at latitude 34.449882 and longitude -119.845762 (NAD83). The project site is currently developed with manicured grass and trails, groves of trees, group barbecue and seating areas, a caretaker's cottage and maintenance area, two sand volleyball courts, a multi-use field with a baseball backstop, multiple playground areas, a bathroom building, and a surface parking lot. An existing residential neighborhood exists immediately adjacent on the east side of the park; an elementary school and residential neighborhood are to the south and west; and a developed farm is located to the north.

The project is in the Santa Ynez – Sulphur Mountains subsection of the Southern California Coast (USFS 2014), an ecological sub-unit that extends from the mouth of the Santa Ynez River in northern Santa Barbara County south and east into the Sulphur Mountains just west of the Ventura River in northern Ventura County. The ecological unit is defined by its mountainous topography inland, with coastal plains along the coastline. The Santa Ynez Mountains to the north form relatively steep hillsides vegetated with chaparral and scrub vegetation types, drained by incised streams. The project is on the coastal plain between the southern foot of the mountains and the Pacific Ocean.

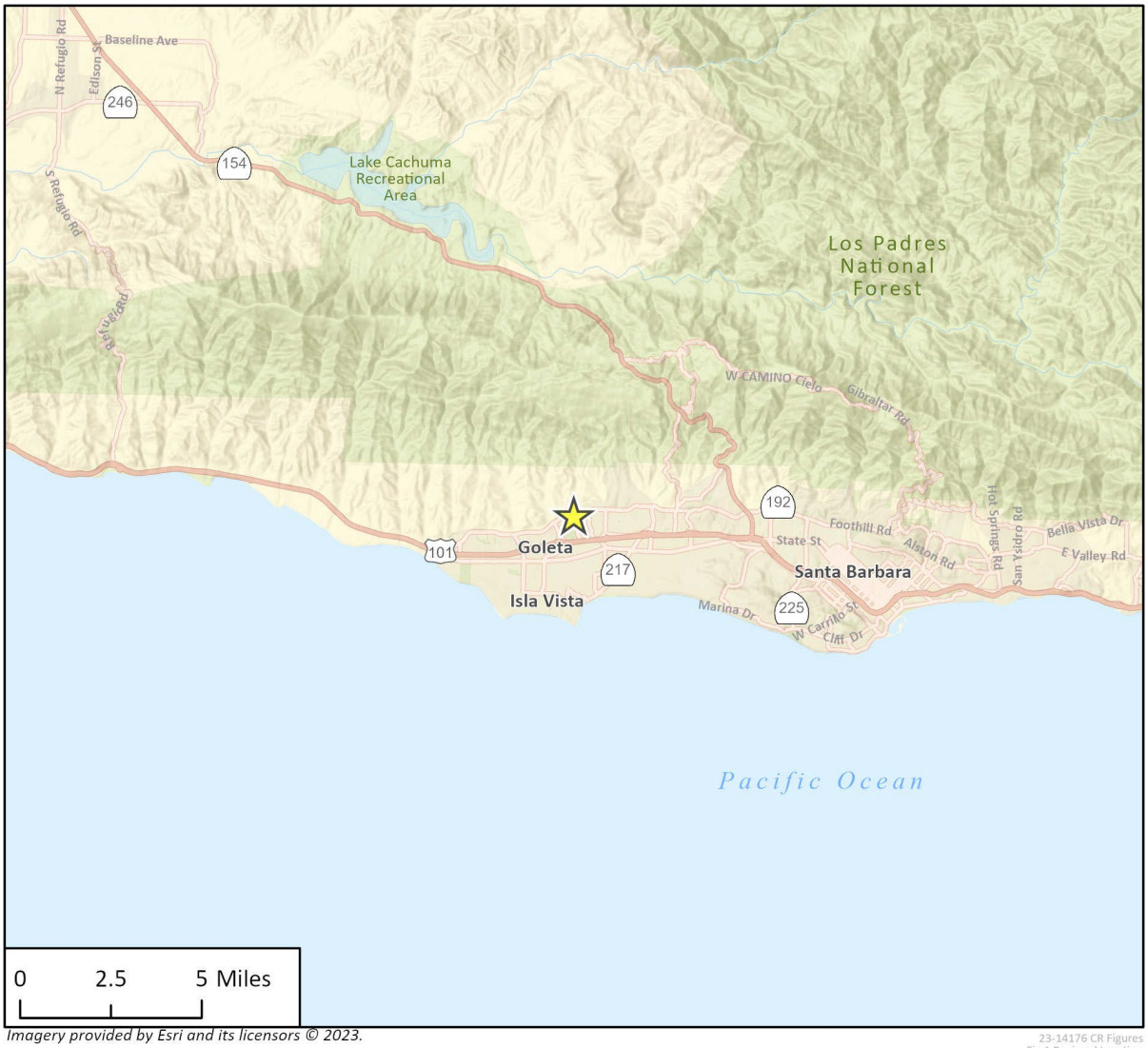
1.2 Project Description

The project includes the development of the Stow Grove Park Master Plan which envisions improved, new, expanded and renovated active and passive recreational park amenities at Stow Grove Park. The Master Plan includes 25 total components/amenities, of which nine are general park improvements, six are play/active, five are social/educational, and five are passive/nature based. The 25 components/amenities of the Master Plan are discussed below.

1.2.1 General Park Improvements

These nine improvements include alterations to the existing parking lot located in the northwestern corner of the site, installation of a new restroom, and refurbishment of the existing maintenance facility with a trash enclosure, horseshoe area, picnic areas, park entrances, and redwood grove/walking trails. The proposed general park improvements are described below in Table 1.

Figure 1 Regional Location



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23-14176 CR Figures
Fig 1 Regional Location

Project Location

N

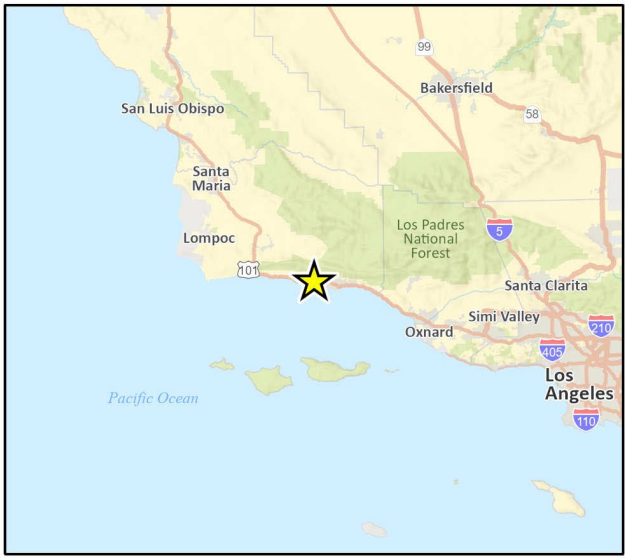
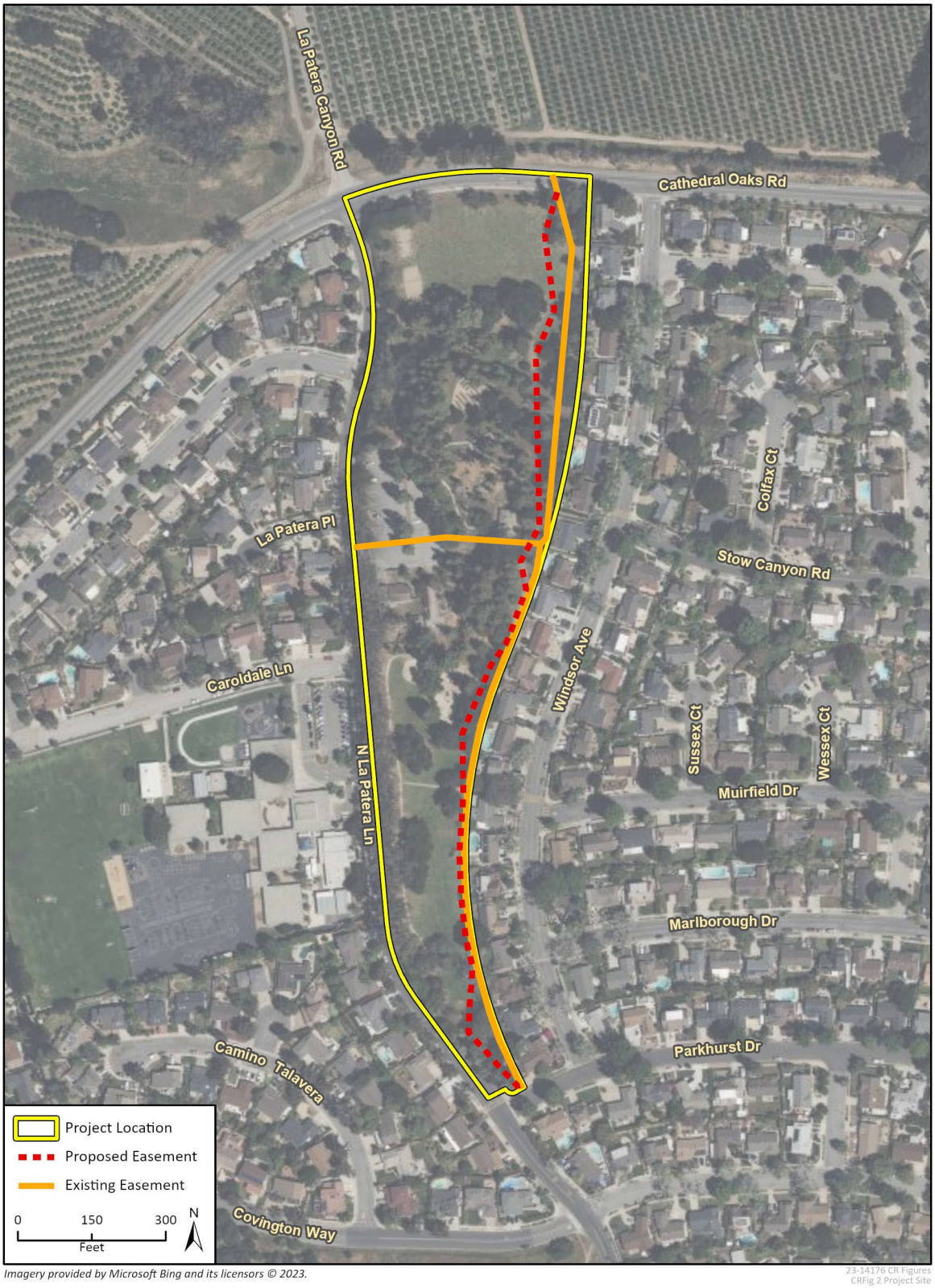


Figure 2 Project Location



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23-14176 CR Figures
CRFig 2 Project Site

*The Master Plan boundary terminates at the end of the park limits along Cathedral Oaks Road. The boundary depicted in Figure 2 illustrates County of Santa Barbara parcel data.

Table 1 General Park Improvements

Amenity	Improvement Description
Parking Lot	Regrade and repave the existing parking lot to include a pass-through lane on the north end of the existing lot, introducing 200 square feet of paved area.
	Stormwater collection/drainage improvements (stormwater currently drains to the playground).
	Restripe the parking lot in accordance with Americans with Disability Act (ADA) requirements, including new ADA-compliant stalls
Existing Restroom	Repair exterior of the restroom building, upgrade utilities, and install ADA compliant upgrades.
New Restroom	Construct a ~375 square foot (sf) family and/or gender-neutral restroom.
Maintenance Facility	Reconfigure the existing maintenance area and install new fencing.
	Create a secondary entrance from North La Patera Lane for service vehicles only. Introduce ~1,400 sf of paved area that requires removal of one tree.
New Trash Enclosure	Construct a trash enclosure within the existing footprint of the maintenance facility containing floating trash bins.
Horseshoe Area	Install backboards, five new pits, benches/seating, curbing/edging, and placement of dirt at the horseshoe area. Existing horseshoe footprint would be maintained.
Park Entrances	Americans with Disabilities Act (ADA) compliant upgrades (sidewalk accessibility) and install directional signage at the four Park entrances.
Existing Picnic Areas	Replace and/or repair broken picnic tables and, existing shade structure, construct one new group picnic shade structure, new trash/recycle receptacles, repair barbeque equipment, and enhance signage and definition for the spaces of each picnic area.
Redwood Groves and Walking Trails/Entrances	Remove non-native plants, install mulching, plant native species, and repair fencing. Physical work requires use of hand tools only.

1.2.2 Play/Active Amenities

These six improvements include modifications to the existing playground, multi-use fields, walking/running paths, and volleyball courts and introduction of a new fitness trail loop and nature/play area. The proposed play/active amenities are described below in Table 2.

Table 2 Play/Active Amenities

Amenity	Improvement Description
All Abilities Playground	Expand the playground by ~11,200 sf to the west of the existing playground[1]. Resurface with new equipment (swings, slides, spinners, sensory play elements, and create a larger inclusive play space).
Multi-Use Field	Refurbish the existing lawn at the northern portion of the park, install gopher deterrents, upgrade irrigation, and install a new fence backstop
Sand Volleyball Court	Remove one of the two existing sand pits, install new pole/netting, and introduce a new seating area around the perimeter.
Walking/Running Path	Install ~3,000 linear feet (lf) natural gravel/decomposed granite central walking/running path to connect the north side of the park to the south. This 8-foot-wide path would connect existing paths along the eastern edge, western loop in the southern portion, and western connection from the parking lot to the fields.
Fitness/Trail Loop	Create a ~1,000 ft long by up to 8 ft wide perimeter fitness trail/path around the multi-use field.
	Install five fitness equipment/pads (~200 sf each) at five locations surrounding the field.
	Total impact footprint includes ~13,000 sf [~9,000 sf of permanent disturbance (~8,000 sf of trail and ~1,000 sf of equipment pads) and up to~4,000 sf of temporary impact area].
Nature/Play Area	Install a new natural looking boulder course, balance logs, and other exploratory/nature play elements (such as a tree fort) in four use areas comprising ~1,670 sf.[2]

[1] There are three existing playgrounds, the project includes combining into one, expanded playground.
[2] The surface of the nature/play area would be a pour in place rubber surfacing material.

1.2.3 Social/Educational Amenities

These five improvements include rehabilitation to the Caretaker Cottage, creation of a family activity area, and introduction of cultural, social, and educational amenities such as a Channel Islands Plaza, entrance junction, and entry promenade. The proposed social/educational amenities are described below in Table 3.

Table 3 Social/Educational Amenities

Amenity	Improvement Description
Caretaker Cottage	Rehabilitate the cottage to provide shared use as a classroom, education or nature center.
	Install ~1,100 sf of decorative permeable paving to the walkway and install a new bioswale for stormwater collection
Family Activities Area	Allocate ~1,000 sf of rentable passive space for family activity, such as corn hole, bounce houses, ping pong, etc. No physical improvements and ground surface would remain permeable (i.e. mulch, dirt, grass).
Channel Islands Plaza	Introduce interpretive signage of Channel Islands flora at southern entrance.
Entrance Junction	Provide decorative boulders and directional signage at the intersection of the central internal pathway/trails.
Entry Promenade	Install ~2,800 sf of decorative permeable paving leading up the proposed entrance junction. The area would be vehicle accessible from the parking lot to the north.
	Install a new bioswale for stormwater collection

1.2.4 Passive/Nature Based Amenities

These five improvements include upgrades to the general use field and native tree grove, and creation of interpretive/bird watching trails, a botanical garden, a butterfly/pollinator garden. The proposed passive/nature based amenities are described below in Table 4.

Table 4 Passive/Nature Based Amenities

Amenity	Improvement Description
General Use Field	Regrade and reseed areas of the general use field, upgrade/trench the irrigation system, and install gopher deterrents.
Interpretive/Bird Watching Trails	Install seating areas and interpretive signs throughout existing trails for education, bird watching, and refuge.
	Install misters/fogging devices to provide redwoods with moisture at a higher zone than standard irrigation.
Botanical/Native Garden	Create a new native species botanical area under the existing redwood groves with educational tags for plants
Butterfly/Pollinator Garden	Add a garden and install educational signs and a new seating area for reading/relaxing/outdoor gathering.
Native Tree Grove Trail	Install natural colored concrete and decomposed granite (DG) trail areas[1] with interpretive signs throughout the park.

[1] Concrete - ~56 lf of 8-foot width and ~1,200 lf of 5-foot width; DG -~800 lf of at 8-foot width and ~360 lf at 5-foot width

Easements

As shown in Figure 2, an existing water line easement is located along the eastern boundary of the park and also bisects the park through the middle in the east/west direction. This easement would be abandoned, and a new easement would be established for a directionally drilled water line, maintained by La Patera Ranch. As shown in Figure 2, the new easement would run along the eastern boundary of the site, connecting to existing infrastructure underneath Cathedral Oaks Road. The water line would be underground and would not affect the finished configuration of park amenities.

Environmentally Sensitive Habitat Area

Stow Grove Park includes designated Environmentally Sensitive Habitat Areas (ESHA) in two locations. These areas and protective buffers contain existing park amenities, including three group picnic areas, horseshoe pits, a multi-use turf field, volleyball courts, restrooms, the parking lot, and walking/biking trails. Proposed improvements located within ESHA include refurbishing the existing horseshoe and picnic areas, maintenance facility and caretaker cottage, as well as constructing the new restroom and all abilities playground. Under Chapter 17.30.040 of the Goleta Municipal Code, no new development is allowed within ESHA and ESHA buffer, except for Capital Improvement Program projects, public accessways and trails, certain habitat restoration and enhancement projects, and nature education and research activities.

Project Schedule/Construction Details

Planned improvements under the Master Plan are anticipated to be implemented over the next 5-15 years, beginning in 2024. Approximately 2,000 cubic yards of soil would be disturbed to implement planned improvements. Minor use of heavy machinery (grader, roller, paver, and asphalt mixing equipment) would be required for construction/rehabilitation of the parking lot and multi-use field and resurfacing the all-abilities playground.

1.3 Regulatory Summary

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources such as protected trees and ESHA. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the City of Goleta).

1.3.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (ESA); including proposed and candidate species
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected by the California Fish and Game Code (CFGC), and Species of Special Concern or Watch List by the California Department of Fish and Wildlife (CDFW)
- Plants listed as Rare under the Native Plant Protection Act (NPPA)
- California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR) 1A, 1B, 2A, 2B, 3 and 4
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance, local policy, etc.

1.3.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act

1.3.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

This report was prepared to be consistent with the City of Goleta General Plan/Coastal Land Use Plan (GP/CLUP) and the City's Environmental Thresholds and Guidelines Manual Appendix A Biological Resources/Technical Background (County 2021).

2 Methodology

2.1 Biological Study Area

The BSA boundary and the project boundary are the same. The BSA does not include a buffer because the immediately adjacent properties are developed as residences, a public school, and public roads and are heavily used.

2.2 Literature Review

Rincon conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the BSA. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth), regional and site-specific topographic maps, and climatic data.

Queries of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC; UFWS 2023a), CDFW California Natural Diversity Database (CNDDB; 2023), and California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California (2023) were conducted to obtain comprehensive information regarding State and federally listed species, and other special status species, considered to have potential to occur within the *Goleta, California* USGS 7.5-minute topographic quadrangle and the surrounding five quadrangles (Dos Pueblos Canyon, Santa Barbara, Little Pine Mountain, San Marcos Pass, and Lake Cachuma). The Pacific Ocean is located approximately 2 miles to the south). The results of database queries and lists of special status species were reviewed by Rincon's regional biological experts for accuracy and completeness. The final list of special status biological resources (species and sensitive natural communities) was evaluated based on documented occurrences within the nine-quadrangle search area and biologists' expert opinions on species known to occur in the region. The evaluation results and justification were compiled into a table (Appendix D).

The following resources were reviewed for additional information on existing conditions relating to biological resources within the BSA:

- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2023)
- Santa Barbara Audubon Society's Breeding Bird Study online portal (2023a)
- USFWS Critical Habitat Portal (2023b)
- CDFW Biogeographic Information and Observation System (CDFW 2023c)
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (2023d)
- CDFW Special Animals List (2023e)

Communities considered sensitive were determined based on the under the City's ESHA definitions (per GP/CLUP policies) and the CDFW's Sensitive Natural Communities list (CDFW 2022) The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009).

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the California Department of Transportation and CDFW (Spencer et al. 2010) and on direct observations of site conditions.

2.3 Biological Surveys

Table 5 summarizes recent field surveys conducted in the BSA, with details provided below. Biologists conducted the protected tree inventory, the baseline environmental survey, and monarch/ raptor ESHA surveys within the 11.5-acre BSA.

