Appendix A

Air Quality Analysis

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Thermal Community Park

Riverside-Salton Sea County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	130.00	Space	1.17	52,000.00	0
City Park	7.63	Acre	7.63	332,362.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project Site = 9.8 acres. 130 parking spaces in parking lots on 1.17 acre. Approximately 1 acre of pavement for basketball courts, tennis court and walkways. Approx 5,300 sf of building space

Construction Phase -

Trips and VMT - 6 daily vendor truck trips added to Site Preparation and Grading phases to account for water truck emissions

Grading - Grading anticipated to be balanced (no import or export of dirt)

Vehicle Trips - VMT Screening Assessment (Ganddini, 2021) found project would generate 8 daily trips. Daily trip rates set to match VMT Assessment.

Construction Off-road Equipment Mitigation - Exposed Area 3x per day and Replace Ground Cover selected to account for SCAQMD Rule 403 Minimum requirements

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	1.96	1.05
tblVehicleTrips	SU_TR	2.19	1.05
tblVehicleTrips	WD_TR	0.78	1.05

2.0 Emissions Summary

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7223	27.7263	22.2872	0.0501	19.8377	1.2681	21.1058	10.1511	1.1667	11.3178	0.0000	4,962.0774	4,962.0774	1.1971	0.1886	5,034.6615
2024	9.7496	9.5488	15.0278	0.0239	0.3012	0.4691	0.5946	0.0799	0.4316	0.4649	0.0000	2,318.4835	2,318.4835	0.7167	6.3800e-003	2,337.1925
Maximum	**9.7496**	**27.7263**	**22.2872**	**0.0501**	**19.8377**	**1.2681**	**21.1058**	**10.1511**	**1.1667**	**11.3178**	**0.0000**	**4,962.0774**	**4,962.0774**	**1.1971**	**0.1886**	**5,034.6615**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7223	27.7263	22.2872	0.0501	7.4636	1.2681	8.7317	3.7916	1.1667	4.9583	0.0000	4,962.0774	4,962.0774	1.1971	0.1886	5,034.6615
2024	9.7496	9.5488	15.0278	0.0239	0.3012	0.4691	0.5946	0.0799	0.4316	0.4649	0.0000	2,318.4835	2,318.4835	0.7167	6.3800e-003	2,337.1925
Maximum	**9.7496**	**27.7263**	**22.2872**	**0.0501**	**7.4636**	**1.2681**	**8.7317**	**3.7916**	**1.1667**	**4.9583**	**0.0000**	**4,962.0774**	**4,962.0774**	**1.1971**	**0.1886**	**5,034.6615**

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.44	0.00	57.02	62.16	0.00	53.97	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0204	0.0212	0.1538	3.2000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		33.4293	33.4293	1.9000e-003	1.6900e-003	33.9819
Total	**0.2376**	**0.0213**	**0.1679**	**3.2000e-004**	**0.0323**	**3.1000e-004**	**0.0326**	**8.6100e-003**	**2.9000e