Table 5 Field Surveys Summary

Date	Personnel	Time	Weather Conditions	Survey Type
03/16/2022, 3/17/2022	Y. Huo, K. Weaver	0830-1400	Clear, 0-50% cloud cover, wind 0-5 miles per hour (mph), temperature 65-80°F	Protected Tree Inventory
04/13/2022	C. Welch, K. Weaver	0700-1115	Clear, 25% cloud cover, wind 0-5 mph, temperature 49-68°F	Baseline Environmental Survey
09/14/2022	K. Weaver	0715-0830	Clear, 0% cloud cover, wind 0 mph, temperature 43-52°F	Monarch/ Raptor ESHA Survey
05/16/2023	K. Weaver	0930-1300	Clear, 100% cloud cover, wind 0-10 mph, temperature 60-68°F	Field Reconnaissance Survey

2.3.1 Protected Tree Inventory

A tree inventory and assessment was conducted by Rincon Certified Arborist, Yuling Huo (#WE-11975A) and biologist Kaitlyn Weaver on March 16 and March 17, 2022. There is currently no Tree Protection Ordinance in place in the City. GP/CLUP Policy CE 9 states that all mature native trees are protected but does not define the size requirement for protection. As such, the protection size threshold of live oaks in the Grading Ordinance Guidelines for Native Oak Tree Removal in the City's Municipal Code was utilized, as is typical for this type of impact analysis. Native trees with at least one trunk over eight inches diameter at breast height (DBH; measured at 54 inches above grade) were considered protected. The inventory documented protected trees as well as undersized native trees for reference. The survey-grade geographic location of trees within Stow Grove Park was provided by Rick Engineering. Rincon collected the field locations using a global positioning system (GPS) device capable of sub-meter accuracy, for any additional native trees not included in Rick Engineering's survey. Note that coast redwoods (*Sequoia sempervirens*) have been extensively mapped and inventoried by the City in the past and actions to maintain them are ongoing, though they are not considered native to southern California and were not surveyed for this report. Previous surveys of the redwood trees within the park were conducted in 2014 by Bill Spiewak and in 2020 by Rincon arborists. All protected trees were visually evaluated, and general assessments of tree vigor were conducted based on the above ground portions of each tree. The following information was gathered for each protected tree (note only the species, DBH, and field location of undersized native trees was collected):

- Scientific and common name
- DBH and visually estimated crown height and spread
- A letter grade (A=excellent, B=good, C=fair, D=poor, F=dead) was assigned to each tree based on vigor, overall health, aesthetics, and balance.

A unique tree identification number assigned to each tree with a corresponding metal tag (existing tree numbers/tags were used). Tree data is found in matrix under Appendix E.

2.3.2 Baseline Environmental Surveys

Rincon Biologists Carolyn Welch and Kaitlyn Weaver conducted a baseline environmental survey of the BSA on April 13, 2022. Weather during the survey was typical for the time of year, ranging from 49-62 degrees Fahrenheit with winds approximately 0-5 miles per hour. The survey was conducted on foot between the hours of 7:00 am and 11:15 am.

An additional field reconnaissance survey was conducted to confirm information regarding sensitive vegetation communities and water features, that are regulated by federal, state and local agencies. Rincon Biologist Kaitlyn Weaver conducted a reconnaissance survey of the BSA area on May 16, 2023 (Table 1). Weather on-site for the survey date was typical for the time of year, with temperatures ranging between 60-68 degrees Fahrenheit and with winds approximately 1 to 10 miles per hour.

The surveys were conducted to document the on-site vegetation communities and land cover types and assess which areas qualify as City ESHAs and CDFW sensitive natural communities. General site characteristics were noted and the dominant and conspicuous plant species present on-site were documented. The survey was conducted to document the existing conditions and general biological context of the BSA and to evaluate the potential presence of sensitive biological resources, including special status plant and wildlife species, sensitive plant communities, and habitat for raptors and nesting birds protected by federal and state laws. The survey also estimated the probable additional wildlife use of the BSA. The survey consisted of walking the extent of the BSA documenting general site conditions, vegetation and land cover types, and recording the plants and animals observed. Compendia of plants and animals observed are provided in Appendix C. For areas that were inaccessible within the BSA (e.g., private property), the biologist visually inspected those areas with binoculars. Wildlife species were identified by direct observation, vocalization, or by sign (e.g., tracks, scat, burrows). Several sensitive species were eliminated from consideration as having potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or knowledge of regional distribution.

Natural and semi-natural vegetation community classification was based on the systems provided in the online database of *A Manual of California Vegetation, Second Edition* (MCV2, Sawyer et al. 2009, CNPS 2023). Classifications were modified as appropriate to reflect the existing site conditions. *The Jepson Manual: Vascular Plants of California, Second Edition* and online Jepson eFlora were used for plant identification and nomenclature (Baldwin et al. 2012; Jepson Flora Project 2021). Wildlife identification and nomenclature followed standard reference texts, including Sibley Birds West: Field Guide to Birds of Western North America (Sibley 2016). Natural communities are designated as sensitive by CDFW, based on NatureServe's (NatureServe 2012) methodologies to rank communities at both the Global (G) and State (S) levels, resulting in a rank ranging from 1 (very rare and threatened) to 5 (demonstrably secure). Natural communities with ranks of S1-S3 are considered sensitive natural communities (CDFW 2022). Communities dominated by non-native species are considered semi-natural alliances and have no Global and State rankings (ranking denoted as GNA SNA).

A Geode global positioning Geode system (GPS) capable of submeter accuracy was used to delineate between these separate communities, where feasible, and review of aerial imagery was used to refine vegetation community and land cover boundaries in areas where the Geode could not be used. This information has been digitized in a computer-aided design (CAD) file, which includes the vegetation communities and land covers mapped on-site, the City's mapped ESHA and which vegetation communities qualify as City ESHA and/or are CDFW sensitive communities. Representative site photos were taken of all vegetation communities, land cover types, and ESHAs (Attachment 1). Refer to Appendix B for photographs that depict current site conditions.

2.3.3 Monarch / Raptor ESHA Survey

On September 14, 2022, Rincon Biologist Kaitlyn Weaver conducted a monarch butterfly habitat assessment within the monarch butterfly and/or raptor roosting habitat and monarch butterfly aggregation site (associated with the native upland woodlands/savannahs) ESHAs within the BSA. The biologist documented the current condition of the ESHAs and presence of habitat features for overwintering habitat as described in the *Monarch Butterfly Habitat Assessment* section below.

The Rincon biologist also conducted an assessment of historic raptor nest sites within the monarch butterfly and/or raptor roosting habitat ESHA. Prior to the site visit, the biologist conducted a desktop review to locate historical raptor nests and roosts within the park, including a review of the following databases: The Cornell Lab of Ornithology eBird project (eBird 2022), Santa Barbara Audubon Breeding Bird Study (Santa Barbara Audubon Society 2022), and the CDFW California Natural Diversity Database (CNDDB) (CDFW 2023a). The Rincon biologist then confirmed whether any historic nests remained present on site. A Geode global positioning system (GPS) capable of submeter accuracy was used to record the location of historic raptor nests.

Monarch butterfly habitat ESHA is shown in Figure 4. Figure 4 shows both the ESHA mapped in the General Plan, and ESHA recently mapped by Rincon Biologists. Mapping conducted by Rincon includes the landscaped redwood forest and landscaped coast live oak woodlands. Althouse and Meade Biologist Charis van der Heide assessed the project and project impacts to monarch butterfly overwintering habitat and provided a letter summary (Appendix F). The findings summary and recommended mitigation has been incorporated into this report.

3 Existing Conditions

This section summarizes the results of the surveys and provides analysis of the data collected in the field. Brief discussions regarding the general environmental setting, soils, vegetation and land cover types, and plant and wildlife species, are presented below. Representative photographs of the BSA are provided in Appendix B, and complete lists of all plant and wildlife species observed within the BSA are presented in Appendix C.

3.1 Physical Characteristics

3.1.1 Topography and Geography

Existing trails meander throughout the park between landscaped non-native grass areas and planted tree stands (eucalyptus, redwood, myoporum, and oak). These trails are compacted soils and highly disturbed from public use (e.g., walkers). Land uses within the vicinity of the BSA include roadways (North La Patera Lane and Cathedral Oaks Road), an elementary school and private residential developments.

The regional climate is Mediterranean, influenced by proximity to the ocean with hot, dry summers and mild winters. According to the Natural Resources Conservation Service's National Water and Climate Center data records between 1941 and 2000, average annual temperatures in Goleta ranged between 49- and 69-degrees Fahrenheit, with the warmest temperatures occurring between August and September and the coldest temperatures occurring between January and February. Goleta receives an average rainfall of approximately 17.37 inches, with the most rain occurring between January and March (USDA, NRCS 2000).

Elevations on-site range from 85 to 90 feet above mean sea level (amsl) and the topography of the BSA is primarily flat.

3.1.2 Watershed and Drainages

The BSA is located within the San Pedro Creek Hydrologic Unit Code (HUC) subwatershed (HUC-12 No. 180600130202) in western portion of the San Pedro Creek-Frontal Santa Barbara Channel watershed (HUC-10 No. 1806001302) (California Nature 2023).

A formal jurisdictional delineation was not conducted. However, no waters, wetlands, or riparian vegetation that might meet the standards for federal or State protection under jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or CDFW were observed during the field survey. No waters or wetlands identified by the NWI are mapped within the BSA. San Pedro Creek is approximately 0.21 miles west the BSA.

The National Hydrography Dataset (NHD) does not identify any water features within the BSA. However, a roadside agricultural ditch is located in an adjacent parcel across Cathedral Oaks Road from the site. The ditch likely accepts flows from the roadway and the large orchard operation directly to the north (Appendix C; Photograph 11). Ponded water was present after the field reconnaissance survey on May 16, 2023 which was conducted after a storm event. As of June 2023, no water was present in the ditch and no wetland or riparian vegetation is associated with it.

3.1.3 Soils

Information about the soil types present within the BSA was obtained from the NRCS Online Web Soil Survey (USDA NRCS 2023) and the Santa Barbara Area Soil Survey (USDA NRCS 1958). Based on data from the soil survey, the BSA includes nine soil map units, as described below. One soil type (Camarillo fine sandy loam, fine substratum) is included on the National Hydric Soils List (USDA, NRCS 2022).

Camarillo Fine Sandy Loam, Fine Substratum

Camarillo fine sandy loam, fine substratum, consists of very deep, somewhat poorly drained soils located on relatively flat floodplains from 10 to 100 feet amsl. A typical soil profile is composed of alluvium derived from sedimentary rocks and extends from the surface to 80 inches in depth. Camarillo series soils are frequently used in agriculture. The Camarillo fine sandy loam, fine substratum, is a hydric soil (USDA, NRCS 2022b), however the area in the park with this soil type is maintained as a multi-use grass field.

Goleta Loam, 0 to 2 Percent Slopes

Goleta Loam, 0 to 2 percent slopes, consists of deep, well drained soils formed in coarse and medium textured soils found on alluvial fans and in valleys between 25 to 500 feet amsl. A typical soil profile is composed of alluvium weathered from sedimentary rocks to a depth of 72 inches. Goleta series soils may be used for growing irrigated crops and for urban purposes. Goleta clay, 0 to 2 percent slopes, is not a hydric soil (USDA, NRCS 2022b).

Milpitas-Positas Fine Sandy Loams, 2 to 9 Percent Slopes

Milpitas-Positas fine sandy loams, 2 to 9 percent slopes, consists of Milpitas series soils and Positas series soils. Milpitas series soils are moderately well drained soils with medium runoff and very slow permeability located on gently sloped old terraces between 30 to 500 feet amsl. A typical soil profile is moderately acidic to slightly alkaline and is composed of alluvium derived largely from sandstone to a depth of 68 inches. Milpitas series soils may support native herbaceous, scrub, and oak savannah communities, and may be used for pasture, agriculture, or urban development.

Positas series soils are moderately well drained soils located on stream terraces and terrace side slopes between 200 to 1,600 feet amsl. A typical soil profile is composed of alluvial material from mixed rock sources to a depth of 64 inches. Positas series soils support annual herbaceous and oak savannah communities and may be used as rangeland and agriculture. Milpitas-Positas fine sandy loams, 2 to 9 percent slopes, is not a hydric soil (USDA, NRCS 2022b).

3.2 Vegetation and Other Land Cover

Ten vegetation communities occur within the BSA as summarized in Table 6 and illustrated on Figure 3. The vegetation classification used for this analysis is based on Sawyer et al. (2009) but was modified as needed to most accurately describe the existing vegetation communities on the project site. All of the vegetation communities mapped are heavily disturbed and maintained for human use. The ground around the trees is regularly maintained, resulting in moderate soil compaction, and human uses are evident in the presence of picnic tables, playground equipment, benches, and other structures. A total of 27 plant species were identified in the BSA during the survey (Appendix C), of which most were ornamental or weedy, non-native species.

Table 6 Summary of Vegetation Community and Land Cover Types in the BSA

Vegetation Community	Approximate Acreage	Approximate Percent Area	CDFW Sensitive Natural Community Rank (Yes/No)[1]
Landscaped California Sycamore- Coast Live Oak Riparian Woodland	0.26	1.0%	G3S3; No (landscaped)
Landscaped Canary Island Pine Stand	0.19	0.8%	GNA SNA; No
Landscaped Coast Live Oak Woodland and Forest	3.00	12.6%	G5S4; No
Landscaped Eucalyptus Grove	0.83	9.1%	GNA SNA; No
Landscaped Island Live Oak Woodland	0.15	0.6%	G3S3; No (landscaped)
Landscaped Myoporum Grove	0.19	0.8%	GNA SNA; No
Landscaped Non-native Woodland[1]	1.42	6.0%	None; No
Landscaped Redwood Forest and Woodland	2.31	9.7%	G3S3.2; No (landscaped)
Landscaped Tree of Heaven Grove	0.08	0.3%	GNA SNA; No
Developed[1]	3.56	59.1%	None; No

[1] Not listed as a vegetation community in Manual of California Vegetation (Sawyer et al. 2009)

Source: CDFW 2021

G – Global

S – State

GNA SNA – No Global and State rankings

Landscaped California Sycamore – Coast Live Oak Riparian Woodland (*Platanus racemosa - Quercus agrifolia* Woodland Alliance)

California sycamore – coast live oak riparian woodland (*Platanus racemosa – Quercus agrifolia* Woodland Alliance) is typically found from sea level to 2,100 meters in elevation in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains. Surrounding soil is rocky or cobbly alluvium with permanent moisture at depth. This community is characterized by an open to intermittent canopy and shrub layer with a sparse or grassy herbaceous layer. California sycamore (*Platanus racemosa*) contributes at least 50 percent relative cover in the tree layer, or coast live oak (*Quercus agrifolia*) may be dominant in a riparian setting. In mixed stands, California sycamore must have at least 5 percent of absolute cover in tree layers, and in areas with codominant trees layers sycamores must maintain at least 30 percent relative tree cover. This native vegetation community is ranked G3S3 and is considered a CDFW sensitive natural community (CDFW 2021), however, because the understory layer is highly disturbed and landscaped and the trees are maintained as landscaping, this alliance does not qualify as a natural sensitive community.

California sycamore is dominant in the tree canopy, with some scattered coast live oaks and no shrub layer. Based on discussions with the City's Open Space Manager, George Thomson, these trees were not likely historically irrigated and are not currently irrigated. These trees may be remnants of historic riparian habitat, but this is not clear based on historic aerial imagery (UCSB Library, 1956 and 1967). This community is designated as "landscaped" because the herbaceous layer consists of a maintained non-native grass lawn, dirt paths, playground equipment, and sand. The BSA contains 0.26 acres of this alliance.

Figure 3 Vegetation Communities and Land Cover Types

Imagery provided by Microsoft Bing and its licensors © 2023.

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Fig X Vegetation and Land Cover

Landscaped Canary Island Pine Stand (*Hesperocyparis macrocarpa – Pinus radiata* Forest & Woodland Semi-Natural Alliance)

Canary Island pine stand, which is described by the California Native Plant Society (CNPS) as the Monterey cypress – Monterey pine stand (*Hesperocyparis macrocarpa – Pinus radiata* Forest & Woodland), is typically found planted as trees, groves, and windbreaks in coastal areas between sea level and 1,200 meters in elevation. This vegetation community is characterized by tree and shrub layers that ranges from continuous to open, and variable herbaceous layers. Introduced Pinus sp. Or other conifers must consist of at least 75 percent relative cover or are co-dominant with other non-natives in the tree layer. This non-native vegetation community is ranked provisional GNA SNA and is not considered a CDFW sensitive natural community (CDFW 2021).

This alliance is located at the northwest section of the BSA and planted in linear rows, bordering the parking lot. Canary Island pine is dominant and satisfies membership requirements for the vegetation community as an introduced *Pinus* species with about 90 percent relative cover in the tree canopy. There is no shrub layer, and the herbaceous layer is mostly bare ground, paved walkways, paved parking lot, and scattered non-native grasses. The BSA contains 0.19 acres of this alliance.

Landscaped Coast Live Oak Woodland and Forest (*Quercus agrifolia* Forest & Woodland Alliance)

Coast live oak woodland and forest (*Quercus agrifolia* Woodland Alliance) is typically found on canyon bottoms, slopes, and flats between sea level and 1,200 meters in elevation. Soils are typically deep and sandy or loamy with high organic matter. This vegetation community is characterized by a tree layer that ranges from continuous to open and sparse shrub and herbaceous layers. Coast live oak contributes to at least 60 percent relative cover in the tree layer (Sawyer et al. 2009). This native vegetation community is ranked G5S4 and is not considered a CDFW sensitive natural community (CDFW 2021), however, because the understory layer is highly disturbed and landscaped, this alliance does not qualify as a natural sensitive community.

This alliance is located throughout the entire BSA, but most heavily concentrated in the center of the park. Coast live oak is dominant in the tree canopy, but the other tree species present include scattered Coast redwood (*Sequoia sempervierens*), California sycamore, bottlebrush (*Callistemon* sp.), pine (*Pinus* sp.), ash (*Fraxinus* sp.), and cypress (*Cupressus* sp.). The herbaceous layer is heavily landscaped and mostly bare ground; it includes dirt paths, mulch, lawn, and picnic benches. Based on historic aerial imagery, some of the coast live oaks (in the middle of the site) are likely remnants of natural oak woodlands, while others (primarily along the site boundaries) are volunteers and/or planted (UCSB Library, 1956 and 1967). Based on discussions with the City's Open Space Manager, George Thomson, these trees were not likely historically irrigated and are not currently irrigated. The BSA contains 3.00 acres of this alliance.

Landscaped Eucalyptus Groves (*Eucalyptus camaldulensis* Woodland Semi-Natural Alliance)

Eucalyptus groves (*Eucalyptus camaldulensis* Woodland Semi-Natural Alliance) is found planted as trees, groves, and windbreaks, as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from sea level to 1,900 meters in elevation. Eucalyptus species, including red gum (*Eucalyptus camaldulensis*), consist of over 80 percent cover within the tree layer. This non-native vegetation community is ranked GNA SNA and is not considered a CDFW sensitive natural community (CDFW 2021).

This alliance is found on the west side the BSA, adjacent to North La Patera Lane, and is crossed by dirt footpaths. Within the BSA, this alliance is dominated by red gum planted in a linear row, which forms a closed canopy. The herbaceous layer primarily consists of non-native grasses, cheeseweed (*Malva parviflora*), and common plantain (*Plantago major*). The BSA contains 0.83 acres of this alliance.

Landscaped Island Live Oak Woodland (*Quercus tomentella* Forest & Woodland Alliance)

Island live oak woodland (*Quercus tomentella* Forest and Woodland Alliance) is found in moist canyons along slopes and concavities from sea level to 450 meters in elevation with marine sedimentary, granitic, or volcanic soils and substrates. This alliance is characterized by trees under 20 meters, a continuous canopy and sparse to continuous shrub and herbaceous layers. Island live oak (*Quercus tomentella*) contributes to over 50 percent cover within the tree layer but may be co-dominant with coast live oak or other trees. This native vegetation community is ranked G3S3 and is considered a CDFW sensitive natural community (CDFW 2021, however, because the Island Live Oaks were planted and the understory layer is highly disturbed and landscaped, this alliance does not qualify as a natural sensitive community.

This alliance is found exclusively in the southern portion of the BSA and is crossed by dirt footpaths. Island Live Oak is dominant in the tree canopy, but other tree species present include bottlebrush (*Callistemon* sp.) and ash (*Fraxinus* sp.). The herbaceous layer is heavily landscaped and mostly bare ground. The BSA contains 0.15 acres of this alliance.

Landscaped Myoporum Groves (*Myoporum laetum* Forest & Woodland Semi-Natural Alliance)

Myoporum groves (*Myoporum laetum* Forest & Woodland Semi- Natural Alliance) are most common in coastal canyons, washes, slopes, riparian areas, and planted along roadsides at elevations 185-300 meters. Myoporum species, including Ngaio tree (*Myoporum laetum*), must be at least 50% of tree layer. This non-native vegetation community is ranked GNA SNA and is not considered a CDFW sensitive natural community (CDFW 2021).

This alliance is planted in a linear row in the north central section of the BSA, along the parking lot. Ngaio tree is the only tree present in the closed tree canopy. There are no shrubs, and the herbaceous layer is heavily landscaped and mostly bare ground; it includes dirt paths, non-native grasses, and picnic benches. The BSA contains 0.19 acres of this alliance.

Landscaped Non-native Woodland

This land cover type consists of areas landscaped with primarily non-native trees and shrubs. These areas are regularly maintained by people and do not constitute a vegetation community as described in MCV2 (Sawyer et al. 2009, CNPS 2021). Landscaped non-native woodland is present in multiple locations throughout the BSA. A diverse selection of plants is found in this land cover type, including non-native trees such as paper bark tree (*Melaleuca quinquenervia*), lace bark tree (*Brachychiton discolor*), golden rain tree (*Koelreuteria paniculata*), coral tree (*Erythrina sp.*), Callery pear (*Pyrus calleryana*), and non-native herbs such as cheeseweed (*Malva parviflora*), burr clover (*Medicago polymorpha*), and non-native grasses. The herbaceous layer includes dirt paths, playground equipment, picnic tables, and maintained non-native grass lawns. The BSA contains 1.42 acres of this land cover type.

Landscaped Redwood Forest and Woodland (*Sequoia sempervirens* Forest & Woodland Alliance)

Redwood forest and woodland (*Sequoia sempervirens* Forest & Woodland Alliance) are typically found near raised stream terraces, benches, slopes, and ridges at elevations between 10 and 975 meters in elevation. This alliance is characterized by intermittent or continuous tree canopy (with trees up to 120 meters tall) that may be two tiered. Shrubs are either infrequent or common, and the herbaceous layer is either absent or abundant. Coast redwoods must have at least 50 percent of relative cover in the tree canopy, or over 30 percent relative cover with other conifers present. Rarely coast redwood makes up less than 5 percent of absolute cover. This native vegetation community is ranked G3S3.2 and is considered a CDFW sensitive natural community (CDFW 2021), however, because the Coast Redwoods were planted and the understory layer is highly disturbed and landscaped, this alliance does not qualify as a natural sensitive community.

This alliance was planted in the north central portion of the BSA. Redwoods are dominant in the tree canopy, with scattered cedars (*Cedrus* sp.), coast live oaks, and lacebark trees (*Brachychiton discolor*). The shrub layer is sparse and consists of lily of the Nile (*Agapanthus* sp.) and greater periwinkle (*Vinca major*). The herbaceous layer is mostly bare ground and mulch, but also includes some non-native grasses. The Redwood Forest and Woodlands is currently irrigated by the City. The BSA contains 2.31 acres of this alliance.

Landscaped Tree of Heaven Groves (*Ailanthus altissima* Woodland Semi-Natural Alliance)

Tree of heaven groves (*Ailanthus altissima* Groves) are found as planted trees, groves, and windbreaks, as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from sea level to 1,900 meters in elevation. Tree of heaven (*Ailanthus altissima*) comprise over 80 percent cover in the tree layer. This non-native vegetation community is ranked GNA SNA and is not considered a CDFW sensitive natural community (CDFW 2021).

This alliance is found exclusively in the southern portion of the BSA. Tree of heaven is dominant in the tree canopy, and the shrub layer consists of emergent coast live oak, toyon (*Heteromeles arbutifolia*), pride of Madeira (*Echium candicans*), and nightshade (*Solanum* sp.). The sparse herbaceous layer consists of a dirt path, non-native grasses, and cheeseweed. The BSA contains 0.07 acres of this alliance.

Developed

This land cover type consists of lawn, bare ground, parking areas, buildings, volleyball courts, picnic tables, barbeque pits, buildings, and a concentration of dirt and paved paths. There are scattered emergent trees throughout. Vegetated areas in this land cover type are regularly maintained by people and do not constitute a vegetation community as described in MCV2 (Sawyer et al. 2009, CNPS 2021). The BSA contains 3.56 acres of this land cover type.

3.3 General Wildlife

The BSA provides suitable nesting and foraging habitat for avian species due to numerous tree stands but provides little suitable habitat for other wildlife species due to developed understory and lack of native vegetation. Species observed in the BSA during the survey are listed in Appendix C. All species observed are avian except the California ground squirrel.

4 Sensitive Biological Resources

This section discusses special status species and sensitive biological resources observed on the project site and evaluates the potential for the project site to support additional sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB and other sources, species occurrence records from other sites in the vicinity of the survey area, previous reports for the project site, and the results of surveys of the project site. The potential for each special status species to occur in the BSA was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on the site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

4.1 Special Status Species

4.1.1 Special Status Plant Species

Documented occurrences of species within five miles of the BSA, and species included on USFWS lists, and within a nine quad radius tracked by CNPS that have potential to occur are included in Appendix C. Based on the database and literature review, as well as the field reconnaissance survey, 28 special status plant species are known or have the potential to occur in the BSA. No special status plants are expected to occur within the BSA, based on the altered vegetation communities and high levels of recurring maintenance and disturbance in the park. Please see Appendix B for additional justification on species' potential to occur. In addition, the BSA is not located in any designated critical habitat or preserves for special status plant species. No special status plant species were observed within the BSA. No special status plant species have the potential to occur and special status plants are not discussed further.

4.1.2 Special Status Wildlife Species

Based on the database and literature review, 54 special status wildlife species are known or have the potential to occur in the vicinity of the project site. Documented occurrences of species within five miles of the BSA are included in Appendix B. Of these 54 species, three have a moderate or higher potential to occur (Appendix C). No special status wildlife species were observed within the BSA. No designated critical habitat for threatened or endangered species is designated within the BSA.

The remaining special status species are not expected to occur based on the criteria presented above. The species reasonably anticipated to occur were determined based on the published ranges of the species and the type, extent, and condition of habitat available at the site. The three species with potential to occur in the BSA are described below.

Monarch Butterfly – California Overwintering Population

The monarch butterfly (*Danaus plexippus*) is a conspicuous black and orange butterfly that occurs in the United States, Mexico, northern South America, southwestern Europe, and Oceania. Overwintering roosting sites are predominately in dense eucalyptus groves to provide cover from wind and storms, and breeding sites are variable but characterized by the presence of milkweed (*Asclepias* spp.), the larval host plant. The migratory phenomenon causes butterflies to become concentrated at suitable overwintering sites, making overwintering habitat the single most valuable resource needed to complete the monarch's life cycle.

The monarch butterfly is listed on the CDFW's Special Animals List, with aggregation roosts designated as imperiled to vulnerable in the state (CDFW 2018c). In 2014, monarchs were petitioned to be listed under the federal ESA. In December 2020, the USFWS found that listing was warranted but precluded by other listing actions on its National Priority List. The monarch is currently slated to be listed in 2024 (CDFW 2022d). Monarch butterfly aggregation sites located in Stow Grove Park, including historic aggregation sites that are no longer used, are also designated as ESHA in the Goleta GP/CLUP CE Policies 4 through 4.5.

The Stow Grove Park site was first documented as monarch butterfly overwintering habitat during the 1990-1991 overwintering season. In February of 1991, a peak population count of 100 monarchs was observed at the park. Monarchs were observed roosting, basking and patrolling in the groves of redwood trees. The site was also described as a valuable way station and transitory habitat for monarchs sheltering during the spring dispersal (Calvert 1991). Between 1991 and 1997, 200 monarchs were noted roosting at the site. During the 1998-1999 season, a peak of 100 monarchs were observed in February and the site was again noted as important for transiting monarchs during spring dispersal. Since 2015, only a handful of monarchs have been observed during the overwintering season. Historically, monarchs utilized this site more frequently and in the greatest numbers in January and February. Recent surveys during the Western Monarch Thanksgiving count are likely not an adequate representation of how monarchs are utilizing the site through the overwintering season. Monarch butterflies have been observed roosting in the redwood trees surrounding a large open group picnic area in the northern end of the park south of the multi-use field. Further information on historical monarch count data can be found in Appendix F.

The mapped monarch butterfly ESHA are important to protect because they provide shelter and wind protection for overwintering monarch butterflies. The monarchs are known to roost in the center of the northern portion of the park and the surrounding trees are adding valuable wind protection to the central roosting trees. The Stow Grove Park site has been historically valuable habitat for

transitory monarch butterflies during the spring dispersal and may continue to provide shelter for roosting monarchs despite recent low November population counts.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is a CDFW watch list (WL) species and protected as ESHA under the City's GP/CLUP (City of Goleta 2006), that typically inhabits woodlands and forest edges but can also be found in urban parks and neighborhoods where trees are present. Nests are constructed 25-50 feet high in a variety of tree species, including pines, oaks, beeches, and spruces. Nests are made of sticks and are often lined with bark flakes and green twigs. Cooper's hawks are aerial predators that feed primarily on medium-sized birds, such as mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), California quail (*Callipepla californica*), and European starling (*Sturnus vulgaris*). In addition to preying on adult birds, Cooper's hawks will also occasionally rob nests and hunt rabbits, rodents, and bats (Cornell Lab of Ornithology 2022).

White Tailed Kite

The white-tailed kite (*Elanus leucurus*) is a CDFW fully protected species and nests are protected as ESHA under the City's GP/CLUP (City of Goleta 2006). A yearlong resident in coastal and valley lowlands, the species inhabits a wide range of habitats, mostly in cismontane California. The species prefers trees with dense canopies for cover. Their diet consists mostly of voles and other small, diurnal mammals, but the species occasionally feeds on birds, insects, reptiles, and amphibians. Typical foraging habitat is undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Nesting is typically near top of dense oak, willow, or other tree stands, located near foraging areas. This species preferentially selects herbaceous lowlands with a range of woodland structure, and high density of voles, and substantial groves of dense, broad-leafed deciduous trees for nesting and roosting.

Numbers declined in the Goleta area beginning in the 1970s through the early 1990s, but subsequently rebounded, based on annual Santa Barbara Audubon Society Christmas Bird Count data and annual monitoring of kite populations by local biologists (National Audubon Society 2015). White-tailed kites are known to forage up to tens of kilometers from communal roost sites, so when prey reductions occur at the local level, kites have a sufficiently large daily range that they can find other areas to hunt (Dunk, 1995). When collapse of prey populations occurs at the regional scale, kites can vacate an area until prey populations rebuild at which time kites gradually reoccupy suitable foraging areas, nest sites, and roost locations (Dunk, 1995). The local population of white-tailed kites has fluctuated dramatically presumably in response to prey abundance. Kites are a nomadic species able to adopt new home bases and vacate long-used areas quite abruptly (Dunk, 1995). Breeding is the Goleta Valley has been tracked and monitored for more than 30 years with consistent breeding population observed at More Mesa and Lake Los Carneros (Audubon 2023). White tailed kite nests have not been observed in the BSA; if present they would have been expected to have been reported. White tailed kite has been observed nesting and roosting at Lake Los Carneros approximately a half mile south of the BSA. Therefore, white-tailed kite has a high potential to occur forage in the BSA.

Nesting Birds and Raptors

The BSA contains suitable habitat to support regulated nesting birds (i.e., California horned lark), including raptors (i.e., red- tailed hawk and Cooper's hawk), protected under the CFGC Section 3503 and the MBTA (16 United States Code §§ 703–712). Potential nesting locations for raptors were observed throughout the BSA, with the most suitable locations being mature native and non-native

trees (e.g., eucalyptus, sycamore, cottonwood, coast live oak). An inactive historic nest was observed in the redwood trees within the BSA during the tree survey. The Santa Barbara Audubon Society's Breeding Bird portal shows observations of great horned owls tending young owls as recently as 2019, and Cooper's hawk doing the same in 2009.

Sensitive Natural Communities

According to the CNDDB, one sensitive plant community, southern coastal salt marsh, has been documented within 5 miles of the BSA. However, this community is not present in the BSA. No other CNDDB sensitive plant communities were observed within the BSA.

Trees that meet the City's tree protection policies were observed throughout the BSA and are further discussed below in Section 4.5.

4.2 Jurisdictional Waters and Wetlands

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

A formal jurisdictional delineation was not conducted. However, no waters, wetlands, or riparian vegetation that might meet the standards for federal protection under jurisdiction of the USACE, RWQCB, or CDFW were observed during the field survey. No waters or wetlands identified by the NWI are mapped within the BSA. San Pedro Creek is approximately 0.21 miles west the BSA.

4.3 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

Wildlife movement corridors can be both large- and small-scale. Overall, the BSA is surrounded by developed land uses. At the regional/landscape-level scale, the BSA is not included within any mapped landscape models, such as an Essential Connectivity Area (ECA) or Natural Landscape block in the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. Habitat in the city is generally isolated from larger expanses of similar habitat to north, along the foothills and into the Santa Ynez Mountains. Creeks within the city typically serve as the remaining links between the coast and habitat to the north, though they are impeded with barriers such as culverts and urban development. No mapped wildlife movement corridors are present within the BSA. While the site likely supports local movement of urban-adapted species, it is surrounded by development on three sides and is not likely to provide a connection between important habitat areas.

4.4 Resources Protected by Local Policies and Ordinances

4.4.1 Environmentally Sensitive Habitat Areas

ESHAs are defined, but are not limited to, any areas that through professional biological evaluation are determined to meet the following criteria (City of Goleta 2009):

- any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and that could be easily disturbed or degraded by human activities and developments;
- any area that includes habitat for species and plant communities recognized as threatened or endangered by the state or federal governments; plant communities recognized by the State of California (in the Terrestrial Natural Communities Inventory) as restricted in distribution and very threatened; and those habitat types of limited distribution recognized to be of particular habitat value, including wetlands, riparian vegetation, eucalyptus groves associated with monarch butterfly roosts, oak woodlands, and savannas; and
- any area that has been previously designated as an ESHA by a competent authority.

The following habitats in Goleta and are considered to be ESHAs: marine resources, beach and shoreline resources, coastal dunes, coastal bluff scrub, foredune, oak woodlands/savannah, dense stands of native grasslands, all wetlands such as vernal pools, riparian habitats, butterfly roosts, raptor roosts and nests, and habitats that support special status-plant and wildlife species.

In the CE of the Goleta GP/CLUP, ESHAs in Goleta are generally shown in CE Figure 4-1. Per CE Policy 1.3, any area not designated on the ESHA map in Figure 4-1 that meets the ESHA criteria for the resources specified in CE Policy 1.1 shall be granted the same protections as if the area was shown on the map. As shown in Figure 4-1, a part of the BSA is designated ESHA in Stow Grove Park, including coast live oak woodland and the eucalyptus grove that provides habitat for monarch butterfly aggregation areas (City of Goleta 2023).

Policy CE 1 Environmentally Sensitive Habitat Area Designations and Policy

In the City ESHAs are defined under Policy CE 1.1 (in italics). Section a incorporates the same ESHA language as the CCA (§ 30107.5) to include areas where plant or animals or habitat are rare or especially valuable and that can be easily disturbed/degraded.

CE 1.1 Definition of Environmentally Sensitive Habitat Areas. [GP/CLUP]. ESHAs shall include, but are not limited to, any areas that through professional biological evaluation are determined to meet the following criteria:

a. any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and that could be easily disturbed or degraded by human activities and developments;
b. any area that includes habitat for species and plant communities recognized as threatened or endangered by the state or federal governments; plant communities recognized by the State of California (in the Terrestrial Natural Communities Inventory) as restricted in distribution and very threatened; and those habitat types of limited distribution recognized to be of

particular habitat value, including wetlands, riparian vegetation, eucalyptus groves associated with monarch butterfly roosts, oak woodlands, and savannas; and

c. any area that has been previously designated as an ESHA by a by the [CCC], the [CDFW], City of Goleta, or other agency with jurisdiction over the designated area.

While the City and Rincon-mapped boundaries differ slightly as shown in Figure 4, no reduction in the GP/CLUP CE Figure 4-1 ESHA mapping are proposed. Consistent with Policy CE 1.5, once ESHA is designated it can only be removed though a GP/CLUP amendment. However, per Policy CE 1.3, any area not designated on the GP/CLUP Figure 4-1 that meets the requirements of Policy CE 1.1 and 1.2 ESHA criteria are granted the same protections. Therefore, the areas considered ESHA in this report include the GP/CLUP CE Figure 4-1 mapping and the additional 2022 Rincon-mapped habitat. Policy CE 1.6, 1.7, 1.9, and 1.10 define ESHA uses, development standards, on-site and off-site mitigation, setbacks/buffers, and management.

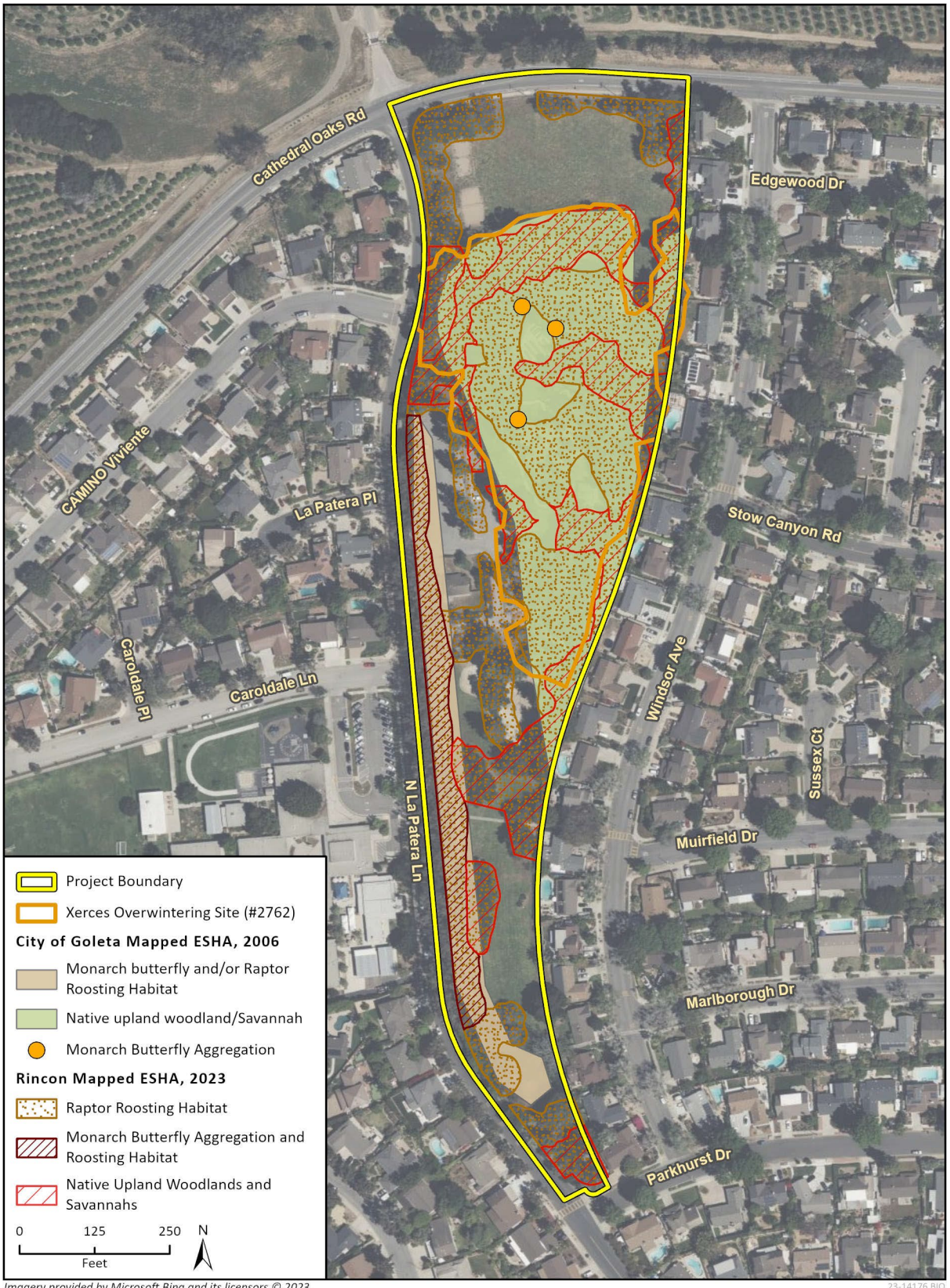
Policy CE 4 Protection of Monarch Butterfly Habitat Areas

Protection of Monarch Butterfly Habitat Areas is intended to "preserve, protect, and enhance habitats for monarch butterflies in Goleta, including existing and historical autumnal and winter roost or aggregation sites, and promote the long-term stability of over-wintering butterfly populations." CE Policy 4.2 designates monarch butterfly ESHAs, which include the eucalyptus grove in the BSA. CE Policy 4.4 restricts development in monarch butterfly ESHA and sets forth development standards adjacent to monarch butterfly ESHA. Subsection (c) of CE Policy 4.4 specifically states "removal of vegetation within monarch ESHAs shall be prohibited, except for minor pruning of trees or removal of dead trees and debris that are a threat to public safety." CE Policy 4.5 defines a protective buffer (100 feet wide in most cases) around active and historic aggregation sites and restricts the activities that may occur in the butterfly ESHA buffer.

Two potential monarch ESHA are present in the BSA:

- The City has designated the western border of the park, mapped as "Landscaped Eucalyptus Grove" on Figure 4, as a monarch butterfly and raptor roosting ESHA.
- The City has designated the central portion of the park, near the "Landscaped Redwood Forest and Woodland" and "Landscaped Coast Live Oak Woodland and Forest" as a monarch aggregation ESHA. This ESHA is mapped as a point representing a general area rather than a clearly defined polygon, in the western portion of the City-mapped native upland woodlands/savannahs ESHA. The Xerces Society for Invertebrate Conservation (Xerces) spearheads the Western Monarch Conservation effort, which includes delineating and monitoring historical monarch overwintering habitat. Xerces mapped a monarch overwintering site (#2762) within the north-central portion of the BSA (Xerces 2022). The boundary of this site closely matches the boundary of the City-mapped native upland woodlands/savannahs ESHA. As such, the monarch aggregation site ESHA point is assumed to be associated with the native upland woodlands/savannahs ESHA (Figure 4).

Figure 4 ESHA Mapping Comparison



Imagery provided by Microsoft Bing and its licensors © 2023.

23-14176 BIO
Fig X ESHA

Policy CE 9 Protection of Native Woodlands

Protection of Native Woodlands is intended to maintain and protect existing native trees and woodlands as a valuable resource needed to support wildlife and provide visual amenities.

Within the City, there is currently no tree protection ordinance in place. Protection of trees within the City is regulated by CE Policy 9, the Goleta Municipal Code (GMC) Appendix A Grading Ordinance Guidelines for Native Oak Tree Removal, and the Draft State of the Goleta Urban Forest Report: An Urban Resource Assessment for the City of Goleta (herein referred to as the Goleta Urban Forest Report; City of Goleta 2009). The CE Policy 9 is intended to preserve native trees including oaks (*Quercus* spp.), California black walnut (*Juglans californica*), California sycamore, cottonwood (*Populus* spp.), willows (*Salix* spp.) and other native trees that are otherwise not protected in ESHAs.

Specifically, CE Policy 9.5 states that removal of mature native trees or encroachment into the protected zone that could threaten the continued viability of the tree(s) should, at a minimum, be mitigated by planting of replacement trees on-site. CE Policy 9 does not define a size threshold for mature native trees and states that tree protection standards and mitigation measures shall be detailed in the Tree Protection Ordinance, which has not yet been established. While the GMC Appendix A Grading Ordinance Guidelines for Native Oak Tree Removal does not apply to the coastal zone and urban boundaries, it provides a size threshold for protection of live oaks with at least one trunk that is 8 inches or greater in diameter at breast height (DBH). As such, this protection size will be referenced for the purposes of this report and protected trees are defined herein as any native tree with at least one trunk with a DBH of 8 inches or greater. Tree protection zones are considered as the area within the tree's dripline.

Section 3.2 describes four vegetation communities as landscaped native (native to the western United States) woodlands or forests, which are shown on Figure 3. All four communities are landscaped, are maintained through mowing, weeding, watering, etc. and are not naturally sustained.

A total of 202 trees were inventoried during the tree survey. Of the 202 trees, 121 trees (including coast live oaks, Monterey pine, Oregon oak, and Western sycamores) are considered City protected trees with at least one trunk with a DBH of eight inches or greater. The remaining 81 trees are undersized native trees. Native trees are located primarily within the landscaped coast live oak woodland and landscaped California sycamore woodland.

Table 7 provides a summary of the protected trees in the survey area, that comprise the woodlands mapped in Figure 3. Data regarding all 199 trees inventoried is provided in Appendix E.

Table 7 Native Trees within the BSA

Species	Undersized Natives	Protected Trees
Coast live oak (*Quercus agrifolia*)	80	105
Monterey Pine (*Pinus radiata)*	0	2
Oregon oak (*Quercusgarryana*)	0	1
Western sycamore (*Platanus racemosa*)	1	13
Total	**81**	**121**

4.5 Habitat Conservation Plans

The BSA is not subject to any Habitat Conservation Plan, Natural Conservation Community Plan, or other local, regional, or state habitat conservation plan. Habitat Conservation Plans are not discussed further.

5 Impact Analysis and Mitigation Measures

A significant impact on biological resources would be expected to occur if the proposed project resulted in any of the impacts noted in the above CEQA Guidelines Appendix G Checklist or exceeds the City of Goleta's Environmental Thresholds and Guidelines Manual (2021) biological resources thresholds of significance, as discussed below. This section discusses potential impacts to biological resources that may occur from implementation of the proposed project and suggests appropriate mitigation measures that would reduce effects, ensure consistency with the GP/LUP.

5.1 Special-Status Species

The proposed project would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

   City: Substantially affect a rare or endangered species of animal, plant or the habitat of the species.

   City: Substantially diminish for fish, wildlife or plants.

Should special status species be encountered during the proposed project there could be direct impacts through injury or mortality to individuals that are present during the use of construction equipment and ground disturbance. These activities could cause direct strikes to wildlife. Indirect impacts could result from noise and dust from construction equipment.

California overwintering populations of monarch butterflies have been recorded within the BSA previously, but have not been observed since 2018 (Althouse and Meade 2023). Nesting habitat for Copper's hawk is present, and foraging habitat for white-tailed kite is present within the BSA. Potential impacts to these resources are described below in Section 5.5.

Overwintering Monarch Butterflies

Removal or damage of trees that create monarch butterfly overwintering habitat/ESHA may directly impact the quality of roosting habitat. The creation of a secondary entrance to North La Patera Lane that requires the removal of one coast live oak tree would likely have a minimal impact on the long-term suitability of the monarch habitat. Its removal could alter wind protection to roosting monarchs (Althouse and Meade 2023). Construction, grading and trenching for project improvement elements may adversely impact tree root zones and affect their longevity to provide shelter for roosting monarchs. Impacts to trees are addressed in Section 5.5 below.

Construction activities with heavy machinery and work crews have the potential to disturb and disrupt the overwintering behavior of monarch butterflies in the Stow Grove ESHA if conducted during the monarch overwintering season (Oct 15 - April 15) and nesting bird season (generally January 15 - August 15). Overwintering monarch butterflies may be impacted in the short-term by direct impacts to or disturbance of suitable habitat during the overwintering season. With implementation of avoidance and minimization measures BIO-1 and BIO-2, potential project short-term direct and indirect impacts will be less than significant to monarch butterflies and monarch butterfly ESHA. In

addition, the proposed project incorporates elements such as the Butterfly/Pollinator Garden, that will improve the quality of the monarch butterfly overwintering habitat in the long term.

Raptors and Nesting Birds

Raptors and nesting birds (including special status species Cooper's hawk and white-tailed kite) may be directly impacted if individuals and/or active nests are present in the work area through direct mortality, physical impacts to active nests, or causing abandonment of nests. Additionally, indirect impacts from noise and human presence may cause disturbance if active nests or foraging individuals are within the vicinity of construction and could ultimately result in nest failure. Potential direct and indirect impacts to nesting birds would be reduced by BIO-4- to less than significant. White-tailed kites are fully protected species that could be indirectly impacted by construction disturbance within its 0.5-mile foraging range during breeding season. Foraging habitat for the kite is poor and changes to the open foraging areas, the open field and grassy areas, are not proposed. Therefore, impacts to white tailed kite foraging habitat would be less than significant. Additionally, the project's restoration and habitat enhancements, including eucalyptus and native understory planting, will improve long-term habitat for raptors and nesting birds.

Sensitive Natural Communities and ESHA

The proposed project would have a significant effect on biological resources if it would:

b) *Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

   City: Impacts to habitat types or species may be considered significant, based on substantial evidence in the record, if they substantially: (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends.

   City: Riparian Habitats Project created impacts may be considered significant due to: direct removal of riparian vegetation; disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation; or intrusion within the upland edge of the riparian canopy leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion; or construction activity which disrupts critical time periods for fish and other wildlife species.

CDFW sensitive communities are not present on site. The project would not have an operational or construction direct or indirect impact on sensitive communities.

Two types of ESHA are mapped within Stow Grove Park: 1) landscaped native upland woodlands, comprised of the trees and landscaped vegetation described in Section 3.2, and 2) monarch butterfly and raptor roosting habitat, which is also comprised of trees. Construction activities including ground disturbance, improvements to existing buildings and infrastructure, and creation of new buildings and infrastructure could potentially impact ESHA. Specifically, construction activities causing ground disturbance could impact tree roots and subsequently tree health. However, impacts to ESHA would be mitigated to less than significant through mitigation BIO-1, BIO-2, BIO-4, and BIO-5. See Section 5.4 for a detailed discussion regarding consistency with Policy CE 1.

5.2 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

   City: Wetlands Projects which result in a net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, or would threaten the continuity of wetland-dependent animal or plant species are considered to have a potentially significant effect on the environment. Projects which substantially interrupt wildlife access, use and dispersal in wetland areas would typically be considered to have a potentially significant impact. Projects which disrupt the hydrology of wetlands systems would be considered to have a potentially significant impact.

No waters, wetlands, or riparian vegetation that might meet the standards for federal protection under jurisdiction of the USACE, RWQCB, or CDFW were observed during the field survey. No waters or wetlands identified by the GP/CLP Figure 4-1, NWI or NHD are mapped within the BSA.

5.3 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

d) *Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

The BSA is not in an area identified as a wildlife corridor. The potential movement of wildlife through the BSA is minimal given the densely developed nature of the site and adjacent properties to the south, east, and west. Although open space is present north of the BSA, the Cathedral Oaks Road is a substantial barrier to wildlife movement. The proposed project would not impede wildlife movement, and no direct impacts would occur.

5.4 Resources Protected by Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

   City: Individual Native Trees Project created impacts may be considered significant due to the loss of 10 percent or more of the trees of biological value on a project site

Policy CE 1 Environmentally Sensitive Habitat Area Designations and Policy

CE 1.1-1.3 and 1.5: ESHA Designation and Mapping

Consistent. As discussed under Section 4.2, ESHA has been designated and mapped consistent with Policies CE 1.1, 1.2, and 1.3 to the extent of current and previously designated ESHA. No map correction specified under CE 1.5 is required or proposed.

CE 1.4, 1.6, and 1.8: Protection of ESHAs and ESHA Buffers

Consistent. The public access improvement components of the projects (e.g., walking/running path, fitness/ trail loop, parking lot replacement) are considered allowed use in ESHA under Policy CE 1.6.c. The butterfly/pollinator garden and native garden are considered allowed use (resource restoration and enhancement) under CE 1.6.d.

The project was designed to have the fewest impacts to ESHA. All impacts will be mitigated through the CEQA analysis or offset through environmental protection practices. The design requires the least amount of modification and alteration of natural landforms as possible.

An ESHA buffer under CE 1.8 is not required since the project use is allowed to be located within ESHA.

CE 1.7: Mitigation of Impacts to ESHA

Consistent. With implementation of avoidance and minimization measures BIO-1 and BIO-2, potential project short-term direct and indirect impacts will be less than significant to monarch butterflies and monarch butterfly ESHA. Two trees are anticipated to be removed, one for the La Patera entrance and one for the maintenance facility refurbishment. Project impacts are fully mitigated through Bio-2 and Bio-5, which require tree replacements. Impacts to trees' roots and canopies will be mitigated through Bio-1, BIO-2, and BIO-5 for all project activities including for establishment of trails, improvements to buildings and infrastructure, and building of new structures. Potential direct and indirect impacts to nesting birds would be reduced by BIO-4- to less than significant Environmental protection practices that describe best management practices during construction will be developed and included with the project construction specifications.

CE 1.9: Standards Applicable to Development Projects

Consistent. No night lighting, or non-native species planting is proposed. The design preserves existing wildlife corridors and habitat networks and are of sufficient width to protect habitat and dispersal zones for small mammals, amphibians, reptiles, and birds. Stow Grove Park has been heavily modified from its natural landform and landscaped with both native and non-native woodlands and vegetation. With adherence to the site plan, development would minimize grading, alteration of current landforms and physical features, and vegetation clearance in order to reduce or avoid soil erosion, increased runoff, and reduced infiltration of stormwater and prevent net increases in baseline flows for any receiving water body.

CE 1.10: Management of ESHAs

Consistent. Construction impacts would be avoided though adherence to Mitigations Measures 1-5, including a prohibition on invasive species and limits on chemical use under Mitigation Measure 3. Adherence to City and State stormwater requirements would ensure any grading during the rainy season would be conducted consistent with CE 1.10.j and would maintain the ESHA ecological functions.

Policy CE 4 Protection of Monarch Butterfly Habitat Areas

CE 4.1-4.3: Definition of Habitat Area, Designation of Monarch Butterfly ESHAs, and Site-Specific Studies and Unmapped Monarch ESHAs.

Consistent. Current and historical butterfly habitat and roosts have been recently mapped and identified as ESHA by the City. All suitable habitat in the BSA have been surveyed according to City and current Xerces protocol.

CE 4.4: Protection of Monarch Butterfly ESHAs, CE 4.5 Buffers Adjacent to Monarch Butterfly ESHAs.

Consistent. The project is an allowed use in monarch butterfly ESHA and has been sited to avoid impacts to aggregation sites and potential habitat. The only monarch butterfly ESHA vegetation removal proposed includes the removal of an individual eucalyptus tree located in the eucalyptus stand along the western boundary of the park. Removed trees would be replaced with the objective of monarch butterfly habitat restoration and enhancement.

CE 4.6: Standards Applicable to New Development Adjacent to Monarch ESHAs.

Consistent. Mitigation Measure 1 requires construction to outside the overwintering period (April 1 to September 30), and avoidance measures if construction must occur during the overwintering season. Impacts to habitat as a result of tree removal would be addressed through BIO-1 and BIO-2

Policy CE 8 Protection of Special-Status Species

Consistent. As discussed under Section 4.3.1.b in the context of General Plan Policy 8.4. Direct and indirect impacts to nesting raptors (if present) in the BSA would be avoided though adherence to Bio-1, BIO-2, and BIO-4.

Policy CE 9 Protection of Native Woodlands

CE 9.1, 9.2, and 9.4: Tree Protection Plan and Standards

Consistent. Based on Policy CE 9.1, 9.2, and 9.4, impacts (including removal, fragmentation of habitat, removal of understory, disruption of canopy, alteration of drainage patterns, siting of structures/roads/driveways) to mature native trees will be avoided or minimized to the extent feasible through project design and implementation of Bio-2 and BIO-5. Policy CE 9 does not include specific tree protection standards; as such, the tree protection measures include industry protection standards (measures to be implemented prior to, during, and after construction including methods of avoiding injury, damage treatment and inspections, activities permitted/prohibited within TPZs, and monitoring requirements for work within TPZs). Under BIO-2 mitigation at a 3:1 ratio is required for the removal of trees.

CE 9.3: Native Oak Woodlands or Savannas

Consistent. Native oak woodlands are mapped as ESHA within the BSA and tree trimming, weed abatement, and brush clearance under the project description will be the same as is currently being conducted, which is the minimum required to achieve public safety and habitat restoration. There are no major impacts to native oak woodlands anticipated.

CE 9.5: Mitigation of Impacts to Native Trees

Consistent. Based on Policy CE 9.5, mitigation for the removal of native trees shall include, at a minimum, the planting of replacement trees on site, if suitable area exists on the subject site, or off site (within the same watershed) if suitable onsite area is unavailable. Mitigation sites shall be monitored for a period of 5 years. The project is not anticipated to threaten the continued viability of any native trees. Encroachment into the TPZ will be minimized through project design and BIO-2 and BIO-5.

5.5 Impacts Related to Habitat Conservation Plans

The proposed project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The project is not within the coverage area of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impacts relative to this criterion.

5.6 Mitigation Measures

BIO-1 Monarch Butterfly Roost Protection

The City will implement measures to avoid and minimize indirect impacts on monarch butterfly overwintering roosts consistent with Policy CE 4. Construction (including tree removal and infrastructure improvement activities) within 200 feet of monarch butterfly ESHA shall be scheduled to occur between April 1 and September 30 where feasible, to avoid overwintering monarch butterflies.

If construction and infrastructure improvement activities within 200 feet of monarch butterfly ESHA is necessary during the overwintering season, prior to construction (including infrastructure improvement activities, or tree/vegetation removal), the following measures shall be implemented:

- A monarch specialist or qualified biologist shall conduct a survey for roosting monarchs prior to the start of work and confirm the absence of roosting monarchs before the work can commence. Roosting monarch surveys must follow the Xerces Society Protocol (2022). Surveys shall be conducted in the early morning while temperatures are low enough that monarch butterflies remain clustered from the evening before (usually when temperatures are below 13 °C or 55 °F).
- During the overwintering season and during construction and infrastructure improvement activities that occur, roosting monarch surveys shall be conducted weekly to confirm continued absence or to identify, map, and describe roost locations if presence of roosting monarchs is confirmed. Mapped roosting locations may be adjusted as needed under the guidance of a monarch specialist or qualified biologist.
- Any construction, infrastructure improvement activities, or tree/vegetation removal within 200 ft of roosting monarchs within the monarch butterfly ESHA shall be prohibited (consistent with CE 4.5 and CE 4.6d).
- A monarch specialist or qualified biologist shall be present to document monarch butterfly protection. The monarch monitor shall document that roosting monarchs are not disturbed by

work activities. The monarch monitor shall have authority to stop work if monarchs show signs of unnatural disturbance.

- Trees removed from the monarch butterfly ESHA and trees heavily impacted by construction, grading, and trenching of the project improvement elements within the monarch butterfly ESHA shall be replaced at a 2:1 ratio within the ESHA and as close to the removed tree as is reasonably feasible.

Plan Requirements and Timing: This condition shall be noted on any project plans. For construction during the overwintering season, prior to construction. The biological monitor shall be approved by the City prior to issuance of grading or building permits.

Monitoring. If construction occurs during the overwintering season, surveys will be conducted to determine presence or absence of roosting monarchs. If monarchs are not present, no buffer or monitoring are required. If monarchs are present, the requirements apply during the overwintering season, prior to any grading or construction and throughout all development activities until occupancy clearance issued.

BIO-2 Tree Removal and Monarch Roost Protection Plan

A Tree Removal and Monarch Protection Plan is required prior to any Monarch ESHA tree removal consistent with Policy CE 4. The plan shall include the following.

- Removal of trees of any diameter possessing living foliage is prohibited within the monarch butterfly ESHA unless a tree is identified as an imminent hazard to property or life, is dead, or is otherwise approved by the City Arborist consistent Policy CE 4. Trees being considered for removal shall be evaluated and approved by both a certified arborist and a monarch specialist or qualified biologist for critical habitat protection before project work commences (consistent with CE 4.4).
- Trees removed from the monarch butterfly ESHA and trees heavily impacted by construction, grading, and trenching of the project improvement elements within the monarch butterfly ESHA shall be replaced at a 3:1 ratio within the ESHA and as close to the removed tree as is reasonably feasible.

Plan Requirements: The Tree Removal and Monarch Protection Plan shall be prepared and approved by the City prior to construction.

Monitoring and Reporting: Trees planted as mitigation for this project will be mitigated through replacement plantings as described in Bio-1 and Bio-5. The trees and tree health will be monitored at a minimum of twice annually. Annual monitoring reports, prepared by an arborist shall be submitted to the City for three consecutive years.

BIO-3 Pollinator Garden Landscaping

Prior to construction of the pollinator garden, a landscape plan with the proposed pollinator species shall be approved by the City. The Plan shall also limit the use of insecticides, herbicides, or other toxic substances by City employees and contractors in construction and maintenance. Invasive species shall be prohibited. A list of pollinator species is included in the *Stow Grove Park Monarch Butterfly ESHA-Impact Analysis and Minimization Measures* (Althouse and Meade 2023).

Plan Requirements and Timing: The landscape plan shall be approved by the City prior to construction. This condition shall be noted on any plans.

M**onitoring:** City staff will spot check plants to confirm consistency with the approved plan.

BIO-4 Pre-Construction Nesting Bird Surveys

- To avoid disturbance of nesting and special-status birds, including raptor species protected by the MBTA and CFGC, project activities including vegetation removal, ground disturbance, construction, and demolition shall occur outside of the bird breeding season (February 1 through August 31), if feasible.
- If work must begin during the breeding season, a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of project activities. The nesting bird survey shall be conducted inside the project footprint plus a 500-foot buffer for raptors and special-status species and a 300-foot buffer for all other birds. Inaccessible parts of the survey area shall be scanned using binoculars. The survey shall be conducted by a biologist familiar with the identification of bird species known to occur in southern California communities.
- If active nests (those containing eggs, nestlings, or associated with dependent fledglings) are found on-site, an avoidance buffer shall be implemented around each nest and demarcated with fencing or flagging. The size of the buffers shall be determined by the biologist based upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site. No project activity shall occur inside a nest buffer until the biologist determines that the nest is no longer active.
- If no nesting birds are observed during pre-construction surveys, no further actions would be necessary.

Plan Requirements and Timing: This condition shall be noted on any plans. The name and contact information for the avian biologist shall be submitted to the City prior to commencement of construction.

Monitoring: If a nesting bird survey is required (construction occurs during the nesting bird season), the survey shall be conducted no more than seven days prior to initiation of project activities. A summary memo shall be submitted to the City within 14 days of the survey.

BIO-5 Tree Protection

The following tree protection measures will be implemented to ensure that impacts to mature native (protected) trees are minimized to the extent feasible or avoided, consistent with Policy CE 9 prior to the start of project activities. All measures below will be conducted by or under the direct supervision of an ISA certified arborist:

- A certified arborist or qualified biologist will monitor any ground disturbance or vegetation removal activities that have a potential to impact protected trees.
- A minimum 3-foot-tall snow fence will be placed around the TPZ in areas where project activities have the potential to impact protected trees. Fencing should be maintained and in place throughout the duration of these activities.
- Any grading, cut-and fill, trenching, or other ground disturbance should be done slowly using hand tools as feasible to avoid ripping or tearing roots. Roots two inches or greater in diameter should be avoided to the extent feasible.
- Any root pruning should be done at a 90-degree angle with a clean sharp blade, and new cuts should be wetted and covered with absorbent tarp or heavy cloth fabric until backfill is completed.

- No equipment or materials should be stored within TPZs as feasible. In areas where vehicles or equipment may impact tree roots, steel plates should be installed to protect the root zones as needed.
- Pruning should be limited to only what is necessary for project activities. Inadvertent damage to limbs and branches from equipment should be immediately trimmed with clean blades. All pruning should rely on best practices as determined by the arborist.
- If any protected trees are damaged to the point where continued viability is threatened, as determined by a certified arborist, the tree will be replaced at a 3:1 ratio with like species grown from locally obtained seed. Replacement shall occur on site as feasible, or off site (within the same watershed) if on site replacement is not feasible. Replacement trees shall be monitored for a period of 5 years.

Plan Set Requirements and Timing: This condition shall be noted on any plans. The name and contact information for the arborist shall be submitted to the City prior to commencement of construction.

Monitoring: For construction with the potential to impact protected trees, the arborist or qualified biological monitor shall be approved prior to the start of construction. Monitoring shall occur throughout all development activities with the potential to impact protected trees until occupancy clearance issued.

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the BSA include the following:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States)
- U.S. Fish and Wildlife Service (federally listed species and migratory birds)
- National Marine Fisheries Service (marine wildlife and anadromous fishes)
- Central Coast Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources)
- City of Goleta General Plan/Coastal Land Use Plan

United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule, 2020 Navigable Waters Protection Rule, and the most recent effort promulgated by the USACE and USEPA on January 18, 2023 (88 FR 3004-3144)), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect although it is currently being interpreted consistent with the recent *Sackett v. Environmental Protection Agency* Supreme Court decision. In summary, this decision indicates that waters of the United States are limited to bodies of water that are navigable or flow at least seasonally, and wetlands with a continuous surface connection to these waters. The USACE and USEPA have announced their intent to issue revised regulations defining "waters of the United States" by September 1, 2023, which will provide additional clarification.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a “reasonable period of time” for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) implements several laws protecting the Nation's fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered wildlife species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California and administers several State laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as “Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (Fish and Game Code sec. 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA’s protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA’s permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the fully protected species.

Avian Protection Laws

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Protection of Lakes and Streambeds

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFG determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from

CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM
- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically

- A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
- Width of a stream course can reasonably be identified by physical or biological indicators
- A stream may have one or more channels (single thread vs. compound form)
- Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
- Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
- Biologic components of a stream may include aquatic and riparian vegetation, all aquatic wildlife including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
- The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

Local Jurisdiction

City of Goleta General Plan/Coastal Land Use Plan

This plan governs land use and physical development within the geographic area of the incorporated City of Goleta limits. As of January 1, 2006, this area included 5,075 acres, or approximately 7.9 square miles. The Goleta General Plan/Coastal Land Use Plan, which is required by California law, is the most important policy document that guides future physical changes and public decision making within a community. California law places the general plan atop the hierarchy of land use planning regulations; by analogy, it has been described as a “constitution” for decision making by a city for its future physical development and change. General plans are required to be comprehensive, long-range, and internally consistent. Every general plan must address seven specific topics, or elements: land use, housing, conservation, open space, transportation, safety, and noise. While state law establishes specific requirements for the contents of the plan, within that legal framework each community has latitude to design its own future. State law allows flexibility in how elements are organized and the additional topics that may be included. All elements have the same legal status, and no element, goal, or policy can supersede any other. The Goleta General Plan/Coastal Land Use Plan is the primary means for guiding future change in Goleta as it faces difficult choices on a daily basis about growth, housing, environmental protection, neighborhood compatibility and preservation, and transportation. The plan provides a guide for making these choices by relating day-to-day decisions to the goals, objectives, and policies of this document. The plan has four major purposes:

- To provide a unified and coherent framework and vision for the future of the community.
- To provide a basis for future decisions by the City on implementing ordinances such as zoning and subdivision codes, individual development project applications, and public investments in infrastructure and services, so as to achieve consistency with the framework.

- To inform the public of the City's policies and provide a means to invite public participation in the City's decision-making processes.
- To guide private landowners, developers, and other public agencies in formulating projects and designs that will be consistent with Goleta's policies.

Specifically, the General Plan Conservation Element Policy 1.1 ESHA as follows:

ESHAs shall include, but are not limited to, any areas that through professional biological evaluation are determined to meet the following criteria under

a. any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and that could be easily disturbed or degraded by human activities and developments;

b. any area that includes habitat for species and plant communities recognized as threatened or endangered by the state or federal governments; plant communities recognized by the State of California (in the Terrestrial Natural Communities Inventory) as restricted in distribution and very threatened; and those habitat types of limited distribution recognized to be of particular habitat value, including wetlands, riparian vegetation, eucalyptus groves associated with monarch butterfly roosts, oak woodlands, and savannas; and

c. any area that has been previously designated as an ESHA by a by the California Coastal Commission, the California Department of Fish and Game, City of Goleta, or other agency with jurisdiction over the designated area.

Policy CE 1.6, 1.7, 1.9, and 1.10 defines ESHA uses, development standards, and mitigation as follows:

CE 1.6 Protection of ESHAs. [GP/CLUP] ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply:

a. No development, except as otherwise allowed by this element, shall be allowed within ESHAs and/or ESHA buffers.
b. A setback or buffer separating all permitted development from an adjacent ESHA shall be required and shall have a minimum width as set forth in subsequent policies of this element. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area.
c. Public accessways and trails are considered resource-dependent uses and may be located within or adjacent to ESHAs. These uses shall be sited to avoid or minimize impacts on the resource to the maximum extent feasible. Measures— such as signage, placement of boardwalks, and limited fencing or other barriers—shall be implemented as necessary to protect ESHAs. […]

CE 1.7 Mitigation of Impacts to ESHAs. [GP/CLUP] New development shall be sited and designed to avoid impacts to ESHAs. If there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Any impacts that cannot be avoided shall be fully mitigated, with priority given to onsite mitigation. Offsite mitigation measures shall only be approved when it is not feasible to fully mitigate impacts on site. If impacts to onsite ESHAs occur in the Coastal Zone, any offsite mitigation area shall also be located within the Coastal Zone. All mitigation sites shall be monitored for a minimum period of 5 years […].

CE 1.9 Standards Applicable to Development Projects. [GP/CLUP] The following standards shall apply to consideration of developments within or adjacent to ESHAs:

a. Site designs shall preserve wildlife corridors or habitat networks. Corridors shall be of sufficient width to protect habitat and dispersal zones for small mammals, amphibians, reptiles, and birds.

b. [..]

c. Site plans and landscaping shall be designed to protect ESHAs. Landscaping, screening, or vegetated buffers shall retain, salvage, and/or reestablish vegetation that supports wildlife habitat whenever feasible. Development within or adjacent to wildlife habitat networks shall incorporate design techniques that protect, support, and enhance wildlife habitat values. Planting of nonnative, invasive species shall not be allowed in ESHAs and buffer areas adjacent to ESHAs.

d. *All new development shall be sited and designed so as to minimize grading, alteration of natural landforms and physical features, and vegetation clearance in order to reduce or avoid soil erosion, creek siltation, increased runoff, and reduced infiltration of stormwater and to prevent net increases in baseline flows for any receiving water body*.

e. Light and glare from new development shall be controlled and directed away from wildlife habitats. Exterior night lighting shall be minimized, restricted to low intensity fixtures, shielded, and directed away from ESHAs.

f. All new development should minimize potentially significant noise impacts on special-status species in adjacent ESHAs.

g. All new development shall be sited and designed to minimize the need for fuel modification, or weed abatement, for fire safety in order to preserve native and/or nonnative supporting habitats. Development shall use fire resistant materials and incorporate alternative measures, such as firewalls and landscaping techniques, that will reduce or avoid fuel modification activities.

h. The timing of grading and construction activities shall be controlled to minimize potential disruption of wildlife during critical time periods such as nesting or breeding seasons.

i. Grading, earthmoving, and vegetation clearance adjacent to an ESHA shall be prohibited during the rainy season, generally from November 1 to March 31, except as follows: 1) where erosion control measures such as sediment basins, silt fencing, sandbagging, or installation of geofabrics have been incorporated into the project and approved in advance by the City; […]

CE 1.10 Management of ESHAs. [GP/CLUP] The following standards shall apply to the ongoing management of ESHAs:

a. The use of insecticides, herbicides, artificial fertilizers, or other toxic chemical substances that have the potential to degrade ESHAs shall be prohibited within and adjacent to such areas, except where necessary to protect or enhance the ESHA itself.

b. The use of insecticides, herbicides, or other toxic substances by City employees and contractors in construction and maintenance of City facilities and open space lands shall be minimized.

c. […]

d. Weed abatement and brush-clearing activities for fire safety purposes shall be the minimum that is necessary to accomplish the intended purpose. Techniques shall be limited to mowing

and other low-impact methods such as hand crews for brushing, tarping, and hot water/foam for weed control. Disking shall be prohibited.

e. […]

f. Removal of nonnative invasive plant species within ESHAs may be allowed and encouraged, unless the nonnatives contribute to habitat values

[…]

Policy CE 3 protects wetlands/vernal pools in the coastal zone as follows:

> *CE 3.4: Protection of Wetlands in the Coastal Zone. [CP] The biological productivity and the quality of wetlands shall be protected and, where feasible, restored in accordance with the federal and state regulations and policies that apply to wetlands within the Coastal Zone. Only uses permitted by the regulating agencies shall be allowed within wetlands. The filling, diking, or dredging of open coastal waters, wetlands, estuaries, and lakes is prohibited unless it can be demonstrated that: a. There is no feasible, environmentally less damaging alternative to wetland fill. b. The extent of the fill is the least amount necessary to allow development of the permitted use. c. Mitigation measures have been provided to minimize adverse environmental effects. d. The purposes of the fill are limited to: incidental public services, such as burying cables or pipes; restoration of wetlands; and nature study, education, or similar resource-dependent activities. A wetland buffer of a sufficient size to ensure the biological integrity and preservation of the wetland shall be required. Generally the required buffer shall be 100 feet, but in no case shall wetland buffers be less than 50 feet. The buffer size should take into consideration the type and size of the development, the sensitivity of the wetland resources to detrimental edge effects of the development to the resources, natural features such as topography, the functions and values of the wetland, and the need for upland transitional habitat. A 100-foot minimum buffer area shall not be reduced when it serves the functions and values of slowing and absorbing flood waters for flood and erosion control, sediment filtration, water purification, and ground water recharge. The buffer area shall serve as transitional habitat with native vegetation and shall provide physical barriers to human intrusion*
>
> *CE.3.8 Vernal Pool Protection. [GP/CLUP] Vernal pools, an especially rare wetland habitat on the south coast of Santa Barbara County, shall be preserved and protected. Vernal pools in Goleta, which are generally small in area and only a few inches deep, are found at scattered locations on the City owned Ellwood Mesa and Santa Barbara Shores Park. These appear to be naturally formed and exhibit little or no evidence of altered hydrology. Trails on these two properties shall be sited and constructed in a manner that avoids impacts to vernal pool hydrology and that will allow restoration by removing several informal trail segments that bisect vernal pool habitats. […]*

Policy CE 5 protects native grasslands, coastal bluff scrub, coastal sage-scrub, and chaparral as follows:

> *CE 5.2: Protection of Native Grasslands. In addition to the provisions of Policy CE 1, the following standards shall apply:*
>
> *a. For purposes of this policy, existing native grasslands are defined as an area where native grassland species comprise 10 percent or more of the total relative plant cover. Native grasslands that are dominated by perennial bunch grasses tend to be patchy. Where a high density of separate small patches occurs in an area, the whole area shall be delineated as native grasslands.*

b. *To the maximum extent feasible, development shall avoid impacts to native grasslands that would destroy, isolate, interrupt, or cause a break in continuous habitat that would (1) disrupt associated animal movement patterns and seed dispersal, or (2) increase vulnerability to weed invasions.*

c. *Removal or disturbance to a patch of native grasses less than 0.25 acre that is clearly isolated and is not part of a significant native grassland or an integral component of a larger ecosystem may be allowed. Removal or disturbance to restoration areas shall not be allowed.*

d. *Impacts to protected native grasslands shall be minimized by providing at least a 10-foot buffer that is restored with native species around the perimeter of the delineated native grassland area.*

e. *Removal of nonnative and invasive exotic species shall be allowed; revegetation shall be with plants or seeds collected within the same watershed whenever feasible.*

CE 5.3: Protection of Costal Bluff Scrub, Coastal Sage Scrub, and Chaparral ESHA. [GP/CLUP] In addition to the provisions of Policy CE 1, the following standards shall apply:

a. *For purposes of this policy, coastal bluff scrub is defined as scrub habitat occurring on exposed coastal bluffs. Example species in bluff scrub habitat include Brewer's saltbush (Atriplex lentiformis), lemonade berry (Rhus integrifolia), seashore blight (Suaeda californica), seacliff buckwheat (Eriogonum parvifolium), California sagebrush (Artemisia californica), and coyote bush [brush] (Baccharis pilularis).*

   Coastal sage scrub is defined as a drought-tolerant, Mediterranean habitat characterized by soft-leaved, shallow-rooted subshrubs such as California sagebrush (Artemisia californica), coyote bush [brush] (Baccharis pilularis), and California encelia (Encelia californica). It is found at lower elevations in both coastal and interior areas where moist maritime air penetrates inland. […]The area must have both the compositional and structural characteristics of coastal bluff scrub, coastal sage scrub, or chaparral habitat as described in Preliminary Descriptions of Terrestrial Natural Communities of California (Holland 1986) or other classification system recognized by the [CDFW].

b. *To the maximum extent feasible, development shall avoid impacts to coastal bluff scrub, coastal sage scrub, or chaparral habitat that is part of a wildlife movement corridor and the impact would preclude animal movement or isolate ESHAs previously connected by the corridor such as (1) disrupting associated bird and animal movement patterns and seed dispersal, and/or (2) increasing erosion and sedimentation impacts to nearby creeks or drainages.*

c. *Impacts to coastal bluff scrub, coastal sage scrub, and chaparral ESHAs shall be minimized by providing at least a 25-foot buffer restored with native species around the perimeter of the ESHA, unless the activity is allowed under other CE subpolicies and mitigation is applied per CE 1.7. d. Removal of nonnative and invasive exotic species shall be allowed; revegetation shall be with plants or seeds collected within the same watershed whenever feasible*.

Policy CE 8 protects special-status species, including their habitats, as follows:

CE 8.1 ESHA Designation. [GP/CLUP] Requisite habitats for individual occurrences of special-status plants and animals, including candidate species for listing under the state and federal endangered species acts, California [SSC], [CNPS] *List 1B plants, and other species protected*

under provisions of the [CFGC] shall be preserved and protected, and their occurrences, including habitat requirements, shall be designated as ESHAs. […]

CE 8.2 Protection of Habitat Areas. [GP/CLUP] All development shall be located, designed, constructed, and managed to avoid disturbance of adverse impacts to special-status species and their habitats, including spawning, nesting, rearing, roosting, foraging, and other elements of the required habitats.

CE 8.4 Buffer Areas for Raptor Species. [GP/CLUP] Development shall be designed to provide a 100-foot buffer around active and historical nest sites for protected species of raptors when feasible. In existing developed areas, the width of the buffer may be reduced to correspond to the actual width of the buffer for adjacent development. If […] *an active raptor nest site exists on the subject property, whenever feasible no vegetation clearing, grading, construction, or other development activity shall be allowed within a 300-foot radius of the nest site during the nesting and fledging season.*

City Wetlands

Pursuant to General Plan Conservation Element sub policy CE 3.1, Definition of Wetlands, the City defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) and directly cites the Coastal Act definitions contained in 14 CCR 13577(b).

Appendix B

Site Photographs

Photograph 1. View of the Landscaped California Sycamore - Coast Live Oak Riparian Woodland at the northwestern portion of Stow Grove Park (aspect: north, April 13th, 2022).

Photograph 2. View of the Landscaped Canary Island Pine Stand bordering the parking lot of Stow Grove Park (aspect: south, April 13th, 2022).

Photograph 3. View of the Landscaped Coast Live Oak Woodland and Forest in the central portion of Stow Grove Park (aspect: northwest, April 13th, 2022).

Photograph 4. View of Landscaped Eucalyptus Grove on the western border of Stow Grove Park (aspect: southwest, April 13th, 2022).

Photograph 1. View of the **.** Landscaped Island Live Oak Woodland at the southern portion of Stow Grove Park (aspect: south, April 13th, 2022).

Photograph 6. View of Landscaped Myoporum Grove at the central portion of the BSA, bordering the parking lot (aspect: south, April 13th, 2022).

Photograph 7. View of the Landscaped Non-native Woodland at the southern portion of the BSA (aspect: southeast, April 13th, 2022).

Photograph 8. View of Landscaped Redwood Forest and Woodland at the central portion of the BSA (aspect: northwest, April 13th, 2022).

Photograph 9. View of the Landscaped Tree of Heaven Groves at the southern portion of Stow Grove Park (aspect: southeast, April 13th, 2022).

Photograph 10. View of developed park area in the northern portion of the BSA (aspect: northeast, April 13th, 2022).

Photograph 11. View of the road side culvert/ agriculture drainage ditch at the north of the BSA, outside of Stow Grove Park boundary (aspect: southwest, July 9, 2023).

Appendix C

Floral and Faunal Compendium

Plant Species Observed Within the BSA

Scientific Name	Common Name	Status	Native or Introduced
Shrubs			
Agapanthus sp	lily of the Nile		Introduced
Echium candicans	pride of Madeira		Introduced
Heteromeles arbutifolia	toyon		Native
Plantago major	common plantain		Introduced
Solanum sp	nightshade		Introduced
Vinca major	greater periwinkle		Introduced
Herbs			
Malva parviflora	Cheeseweed mallow		Introduced
Medicago polymorpha	burr clover		Introduced
Raphanus raphanistrum	wild radish		Introduced
Tropaeolum majus	nasturtium		Introduced
Trees			
Ailanthus altissima	Tree of heaven		Introduced
Brachychiton discolor	lacebark trees		Introduced
Callistemon sp	bottlebrush		Introduced
Cedrus sp.	Cedar sp.		Introduced
Cupressus sp	cypress sp.		Introduced
Erythrina sp	coral tree		Introduced
Eucalyptus camaldulensis	red gum eucalyptus		Introduced
Fraxinus sp	Ash sp.		Introduced
Koelreuteria paniculata	golden rain tree		Introduced
Melaleuca quinquenervia	paper bark tree		Introduced
Myoporum laetum	Myoporum sp.		Introduced
Pinus canariensis	Canary Island Pine		Introduced
Platanus racemosa	California Sycamore		Native
Pyrus calleryana	Callery pear		Introduced
Quercus agrifolia	Coast live oak		Native
Quercus tomentella	Island live oak		Native
Sequoia sempervierens	Coast redwood		Native

Sources:

[1] CDFW 2023d, Jepson Flora Project 2022, and Cal-IPC 2022

Wildlife Species Observed Within the BSA on May 16, 2023

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Aphelocoma californica	California scrub jay	-	Native
Buteo jamaicensis	Red-tailed hawk	-	Native
Corvus brachyrhynchos	American crow	-	Native
Haemorhous mexicanus	house finch	-	Native
Icterus cucullatus	hooded oriole	-	Native
Junco hyemalis	dark eyed junco	-	Native
Melanerpes formicivorus	acorn woodpecker	-	Native
Melospiza melodia	song sparrow	-	Native
Melozone crissalis	California towhee	-	Native
Quiscalus mexicanus	great tailed grackle	-	Native
Sayornis nigricans	black phoebe	-	Native
Sialia mexicana	Western bluebird	-	Native
Streptopelia decaocto	Eurasian collared dove	-	Introduced
Mammals			
Otospermophilus beecheyi	California ground squirrel	-	Native

Birds of the World. 2022. Edited by S.M. BIllerman, B.K. Keeney, P.G. Rodewald, and T.S. Schulenberg. Cornell Laboratory of Ornithology, Ithaca, NY, USA. https://birdsna.org/bow/home. Accessed July 2023.

Appendix D

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Anomobryum julaceum slender silver moss	None/None G5?/S2 4.2	Moss. Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. Elevations: 330-3280ft. (100-1000m.)	None	Suitable elevations not present in study area.
Arctostaphylos refugioensis Refugio manzanita	None/None G3/S3 1B.2	Perennial evergreen shrub. Chaparral. On sandstone. Elevations: 900-2690ft. (274-820m.) Blooms (May)Dec-Mar.	None	Suitable elevations not present in BSA.
Arenaria paludicola Marsh Sandwort	FE/SE G1/S1 1B.1	Marshes and swamps. Growing up through dense mats of Typha, Juncus, Scirpus, etc. in freshwater marsh. Sandy soil. 3-170 m. Blooms May-Aug.	None	Project site predominantly developed/ disturbed. Suitable aquatic habitat not present on-site.
Astragalus didymocarpus var. *milesianus* Miles' milk-vetch	None/None G5T2/S2 1B.2	Annual herb. Coastal scrub. Clay soils. Elevations: 65-295ft. (20-90m.) Blooms Mar-Jun.	None	Project site is predominantly disturbed. Suitable coastal scrub and clay soil habitat not present in BSA.
Atriplex coulteri Coulter's saltbush	None/None G3/S1S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Alkaline (sometimes), clay (sometimes). Elevations: 10-1510ft. (3-460m.) Blooms Mar-Oct.	None	Project site is predominantly disturbed. Suitable coastal bluff scrub, coastal sand dune, coastal scrub, or grassland habitat not present in BSA.
Atriplex serenana var. *davidsonii* Davidson's saltscale	None/None G5T1/S1 1B.2	Annual herb. Coastal bluff scrub, coastal scrub. Alkaline. Elevations: 35-655ft. (10-200m.) Blooms Apr-Oct.	None	Project site is predominantly disturbed. Suitable coastal scrub habitat not present in BSA.
Calochortus fimbriatus late-flowered mariposa-lily	None/None G3/S3 1B.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, riparian woodland. Serpentinite (sometimes). Elevations: 900-6250ft. (275-1905m.) Blooms Jun-Aug.	None	Suitable elevations not present in BSA.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Calystegia sepium ssp. *binghamiae* Santa Barbara morning-glory	None/None G5TXQ/SX 1A	Perennial rhizomatous herb. Marshes and swamps. Elevations: 15-15ft. (5-5m.) Blooms Aug.	None	Project site is predominantly disturbed. Suitable marsh and swamp habitat not present in BSA.
Centromadia parryi ssp. *australis* southern tarplant	None/None G3T2/S2 1B.1	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. Elevations: 0-1575ft. (0-480m.) Blooms May-Nov.	None	Project site is predominantly disturbed. Suitable grassland or aquatic habitat not present on-site.
Chloropyron maritimum ssp. Maritimum Salt Marsh bird beack	FE/ SE G4?T1/S1 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m. Elevation: 0-100 ft. (0-30m). Blooms May-Nov.	None	Project site is predominantly developed/ disturbed. Suitable aquatic habitat not present on-site.
Delphinium umbraculorum umbrella larkspur	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Mesic sites. Elevations: 1310-5250ft. (400-1600m.) Blooms Apr-Jun.	None	Suitable elevations not present in BSA.
Fritillaria ojaiensis Ojai fritillary	None/None G3/S3 1B.2	Perennial bulbiferous herb. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Rocky sites. Sometimes on serpentine; sometimes along roadsides. Elevations: 740-3275ft. (225-998m.) Blooms Feb-May.	None	Suitable elevations not present in BSA.
Horkelia cuneata var. *puberula* mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2660ft. (70-810m.) Blooms Feb-Jul(Sep).	None	Suitable elevations not present in BSA.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Juncus luciensis Santa Lucia dwarf rush	None/None G3/S3 1B.2	Annual herb. Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. Elevations: 985-6695ft. (300-2040m.) Blooms Apr-Jul.	None	Suitable elevations not present in BSA.
Lasthenia conjugens Contra Costa goldfields	FE/None G1/S1 1B.1	Annual herb. Cismontane woodland, playas, valley and foothill grassland, vernal pools. Vernal pools, swales, low depressions, in open grassy areas. Elevations: 0-1540ft. (0-470m.) Blooms Mar-Jun.	None	Project site is predominantly disturbed. Suitable woodland, grassland, or aquatic habitat not present on-site.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	None/None G4T2/S2 1B.1	Annual herb. Marshes and swamps, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-. Elevations: 5-4005ft. (1-1220m.) Blooms Feb-Jun.	None	Project site is predominantly disturbed. Suitable marsh, swamp, playas, or vernal pool habitat not found in BSA.
Layia heterotricha pale-yellow layia	None/None G2/S2 1B.1	Annual herb. Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Alkaline or clay soils; open areas. Elevations: 985-5595ft. (300-1705m.) Blooms Mar-Jun.	None	Suitable elevations not present in BSA.
Lonicera subspicata var. *subspicata* Santa Barbara honeysuckle	None/None G5T2?/S2? 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland, coastal scrub. Elevations: 35-3280ft. (10-1000m.) Blooms (Feb)May-Aug(Dec).	None	Project site is predominantly disturbed. Suitable chaparral or woodland habitat not present on-site.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	None/None G5T2/S2 1B.2	Perennial rhizomatous herb. Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts. Elevations: 80-3400ft. (25-1036m.) Blooms (Mar)Jun-Dec.	None	Suitable elevations not present in BSA.
Monardella hypoleuca ssp. *hypoleuca* white-veined monardella	None/None G4T3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Dry slopes. Elevations: 165-5005ft. (50-1525m.) Blooms (Apr)May-Aug(Sep-Dec).	None	Suitable elevations not present in BSA.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Nasturtium gambelii Gambel's water cress	FE/ST G1/S1 1B.1	Perennial rhizomatous herb. Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevations: 15-1085ft. (5-330m.) Blooms Apr-Oct.	None	Project site is predominantly disturbed. Suitable aquatic habitat not present on-site.
Pelazoneuron puberulum var. *sonorense* Sonoran maiden fern	None/None G5T3/S2 2B.2	Meadows and seeps. Along streams, seepage areas. 50-610m. Blooms Jan-Sep.	None	Project site is predominantly disturbed. Suitable meadow or seep habitat not present on-site.
Pleuridium mexicanum Mexican earthmoss	None/None G5/S1 2B.1	Moss. Chaparral. Sandstone. Elevations: 1445-1445ft. (440-440m.)	None	Suitable elevations not present in BSA.
Quercus dumosa Nuttall's scrub oak	None/None G3/S3 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. Elevations: 50-1310ft. (15-400m.) Blooms Feb-Apr(May-Aug).	None	Project site is predominantly disturbed. Suitable chaparral, forest, or scrub habitat not present on-site.
Scrophularia atrata black-flowered figwort	None/None G2?/S2? 1B.2	Perennial herb. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. Elevations: 35-1640ft. (10-500m.) Blooms Mar-Jul.	None	Project site is predominantly disturbed. Suitable chaparral, forest, dune, or scrub habitat not present on-site.
Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Perennial herb. Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. Elevations: 0-15ft. (0-5m.) Blooms (Jan-May)Jul-Oct.	None	Project site is predominantly disturbed. Suitable aquatic habitat not present in BSA.
Thermopsis macrophylla Santa Ynez false lupine	None/SR G1/S1 1B.3	Perennial rhizomatous herb. Chaparral. In open areas such as fuel breaks, after burns; on sandstone. Elevations: 1395-4595ft. (425-1400m.) Blooms Apr-Jun.	None	Suitable elevations not present in BSA.

Regional Vicinity refers to within a 9-quad search radius of site.

Status (Federal/State)
FE = Federal Endangered

CRPR (CNPS California Rare Plant Rank)
1A = Presumed extirpated in California, and rare or extinct elsewhere

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale

FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

Special Status Wildlife Species in the Regional Vicinity of the Project Site (5-Mile CNDDB)

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Bombus caliginosus obscure bumble bee	None/None G2G3/S1S2	Coastal areas from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	None	Project site is predominantly disturbed. No suitable habitat is present on-site.
Bombus crotchii Crotch bumble bee	None/SCE G2/S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	None	Project site is predominantly disturbed. No suitable habitat is present on-site.
Cicindela hirticollis gravida sandy beach tiger beetle	None/None G5T2/S2	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	None	No suitable aquatic habitat is present on-site.
Coelus globosus globose dune beetle	None/None G1G2/S1S2	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	None	Suitable coastal sand dune habitat not present on-site.
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	FC/None G4T1T2Q/S2	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Moderate	Transitory roosting habitat present on-site. No overwintering monarchs observed by Xerces since 2018.
Eugnosta busckana Busck's gallmoth	None/None G1G3/S2S3	Coastal southern California. Tiny micro-moth (1 cm) with larva forming galls on host plant Encelia californica (California brittlebush). Adult flight period is during winter, generally from November to February, and have been reported at UV lights and porch lights.	None	Project site is predominantly disturbed/ developed. No suitable habitat is present.
Linderiella occidentalis California linderiella	None/None G2G3/S2S3	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in	None	Project site is predominantly developed/ disturbed. Suitable seasonal

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
		the pools has very low alkalinity, conductivity, and total dissolved solids.		pool habitat not present on-site.
Tryonia imitator mimic tryonia (=California brackishwater snail)	None/None G2/S2	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	None	No suitable aquatic habitat is present at the project site.
Fish				
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None	No aquatic habitat is present at the project site.
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	FE/SCE G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	None	No aquatic habitat is present at the project site.
Reptiles				
Anniella pulchra Northern California legless lizard	None/None G3/S2S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None	Project site is predominantly developed/ disturbed. Suitable loose, moist soils are not present.
Aspidoscelis tigris stejnegeri coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	None	Project site is predominantly disturbed. Suitable desert and semi-arid habitat not present in BSA.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	None	Project site is predominantly developed/disturbed. Suitable aquatic habitat not present in BSA.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Phrynosoma blainvillii coast horned lizard	None/None G4/S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	None	Project site is predominantly disturbed. Suitable sandy wash habitat not present in BSA.
Salvadora hexalepis virgultea coast patch-nosed snake	None/None G5T4/S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	None	Project site is predominantly disturbed. Suitable habitat not present in BSA.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	None	Project site is predominantly developed/disturbed. Suitable aquatic habitat not present in BSA.
Amphibians				
Anaxyrus californicus arroyo toad	FE/None G2G3/S2 SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	None	Project site is predominantly disturbed. No suitable aquatic habitat is present at the project site.
Rana boylii pop. 6 foothill yellow-legged frog - south coast DPS	Proposed Endangered !/SE G3T1/S1	Southern Coast Ranges from Monterey Bay south through San Gabriel Mountains; west of the Salinas River in Monterey Co, south through Transverse Ranges, and east through San Gabriel Mountains. Historically may have ranged to Baja California. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	None	Project site is predominantly disturbed. Suitable shallow stream with rocky substrate not present in BSA.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval	None	Project site is predominantly disturbed. Suitable shallow stream with rocky substrate not present in BSA.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
		development. Must have access to estivation habitat.		
Taricha torosa Coast Range newt	None/None G4/S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams.	None	Project site is predominantly disturbed. Suitable drainage habitat not present in BSA.
Anaxyrus californicus arroyo toad	FE/None G2G3/S2 SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	None	Project site is predominantly disturbed. No suitable aquatic habitat is present at the project site.
Birds				
Accipiter cooperii Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Moderate	Nesting habitat is present on-site.
Agelaius tricolor tricolored blackbird	None/ST G1G2/S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	None	Project site is predominantly developed/ disturbed. No suitable open water habitat present on-site.
Aimophila ruficeps canescens southern California rufous-crowned sparrow	None/None G5T3/S3 WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	None	Project site is predominantly developed/ disturbed. No suitable rocky hillside, sage scrub, or chaparral habitat present on-site.
Ammodramus savannarum grasshopper sparrow	None/None G5/S3 SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	None	Project site is predominantly developed/ disturbed. No suitable grassland habitat present on-site.
Aquila chrysaetos golden eagle	None/None G5/S3 FP WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	None	Project site is predominantly developed/ disturbed. Suitable rolling hill, mountain area, flat, or desert habitat present on-site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Ardea alba great egret	None/None G5/S4	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	None	Project site is predominantly developed/ disturbed. No suitable aquatic habitat for nesting present on-site.
Ardea herodias great blue heron	None/None G5/S4	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	None	Project site is predominantly developed/ disturbed. No suitable aquatic rookery or nesting habitat present on-site.
Artemisiospiza belli belli Bell's sparrow	None/None G5T2T3/S3 WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	None	Project site is predominantly developed/ disturbed. Suitable chaparral habitat not present on-site.
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None	Project site is predominantly developed/ disturbed. Suitable grassland, desert, or scrubland habitat is not present on-site.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	None	Project site is predominantly disturbed. Suitable grassland, scrub, or foothill habitat not present on-site.
Charadrius nivosus nivosus western snowy plover	FT/None G3T3/S3 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None	Project site is predominantly developed/ disturbed. Suitable sandy beach habitat not present at the project site.
Egretta thula snowy egret	None/None G5/S4	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	None	Project site is predominantly developed/ disturbed. No suitable aquatic habitat for foraging or nesting present at the project site.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Moderate	Foraging habitat is present on-site. Low potential for nesting habitat due to developed site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
		Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.		
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S3	Riparian woodlands in Southern California. .	None	Project site is predominantly developed/ disturbed. No suitable riparian woodland habitat present at the project site. No CNDDB records within five miles
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	None	Project site is predominantly developed/ disturbed. Suitable prairie, bald hill, meadow, or coastal plain habitat not present on-site.
Falco mexicanus prairie falcon	None/None G5/S4 WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	None	Project site is predominantly developed/ disturbed. Suitable dry and open terrain not present on-site.
Laterallus jamaicensis coturniculus California black rail	None/ST G3T1/S2 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None	Project site is predominantly developed/ disturbed. No suitable aquatic habitat present at the project site.
Nannopterum auritum double-crested cormorant	None/None G5/S4 WL	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	None	Project site is predominantly developed/ disturbed. Suitable coastal cliff, offshore island, or lake margin habitat not present at the project site.
Nycticorax nycticorax black-crowned night heron	None/None G5/S4	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	None	Project site is predominantly developed/ disturbed. Suitable lake margin, bay, or marshy habitat not present at the project site.
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/SE G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	None	Project site is predominantly developed/ disturbed. Suitable salt marsh habitat not present at the project site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Pelecanus occidentalis californicus California brown pelican	FD/SD G4T3T4/S3 FP	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	None	No aquatic habitat is present at the project site.
Rallus obsoletus levipes light-footed Ridgway's rail	FE/SE G3T1T2/S1 FP	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; feeds on molluscs and crustaceans.	None	Project site is predominantly developed/ disturbed. Suitable salt marsh habitat not present at the project site.
Riparia riparia bank swallow	None/ST G5/S3	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	None	Project site is predominantly developed/ disturbed. Suitable vertical bank/ cliff near aquatic habitat not found at the project site.
Sternula antillarum browni California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	None	Project site is predominantly developed/ disturbed. Coastal habitat is not present at the project site.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S3	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	None	Project site is predominantly developed/ disturbed. Suitable riparian habitat not present at the project site.No CNDDB records within five miles.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls & ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Eumops perotis californicus western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferiferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Lasiurus cinereus hoary bat	None/None G3G4/S4	Typically roosts in trees in deciduous and coniferous forests and woodlands but occassionally roosts in rocks crevices. Forages in open areas, typically along riparian corridors or over water. Diet primarily consists of moths.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Lasiurus frantzii western red bat	None/None G4/S3 SSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Myotis yumanensis Yuma myotis	None/None G5/S4	Occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Distribution is closely tied to bodies of water. Roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Neotoma lepida intermedia San Diego desert woodrat	None/None G5T3T4/S3S4 SSC	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.	None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.
Nyctinomops macrotis big free-tailed bat	None/None G5/S3 SSC	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting	None	Project site is predominantly developed/

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
		sites. Feeds principally on large moths.		disturbed. No suitable habitat is present on-site.
Sensitive Natural Communities				
Southern Coastal Salt Marsh	None/None G2/S2.1		None	Project site is predominantly developed/ disturbed. No suitable habitat is present on-site.

Regional Vicinity refers to within a 9-quad search radius of site.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected
WL = CDFW Watch List

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B= Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1 Critically Imperiled Globally or Subnationally (state)
G2 or S2 Imperiled Globally or Subnationally (state)
G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5 Apparently secure, common and abundant
GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

Appendix E

Native Tree Inventory

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
301	Quercus agrifolia	Coast Live Oak	35	35	22	B	previously pruned, retains natural leaf litter	canopy competition with silk floss trees
302	Quercus agrifolia	Coast Live Oak	35	30	13, 13	C	previously pruned, retains natural leaf litter	codominant stems leaning southwest, hollow at base but has compartmentalized and does not appear decayed, cracks on north and south side near hollow base, some termite frass at base
303	Quercus agrifolia	Coast Live Oak	35	15	10	B	previously pruned, retains natural leaf litter	sparse lower canopy, competition with adjacent oaks
304	Quercus agrifolia	Coast Live Oak	35	30	16	B	previously pruned, retains natural leaf litter	ornamental tree competing in understory
305	Quercus agrifolia	Coast Live Oak	15	15	8	B	Rincon point, not tagged, retains natural leaf litter	
306	Quercus agrifolia	Coast Live Oak	25	25	7, 8	A	retains natural leaf litter	competition from adjacent pittosporum
307	Quercus agrifolia	Coast Live Oak	50	60	35	B	in residential yard, not tagged, Rincon point	
308	Quercus agrifolia	Coast Live Oak	35	60	27	B	park bench under canopy	compacted bare soil, trail on west side
309	Quercus agrifolia	Coast Live Oak	40	50	25	C		compacted bare soil, large dead branches, moderate epicormic growth, sparse canopy
310	Quercus agrifolia	Coast Live Oak	40	50	24	B		compacted bare soil, light epicormic growth
311	Quercus agrifolia	Coast Live Oak	40	45	18	C		compacted bare soil, sparse branches, moderate epicormic growth on branches
312	Quercus agrifolia	Coast Live Oak	50	60	30	B	park bench under canopy	somewhat sparse interior, compacted bare soil

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
313	Quercus agrifolia	Coast Live Oak	45	50	22	C	park bench under canopy	somewhat patchy canopy, sparse Interior
314	Quercus agrifolia	Coast Live Oak	45	50	26	B	growing in grass	
315	Quercus agrifolia	Coast Live Oak	35	40	28	C	park bench under canopy, growing in grass	15% dead branches, compartmentalized wounds on trunk, light epicormic growth
316	Quercus agrifolia	Coast Live Oak	50	60	35, 21	B	park benches and BBQ under canopy	bare compacted soil, sapsucker holes, frass on trunk from termites or Sycamore borer
317	Quercus agrifolia	Coast Live Oak	60	60	30	B	benches under canopy	somewhat sparse Interior, overextended limbs, sapsucker holes, termite or Sycamore borer frass
318	Quercus agrifolia	Coast Live Oak	60	60	29	B		bare compacted soil
319	Quercus agrifolia	Coast Live Oak	55	40	22, 10	B	retains natural leaf litter	ornamental plants at base
320	Quercus agrifolia	Coast Live Oak	25	30	8.5, 4, 3	D	retains natural leaf litter	very sparse canopy, dead branches, overextended limb
321	Quercus agrifolia	Coast Live Oak	60	50	25	B	retains natural leaf litter, previously pruned	ornamental plants at base
322	Quercus agrifolia	Coast Live Oak	60	40	14	C	retains natural leaf litter, previously pruned	ornamental plants at base, sparse lower canopy
323	Quercus agrifolia	Coast Live Oak	30	15	11	D	retains natural leaf litter	very sparse canopy, leaning southeast
324	Quercus agrifolia	Coast Live Oak	60	50	28	B	retains natural leaf litter, previously pruned	somewhat sparse Interior
325	Quercus agrifolia	Coast Live Oak	60	50	22	B	retains natural leaf litter, previously pruned	somewhat sparse Interior

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
326	Quercus agrifolia	Coast Live Oak	60	50	21, 25	B	retains natural leaf litter, previously pruned	somewhat sparse Interior, light epicormic growth, codominant stems
327	Quercus agrifolia	Coast Live Oak	40	45	23	B	retains natural leaf litter, previously pruned	
328	Quercus agrifolia	Coast Live Oak	45	35	15	C	retains natural leaf litter, previously pruned	sparse lower canopy, one main stem removed
329	Quercus agrifolia	Coast Live Oak	45	40	19	C	retains natural leaf litter, previously pruned	sparse lower canopy, light epicormic growth
330	Quercus agrifolia	Coast Live Oak	40	40	18, 11	B	retains natural leaf litter, previously pruned	moderately leaning south
331	Quercus agrifolia	Coast Live Oak	50	30	17	C	retains natural leaf litter, previously heavily pruned	sparse lower canopy
332	Quercus agrifolia	Coast Live Oak	55	30	17	C	retains natural leaf litter, previously heavily pruned	sparse lower canopy
333	Quercus agrifolia	Coast Live Oak	45	35	15	B	benches and BBQ under canopy	bare compacted soil
334	Quercus agrifolia	Coast Live Oak	45	50	28	B	playground on east side, bench under canopy	bare compacted sandy soil, 15% deadwood
335	Quercus agrifolia	Coast Live Oak	45	50	16, 15, 10	B	inside fenced maintenance yard	competition with ornamental Cook Island pine
336	Quercus agrifolia	Coast Live Oak	45	45	24, 13	B	Rincon point, growing in grass, pavement on west side	minor Sycamore borer, 15% deadwood
337	Quercus agrifolia	Coast Live Oak	40	35	28	B	retains some natural leaf litter, growing in grass, pavement on west side, Rincon point	heavy lean West but trunk is curved with reactionary growth, one trunk removed
338	Quercus agrifolia	Coast Live Oak	40	40	22	B	retains natural leaf litter,pavement on west side, Rincon point	moderate lean West with good reactionary growth

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
339	Quercus agrifolia	Coast Live Oak	70	80	43	C	retains natural leaf litter, previously pruned	sparse Interior and lower canopy, light epicormic growth, 15% deadwood and dead branches,some dieback
340	Quercus agrifolia	Coast Live Oak	25	30	11	B	retains natural leaf litter, Rincon point	slight lean east, competition with redwoods
341	Quercus agrifolia	Coast Live Oak	25	25	16	C	mulched, Rincon point	leaning west, uneven canopy, sparse upper canopy, large branches removes
342	Quercus agrifolia	Coast Live Oak	35	25	9, 3	B	growing in grass, Rincon point	leaning south, competition with redwood, minor dieback
343	Quercus agrifolia	Coast Live Oak	35	35	12	B	growing in grass, Rincon point	slight lean West, some dead branches
344	Quercus agrifolia	Coast Live Oak	40	35	13, 12	B	growing in grass, Rincon point	competition with redwood, leaning east
345	Quercus agrifolia	Coast Live Oak	45	40	24, 13	B	growing in grass	codominant trunks, compartmentalized wounds, leaning east
346	Quercus agrifolia	Coast Live Oak	65	50	29	B	retains natural leaf litter, Rincon point	slightly sparse lower canopy
347	Quercus agrifolia	Coast Live Oak	65	45	18	B	retains natural leaf litter, Rincon point	narrow tall form
348	Quercus agrifolia	Coast Live Oak	60	40	25, 16	B	somewhat sparse lower canopy	leaning northeast
349	Quercus agrifolia	Coast Live Oak	65	55	25	B	retains natural leaf litter, Rincon point	somewhat sparse lower canopy, narrow form
350	Quercus agrifolia	Coast Live Oak	40	35	17	B	growing in grass, Rincon point	somewhat sparse on west side
351	Quercus agrifolia	Coast Live Oak	60	50	35	B	growing in grass, Rincon point	moderate lean east but good reactionary growth, slight raised soil opposite lean but not loose or upheaved

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
352	Quercus agrifolia	Coast Live Oak	45	45	20	B	growing in grass, Rincon point	leaning west
353	Quercus agrifolia	Coast Live Oak	45	45	13	C	growing in grass, Rincon point	leaning west, sparse canopy due to competition growth adjacent oak
354	Quercus agrifolia	Coast Live Oak	50	25	8	C	retains some natural leaf litter, Rincon point	sparse canopy, Ivy on trunk, dead branches
355	Quercus agrifolia	Coast Live Oak	45	25	8	C	growing in grass, Rincon point	sparse lower canopy, narrow form, numerous woodpecker holes on trunk
356	Quercus agrifolia	Coast Live Oak	50	45	14	B	retains some natural leaf litter, Rincon point	ivy on trunk
357	Quercus agrifolia	Coast Live Oak	40	35	17	C	retains natural leaf litter, Rincon point	leaning west, sparse canopy, 20% deadwood
358	Quercus agrifolia	Coast Live Oak	30	30	8, 7, 7, 5, 3	B	retains natural leaf litter, Rincon point	20% deadwood
359	Quercus agrifolia	Coast Live Oak	50	40	22	B	growing in grass, Rincon point	leaning east but good reactionary growth, large trunk previously removed
360	Quercus agrifolia	Coast Live Oak	45	30	9, 9, 6, 2	B	retains some natural leaf litter, Rincon point	codominant trunks, competition with redwood
361	Quercus agrifolia	Coast Live Oak	35	36	11	B	retains some natural leaf litter, Rincon point	competition with redwood
362	Quercus agrifolia	Coast Live Oak	60	55	26	B	retains some natural leaf litter, previously pruned, Rincon point	canopy concentrated on southeast side
363	Pinus radiata	Monterey Pine	70	50	35	C	retains some natural leaf litter, previously pruned, Rincon point	sparse lower canopy
364	Quercus agrifolia	Coast Live Oak	45	30	15	D	retains some natural leaf litter, Rincon point	very sparse canopy, previously heavily pruned

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
365	Quercus agrifolia	Coast Live Oak	65	50	22	B	growing in grass, Rincon point	sparse lower canopy, previously pruned
366	Quercus agrifolia	Coast Live Oak	60	60	21, 19	B	growing in grass, Rincon point	somewhat sparse lower canopy, codominant trunks, previously heavily pruned
367	Quercus agrifolia	Coast Live Oak	35	30	20	C	Rincon point	ivy on trunk, slightly unbalanced canopy, sparse on west side,, competition from pine
368	Pinus radiata	Monterey Pine	70	50	36	D	retains natural leaf litter, previously pruned, Rincon point	top 10' dead, uneven canopy, very sparse on south, east, north sides
369	Quercus agrifolia	Coast Live Oak	40	40	12, 12, 7	B	growing in grass, Rincon point	
370	Quercus agrifolia	Coast Live Oak	45	35	15	C	Rincon point	leaning west, ivy on trunk, ornamental vines growing through canopy, sparse lower canopy
371	Quercus agrifolia	Coast Live Oak	35	30	9	C	Rincon point	sparse lower canopy, ivy on trunk and ground cover, leading northeast
372	Quercus agrifolia	Coast Live Oak	35	30	2, 9	C	not tagged, in residential yard	sparse lower canopy, ivy ground cover
373	Quercus agrifolia	Coast Live Oak	50	60	29	B	growing in grass, previously pruned, Rincon point	ivy groundcover
374	Quercus agrifolia	Coast Live Oak	15	15	9	C	retains natural leaf litter, Rincon point	30% dead branches interior
375	Quercus agrifolia	Coast Live Oak	65	80	48, 30, 20	B	retains natural leaf litter	overextended limbs, 15% deadwood
376	Quercus agrifolia	Coast Live Oak	25	30	25	C	retains some natural leaf litter	large branches previously pruned, topped
377	Quercus agrifolia	Coast Live Oak	50	40	23, 17, 13	B	retains some natural leaf litter, previously pruned	codominant trunks, competition with silk floss tree

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
378	Quercus agrifolia	Coast Live Oak	55	35	19	B	growing in grass	
379	Quercus agrifolia	Coast Live Oak	35	35	15	B	retains some natural leaf litter, Rincon point	leaning southwest
380	Quercus agrifolia	Coast Live Oak	35	50	25, 15	C	retains some natural leaf litter	one trunk is prostrate, sparse canopy, moderate epicormic growth on branches, deadwood
381	Quercus agrifolia	Coast Live Oak	69	60	39	B		bare compacted soil, leaning east, overextended limbs on east side
382	Quercus agrifolia	Coast Live Oak	40	35	12	B		bare compacted soil, 5% flagging, dead branches
383	Platanus racemosa	Western Sycamore	80	50	35	B		bare compacted soil
384	Platanus racemosa	Western Sycamore	70	40	55	B	retains natural leaf litter, Rincon point	adjacent to compacted grass field, overextended limbs on north side
385	Quercus agrifolia	Coast Live Oak	50	60	29	C	retains natural leaf litter, Rincon point	branches crossing adjacent oak, sparse canopy, overextended limbs on north side side, compacted soil on north side
386	Quercus agrifolia	Coast Live Oak	50	50	22	C	retains natural leaf litter, Rincon point	sparse canopy, crossing branches with adjacent oak, leaning east, overextended limbs on north side
387	Quercus agrifolia	Coast Live Oak	30	30	11	B	retains natural leaf litter, Rincon point	leaning south but good reactionary growth
388	Quercus agrifolia	Coast Live Oak	40	35	19	B	retains some natural leaf litter, Rincon point	leaning heavily west but good reactionary growth, trail on west side
389	Quercus agrifolia	Coast Live Oak	35	30	15	B	retains some natural leaf litter, adjacent to sandy playground area, previously pruned, Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
390	Quercus agrifolia	Coast Live Oak	35	30	10	B	retains natural leaf litter, BBQ under canopy, Rincon point	
391	Platanus racemosa	Western Sycamore	45	20	8	B	retains natural leaf litter, Rincon point	somewhat sparse lower canopy
392	Platanus racemosa	Western Sycamore	45	20	9, 5, 3	B	retains natural leaf litter, Rincon point	somewhat sparse lower canopy
393	Quercus agrifolia	Coast Live Oak	30	55	25	B	retains natural leaf litter, paved road on west side, tagged, Rincon point	
394	Platanus racemosa	Western Sycamore	75	35	25	C	growing in grass	10% dieback, sparse lower canopy
395	Platanus racemosa	Western Sycamore	50	30	11	B	growing in grass	
396	Quercus agrifolia	Coast Live Oak	55	50	25	B	growing in tree well surrounded by grass, retains some natural leaf litter	slight lean northeast
397	Quercus agrifolia	Coast Live Oak	35	40	15	C	growing in tree well surrounded by grass, previously pruned	heavy lean southwest, rubbing Sycamore
398	Platanus racemosa	Western Sycamore	70	40	24	C	growing in grass	sparse lower lower canopy, 10% dieback
399	Platanus racemosa	Western Sycamore	40	35	21	D	growing in grass adjacent to sandy playground area	top is dead likely due to previous trunk failure, woodpecker cavities
400	Platanus racemosa	Western Sycamore	25	15	9	D		compacted bare soil adjacent to sandy playground area, very sparse canopy
401	Quercus agrifolia	Coast Live Oak	25	25	9, 7	C	retains some natural leaf litter, Rincon point	large branch topped, 15% dieback

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
402	Platanus racemosa	Western Sycamore	40	40	15	C		compacted bare soil adjacent to sandy playground area, leaning moderately west, sparse lower canopy, minor dieback
403	Platanus racemosa	Western Sycamore	70	50	24	C	growing in grass	15% dieback, sparse lower canopy
404	Quercus agrifolia	Coast Live Oak	40	45	16	B	retains some natural leaf litter, Rincon point	
405	Platanus racemosa	Western Sycamore	65	50	25	B	bench under canopy, growing in grass	bare compacted soil, slight lean south, 5% dead branches
406	Quercus agrifolia	Coast Live Oak	45	50	19	B	retains some natural leaf litter, Rincon point	10% epicormic growth
407	Quercus garryana	Oregon oak	35	35	19	C	retains some natural leaf litter, Rincon point	leaning west, sparse canopy, 15% dieback
408	Quercus agrifolia	Coast Live Oak	35	35	9, 8	C	retains natural leaf litter, Rincon point	sparse canopy, competition with pine
409	Quercus agrifolia	Coast Live Oak	25	25	11	B	retains natural leaf litter, Rincon point	
410	Quercus agrifolia	Coast Live Oak	25	25	11, 8	B	retains natural leaf litter, pavement on west side	slightly sparse lower canopy
411	Quercus agrifolia	Coast Live Oak	50	40	21	B	retains natural leaf litter, Rincon point	moderate lean West with good reactionary growth
412	Quercus agrifolia	Coast Live Oak	45	40	14	B	retains natural leaf litter, Rincon point	moderate lean West with good reactionary growth
413	Quercus agrifolia	Coast Live Oak	30	35	13	B	retains natural leaf litter, Rincon point	slight lean West with good reactionary growth
414	Quercus agrifolia	Coast Live Oak	20	20	8	D	retains natural leaf litter, Rincon point	heavy lean West, very sparse canopy

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
415	Quercus agrifolia	Coast Live Oak	40	40	13	B	retains some natural leaf litter, Rincon point	5% dieback
416	Quercus agrifolia	Coast Live Oak	55	60	26	C	pavement on north and west sides, retains some natural leaf litter, Rincon point	sparse lower canopy, 10% epicormic growth, 5% dieback
417	Platanus racemosa	Western Sycamore	75	50	31	B	growing in grass, Rincon point	slightly uneven canopy due to redwood competition
418	Quercus agrifolia	Coast Live Oak	40	40	14	B	retains some natural leaf litter, Rincon point	bare compacted soil to east
419	Quercus agrifolia	Coast Live Oak	35	25	8	B	retains natural leaf litter, Rincon point	
420	Quercus agrifolia	Coast Live Oak	40	35	10	B	retains natural leaf litter, Rincon point	
421	Quercus agrifolia	Coast Live Oak	30	30	9, 7	B	underneath eucalyptus	
		0.5" 0.5 " Coast Live Oak					Rincon point	
		0.5" 0.5" 0.5" Coast Live Oak					Rincon point	
		0.5" 0.5" Coast Live Oak					Rincon point	
		0.5" Coast Live Oak					Rincon point	
		0.5" Coast Live Oak					Rincon point	
		0.5" Coast Live Oak					Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
		0.5" Coast Live Oak					Rincon point	
		0.5" Coast Live Oak					Rincon point	
		0.5" Coast Live Oak					Rincon point	
		1" 1" 1" Coast Live Oak					Rincon point	
		1" 1" Coast Live Oak					Rincon point	
		1" 1" Coast Live Oak					Rincon point	
		1" Coast Live Oak					Rincon point	
		1" Coast Live Oak					Rincon point	
		1" Coast Live Oak					Rincon point	
		1" Coast Live Oak					Rincon point	
		1" Coast Live Oak					Rincon point	
		2" 0.5" Coast Live Oak					Rincon point	
		2" 1" 1" Coast Live Oak					Rincon point	
		2" 1"" Coast Live Oak						
		2" 2" 1" Coast Live Oak					Rincon point	
		2" 2" 1" Coast Live Oak					Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
		2" 2" Coast Live Oak					Rincon point	
		2" 2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		2" Coast Live Oak					Rincon point	
		3" 1" Coast Live Oak					Rincon point	
		3" 2" 1" Coast Live Oak					Rincon point	
		3" 2" Coast Live Oak						
		3" 2" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		3" Coast Live Oak					Rincon point	
		4" 1" Coast Live Oak					Rincon point	
		4" 2" Coast Live Oak					Rincon point	
		4" 2" Coast Live Oak					Rincon point	
		4" Coast Live Oak						
		4" Coast Live Oak					Rincon point	
		4" Coast Live Oak					Rincon point	
		4" Coast Live Oak					Rincon point	
		4" Coast Live Oak					Rincon point	
		5" 2" Coast Live Oak						
		5" 3" 2" Coast Live Oak						
		5" 4" 3" Coast Live Oak					Rincon point	
		5" Coast Live Oak						
		5" Coast Live Oak					Rincon point	
		5" Coast Live Oak					Rincon point	
		5" Coast Live Oak					Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
		5" Coast Live Oak					Rincon point	
		6" 5" Coast Live Oak					Rincon point	
		6" Coast Live Oak					Rincon Point	
		6" Coast Live Oak					Rincon point	
		6" Coast Live Oak					Rincon point	
		6" Coast Live Oak					Rincon point	
		6" Coast Live Oak					Rincon point	
		7" 1" 1" Coast Live Oak					Rincon point	
		7" 1" Coast Live Oak					Rincon point	
		7" 7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Coast Live Oak					Rincon point	
		7" Western Sycamore					Rincon point	
		7.5" Coast Live Oak					Rincon point	

Tree ID	Scientific Name	Common Name[1]	Crown Height (feet)	Crown Spread (feet)	DBH (inches) [2]	Health Grade[3]	Notes	Physical Condition/Issues
		Coast Live Oak resprouts from cut trunk under 2"					Rincon point	
		Coast Live Oak resprouts from trunk under 2"					Rincon point	
		multi-trunk under 0.5" Coast Live Oak					Rincon point	

[1]This column includes the DBH and species of undersized (less than 8" DBH) native trees, for which only DBH, species, and location data were collected for reference.

[2]Diameter at breast height or 54" above ground

[3]Health Grade: A (Excellent), B (Good), C (Fair), D (Poor), F (Dead)

Appendix F

Monarch Butterfly ESHA Memo

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

1650 Ramada Drive, Suite 180
Paso Robles, CA 93446
(805) 237-9626 • Fax (805) 237-9181 • www.althouseandmeade.com

July 14, 2023

Yuling Huo, Biologist/Project Manager
Rincon Consultants, Inc.
319 E Carrillo St, Suite 105
Santa Barbara, CA 93101

Via email: yhuo@rinconconsultants.com

Re: Stow Grove Park Monarch Butterfly ESHA – Impact Analysis and Avoidance and Minimization Measures

Dear Ms. Huo:

This letter describes potential impacts and avoidance measures for monarch butterfly habitat in Stow Grove Park. This letter also includes a recommended plant list for the proposed pollinator garden at Stow Grove Park. Information will be incorporated into the Biological Resources Assessment (BRA) required for the park improvement project described below.

The Monarch and Raptor Environmentally Sensitive Habitat Area (ESHA) Assessment for the Stow Grove Park Project dated September 2022 describes the monarch overwintering habitat types and features at Stow Grove Park (Huo and Julien 2022). On September 19, 2022, Dr. Daniel E. Meade reviewed and provided comments on that letter for Rincon. Two areas of Monarch Butterfly ESHA are present within the Stow Grove Park Project area. The first is located within a "Landscaped Eucalyptus Grove" vegetation community and comprised of a windrow/linear stand of river red gum eucalyptus (*Eucalyptus camaldulensis*) trees between the western perimeter of the park and the paved La Patera Lane. The second ESHA contains "Landscaped Redwood Forest and Woodland" and "Landscaped Coast Live Oak Woodland and Forest", a mosaic of coast redwood woodlands in the central portion of the park surrounded by coast live oak woodlands. ESHA locations and habitats are shown on the Baseline Environmental Resources Map included in Attachment A of the Monarch and Raptor ESHA Assessment (Huo and Julien 2022).

The Proposed Project

The project description for the proposed Stow Grove Park Project includes 25 components and amenities, summarized as:

> General Park Improvements – regrade parking lot, stormwater drainage, repair or existing restroom, construction of new restroom, reconfigure maintenance facilities, new trash

enclosure, installation of horseshoe area, upgrade park entrances, replace/repair existing picnic areas, and restore redwood grove and trails.

Play/Active Amenities – expand playground with inclusive structures, refurbish multi-use field, improve sand volleyball court, install gravel based central path, create fitness loop, and install nature/play area.

Social/Educational Amenities – rehabilitate caretaker cottage, allocate family activities area, install interpretive signage, and install permeable paving in entry promenade.

Passive/Nature Based Amenities – regrade and reseed field, trench irrigation system, install gopher deterrents, install seating areas and interpretive signs, install native plant garden, and install concrete and decomposed granite trail areas.

The proposed project incorporates elements that will improve the quality of the monarch butterfly overwintering habitat. These habitat improvement actions include the removal of non-native plants (not including eucalyptus trees that support monarchs in ESHA), installation of mulch to reduce weeds and soil moisture loss, and the planting of native species in the understory of the redwood groves. Misters/fogging devices will be installed to provide redwoods with moisture. A new native plant garden along the southeastern edge of the park and a new native tree grove with understory plantings along the northeastern edge will create nectar sources for overwintering monarchs, especially if the native plantings focus on winter-flowering species provided in Table 3.

This project is an allowed use (capital improvement project) within ESHA and ESHA buffers, per the City of Goleta's General Plan Conservation Element policy CE 1.6.

History of Monarchs at the Site

The Stow Grove Park site was first documented as monarch butterfly habitat during the 1990-1991 overwintering season. Published monarch observations are included in Table 1. Bill Calvert observed a population peak of 100 monarchs in February 1991. Monarchs were observed roosting, basking and patrolling in the groves of redwood trees. The site was also described as a valuable way station and transitory habitat for monarchs sheltering during the spring dispersal (Calvert 1991). Between 1991 and 1997, 200 monarchs were noted roosting at the site (but the specific date was not noted in Meade 1999). During the 1998-1999 season, Daniel E. Meade observed a peak of 100 monarchs in February and again noted that the site is important for transiting monarchs during spring dispersal. Since 2015, only a handful of monarchs have been observed in the fall. Historically, monarchs utilized this site more frequently and in the greatest numbers in January and February. Recent surveys during the Western Monarch Thanksgiving count are likely not an adequate representation of how monarchs are utilizing the site through the overwintering season.

Monarch butterflies have been observed roosting in the redwood trees surrounding a large open group picnic area in the northern end of the park south of the multi-use field. Table 2 includes three locations of roosting monarch butterflies in Stow Grove Park from my observations (per CE 4.6b). These locations are shown in Figure 1 and the location data is also included in the attached KMZ file.

The two areas of ESHA outline the monarch butterfly habitat (in Attachment A of the Monarch Assessment letter by Huo and Julien 2022). These habitats are important to protect because they provide shelter and wind protection for overwintering monarch butterflies. The monarchs are

known to roost in the center of the northern portion of the park and the surrounding trees are adding valuable wind protection to the central roosting trees.

TABLE 1. MONARCH COUNT DATA FOR STOW GROVE PARK SITE

Date	Monarch Count	Monarch behavior	Source
February 4, 1990	10	Flying	Calvert 1991
October 29, 1990	10	Flying	Calvert 1991
January 11, 1991	100	30 clustering, 70 flying	Calvert 1991
In fall between 1992 and 1997	200	Roosting	Meade 1999
October 1998	2		Meade 1999
November 1998	15		Meade 1999
January 1999	40		Meade 1999
February 1999	100	Roosting, basking, flying	Meade 1999
March 1999	0		Meade 1999
November 2015	3		Xerces 2023
October 2016	0		Meade et al. 2017
November 2016	0		Meade et al. 2017
December 2016	3		Meade et al. 2017
January 2017	0		Meade et al. 2017
February 2017	0		Meade et al. 2017
November 2017	3		Meade et al. 2017
November 2018	4		Xerces 2023
November 2019	0		Xerces 2023
November 2020	0		Xerces 2023
November 2021	0		Xerces 2023
November 2022	0		Xerces 2023

TABLE 2. RECENT MONARCH ROOSTS IN STOW GROVE PARK

Roosts Observed by Author	GPS Location in Decimal Degrees (WGS84 Datum)
1	34.449980, -119.846022
2	34.449884, -119.845834
3	34.449463, -119.846033

Impacts to Monarch ESHA

The Stow Grove Park Project presents two potential impacts to the overwintering monarch butterflies and the monarch butterfly ESHA.

Impact 1. Removal or damage of trees that create monarch butterfly overwintering habitat/ESHA.

> The Project Description for the Proposed Project describes the creation of a secondary entrance to La Patera Lane that requires the removal of one tree (species not provided in the project description). Removal of the tree to create a new entrance would likely have a minimal impact on the long-term suitability of the monarch habitat. However, its removal could alter wind protection to roosting monarchs. Construction, grading and trenching of project improvement elements may adversely impact tree root zones and affect their longevity to provide shelter for roosting monarchs.

Impact 2. Disturbance to overwintering monarch butterflies from construction and infrastructure improvement activities.

> The Proposed Project describes 25 components and amenities that will all require construction and installation. The construction activities with heavy machinery and work crews have the potential to disturb and disrupt the overwintering behavior of monarch butterflies in the Stow Grove ESHA.

Avoidance and Minimization Measures

The following avoidance and minimization measures are consistent with the General Plan Conservation Element policy CE 1.7, CE 1.9h and CE 4 (protection of monarch butterfly habitat areas) and will reduce impacts to monarch butterflies and monarch butterfly ESHA. Monarch overwintering season is (October 1 – March 31).

Measure 1. To the maximum extent feasible, construction and infrastructure improvement activities within monarch butterfly ESHA shall be scheduled to occur between April 1 and September 30 to avoid overwintering monarch butterflies.

Measure 2. If construction and infrastructure improvement activities within the monarch butterfly ESHA is necessary during the overwintering season, a monarch specialist or qualified biologist shall conduct a survey for roosting monarchs prior to the start of work and confirm the absence of roosting monarchs before the work can commence. Roosting monarch surveys must follow the Xerces Society monarch count protocol. Surveys shall be conducted in the early morning while temperatures are low enough that monarch butterflies remain clustered from the evening before (usually below 13 °C or 55 °F).

Measure 3. During the monarch overwintering season, any construction, infrastructure improvement activities, or tree/vegetation removal within 200 ft of roosting monarchs within the monarch butterfly ESHA shall be prohibited (consistent with CE 4.5 and CE 4.6d).

Measure 4. During the monarch overwintering season, a monarch specialist or qualified biologist shall be present to document monarch butterfly protection. The monarch monitor shall document that roosting monarchs are not disturbed by work activities. The monarch monitor shall have authority to stop work if monarchs show signs of unnatural disturbance.

Measure 5. During the monarch overwintering season, roosting monarch surveys shall be conducted weekly during construction and infrastructure improvement activities to confirm continued absence or to identify, map, and describe roost locations if presence of roosting monarchs is confirmed. Mapped roosting locations may be adjusted as needed under the guidance of a monarch specialist or qualified biologist.

Measure 6. Removal of trees of any diameter possessing living foliage is not advised within the monarch butterfly ESHA unless a tree is identified as an imminent hazard to property or life or is dead or dying and may fall into other trees causing damage. Trees being considered for removal under these guidelines should be evaluated and agreed upon by both a certified arborist on the imminent threat and a monarch specialist or qualified biologist for critical habitat protection before project work commences (consistent with CE 4.4).

Measure 7. Trees removed from the monarch butterfly ESHA and trees heavily impacted by construction, grading, and trenching of the project improvement elements within the monarch butterfly ESHA shall be replaced at a 2:1 ratio within the ESHA and as close to the removed tree as is reasonably feasible. (Removal of vegetation within ESHA shall be prohibited per CE 4.4c, however impacts from allowable use that cannot be avoided shall be fully mitigated per CE 1.7.)

Recommended Plant List for the Pollinator Garden

Nectar and pollinator plants are recommended for planting in the pollinator garden at Stow Grove Park, shown in Table 3. These species are selected based on their nectar availability for monarch butterflies and other pollinators (The Xerces Society for Invertebrate Conservation 2019, NABA 2023). The table includes species which are native to the region based on data from CalScape (CNPS 2023) and have flowering seasons between fall, winter and spring, when overwintering monarchs are present. Since the park has landscaped areas, common landscaping plants are also included in this plant list.

For Stow Grove Park pollinator garden areas, we recommend planting a diverse selection of the plants listed below to ensure that a source of nectar is available to the monarchs through the overwintering season (October to March).

The only plant which is critical to avoid planting in the park is milkweed (*Asclepias* spp.). The presence of milkweed is discouraged in the immediate vicinity of the monarch overwintering sites because it can cause the monarchs to break their reproductive diapause during overwintering season and reduce their life span.

TABLE 3. RECOMMENDED NECTAR PLANT LIST FOR STOW GROVE PARK

Common Name	Scientific Name	Plant Type	Flowering Season
California Native Nectar and Pollinator Plants			
Yarrow	*Achillea millefolium*	Perennial herb	Spring, Summer
Deerweed	*Acmispon glaber*	Perennial herb	Winter, Spring, Summer
Coyote brush	*Baccharis* spp.	Shrub	All year
Ceanothus	*Ceanothus* spp.	Shrub	Winter, Spring
Coast sunflower	*Encelia californica*, *Encelia farinosa*	Shrub	Winter, Spring
Seaside fleabane	*Erigeron glaucus*	Perennial herb	Winter, Spring, Summer
California fuchsias	*Epilobium canum*	Perennial herb	Summer, Fall
California buckwheat	*Eriogonum fasciculatum*	Shrub	Spring, Summer, Fall
Sea cliff buckwheat	*Eriogonum parvifolium*	Shrub	All year
Flannel bush	*Fremontodendron californicum*	Shrub	Spring, Summer
Great Valley gumweed	*Grindelia camporum*	Perennial herb	Spring, Summer, Fall
Silver lupine	*Lupinus albifrons*	Shrub	Winter, Spring, Summer
Hollyleaf cherry	*Prunus ilicifolia*	Shrub, Tree	Winter, Spring
Black sage	*Salvia mellifera*	Shrub	Winter, Spring, Summer
Hummingbird Sage	*Salvia spathacea*	Perennial herb	Winter, Spring, Summer
Elderberry	*Sambucus nigra*	Shrub, Tree	Spring, Summer
Threenerve goldenrod	*Solidago velutina*	Perennial herb	Summer, Fall
Landscape/Cultivated Nectar and Pollinator Plants			
Asters	*Aster spp.*	Shrub	Summer, Fall
Bougainvillea	*Bougainvillea* spp.	Vine	All year
Butterfly bush	*Buddleia davidii*	Shrub	Spring, Summer, Fall
Red valerian	*Centranthus ruber*	Shrub	Summer, Fall

Common Name	Scientific Name	Plant Type	Flowering Season
Joe Pye weed	*Eupatorium purpureum*	Perennial herb	Summer, Fall
Heliotrope	*Heliotropium arborescens*	Shrub	All year
Lantana	*Lantana* spp.	Shrub	All year
Blazing star	*Liatris spicata*	Perennial herb	Summer, Fall
Bee balm, bergamot	*Monarda* spp.	Perennial herb	Summer, Fall, Winter
Goldenrod	*Solidago* spp.	Perennial herb	Summer, Fall
Lilac bush	*Syringa vulgaris*	Shrub	Spring
Red sunflower	*Tithonia rotundifolia*	Shrub	Summer, Fall
Plants to AVOID Planting			
Milkweed (ALL Species)	*Asclepias* spp.	Perennial herb	Summer, Fall

Conclusion

The Stow Grove Park site has been historically valuable habitat for transitory monarch butterflies during the spring dispersal and may continue to provide shelter for roosting monarchs despite recent low November population counts. With implementation of the seven avoidance and minimization measures, the two potential impacts of the proposed project will have a less than significant impact on the monarch butterflies and monarch butterfly ESHA. In addition, the proposed project incorporates elements that will improve the quality of the monarch butterfly overwintering habitat.

Thank you for the opportunity to review this project.

Sincerely,

Charis van der Heide

Senior Biologist/Monarch Butterfly Specialist

References

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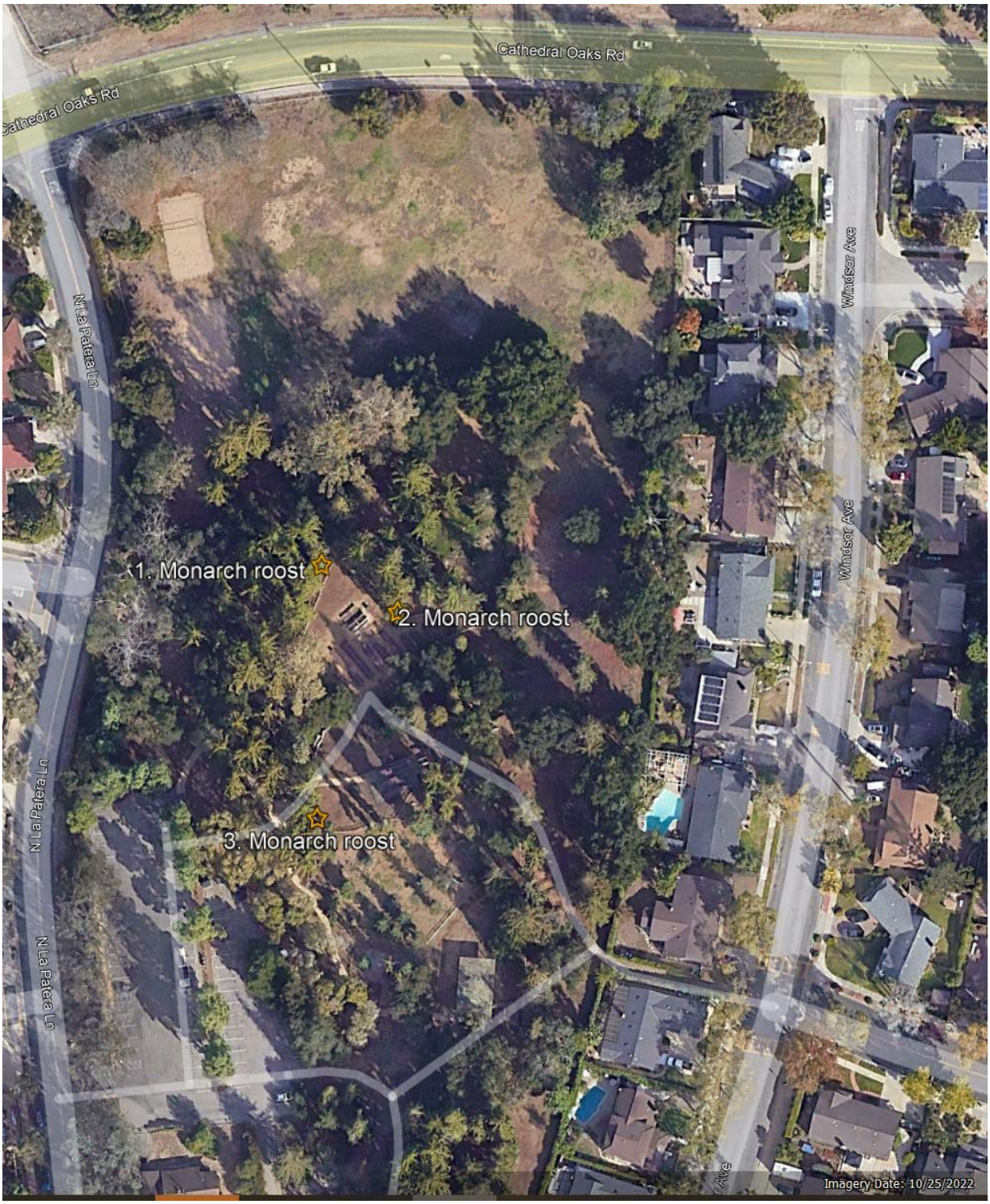
The Xerces Society for Invertebrate Conservation. 2019. Monarch Nectar Plants: California. https://xerces.org/publications/plant-lists/monarch-nectar-plants-california

The Xerces Society for Invertebrate Conservation. 2022. Monarch Count Survey Instructions: Protocol for the Xerces Society's Western Monarch Count. Updated October 21, 2022. https://www.westernmonarchcount.org/wp-content/uploads/2022/10/WMC_MonarchCount_Instructions-Protocol_updated2022.pdf

The Xerces Society for Invertebrate Conservation. 2023. The Western Monarch Thanksgiving & New Year's Count Data. https://www.westernmonarchcount.org/

Figure 1 – Recent Monarch Butterfly Roost Locations

Screenshot of October 25, 2022 Google Earth image with three monarch roost locations indicated by orange stars.



Appendix C

Energy Fuel Consumption Calculations

Stow Grove Park CEQA

Last Updated: 7/21/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588		HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Rubber Tired Dozers	0	8	367	0.4	Demolition Phase	0
Tractors/Loaders/Backhoes	0	8	84	0.37	Demolition Phase	0
Scrapers	0	8	367	0.48	Demolition Phase	0
Graders	1	8	148	0.41	Site Preparation Phase	154
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation Phase	88
Rubber Tired Dozers	0	8	367	0.4	Site Preparation Phase	0
Scrapers	0	8	367	0.48	Site Preparation Phase	0
Graders	1	6	148	0.41	Grading Phase	115
Rubber Tired Dozers	1	6	367	0.4	Grading Phase	279
Tractors/Loaders/Backhoes	1	7	84	0.37	Grading Phase	77
Tractors/Loaders/Backhoes	0	8	84	0.37	Grading Phase	0
Scrapers	0	8	367	0.48	Grading Phase	0
Cranes	1	4	367	0.4	Building Construction Phase	3,104
Forklifts	2	6	82	0.2	Building Construction Phase	1,156
Generator Sets	0	8	84	0.74	Building Construction Phase	0
Tractors/Loaders/Backhoes	2	8	84	0.37	Building Construction Phase	2,922
Welders	0	8	46	0.45	Building Construction Phase	0
Aerial Lifts	0	8	63	0.31	Building Construction Phase	0
Air Compressors	1	6	37	0.48	Architectural Coating Phase	31
Forklifts	0	8	82	0.2	Architectural Coating Phase	0
Tractors/Loaders/Backhoes	1	7	84	0.37	Paving Phase	64
Cement and Mortar Mixers	4	6	10	0.56	Paving Phase	39
Rollers	1	7	36	0.38	Paving Phase	28
Pavers	1	7	81	0.42	Paving Phase	70
					Total Fuel Used	**8,129**
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	0
Site Preparation Phase	6
Grading Phase	6
Building Construction Phase	100
Paving Phase	5
Architectural Coating Phase	5
Total Days	122

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition Phase	24.1	0	14.7	0.00
Site Preparation Phase	24.1	5	17.6	21.91
Grading Phase	24.1	8	17.6	32.86
Building Construction Phase	24.1	0	14.7	0.00

Paving Phase	24.1	18	17.6	63.90
Architectural Coating Phase	24.1	0	14.7	0.00
			Total	**118.67**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		HAULING TRIPS		
Demolition Phase	7.5	0	20.0	0.00
Site Preparation Phase	7.5	11	20.0	28.00
Grading Phase	7.5	11	20.0	28.00
Building Construction Phase	7.5	0	20.0	0.00
Paving Phase	7.5	0	20.0	0.00
Architectural Coating Phase	7.5	0	20.0	0.00
			Total	**56.00**
		VENDOR TRIPS		
Demolition Phase	7.5	0	14.7	0.00
Site Preparation Phase	7.5	0	14.7	0.00
Grading Phase	7.5	0	14.7	0.00
Building Construction Phase	7.5	0	14.7	0.00
Paving Phase	7.5	0	14.7	0.00
Architectural Coating Phase	7.5	0	14.7	0.00
			Total	**-**

Total Gasoline Consumption (gallons)	**119**
Total Diesel Consumption (gallons)	**8,185**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

Stow Grove CEQA

Last Updated: 7/24/2023

Populate one of the following tables (Leave the other blank):

Annual VMT	
Annual VMT:	199,900

OR

Daily Vehicle Trips	
Daily Vehicle Trips:	
Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.440582
Light Duty Truck 1 (LDT1)	0.053677
Light Duty Truck 2 (LDT2)	0.232706
Medium Duty Vehicle (MDV)	0.168779
Light Heavy Duty 1 (LHD1)	0.036995
Light Heavy Duty 2 (LHD2)	0.008896
Medium Heavy Duty (MHD)	0.012945
Heavy Heavy Duty (HHD)	0.006394
Other Bus (OBUS)	0.000961
Urban Bus (UBUS)	0.000650
Motorcycle (MCY)	0.028807
School Bus (SBUS)	0.003905
Motorhome (MH)	0.004702

Fuel Economy (MPG) [1]	
Passenger Vehicles	24.1
Light-Med Duty Trucks	17.6
Heavy Trucks/Other	7.5
Motorcycles	44

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	*44.06%*	*Gasoline*	88,072	0.00	3,654
Light-Medium Duty Trucks	*45.52%*	*Gasoline*	90,987	0.00	5,170
Heavy Trucks/Other	*7.54%*	*Diesel*	15,082	0.00	2,011
Motorcycle	*2.88%*	*Gasoline*	5,759	0.00	131

Total Gasoline Consumption (gallons)	**8,955**
Total Diesel Consumption (gallons)	**2,011**

Sources:

[1] United States Department of Transportation, Bureau of Transportation Statistics. 2021. National Transportation Statistics. Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix D

Construction Noise Modeling

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 07/19/2023
Case Description: Stow Grove v2

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residence	Residential	65.0	65.0	65.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	200.0	0.0
Crane	No	16		80.6	200.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.5	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A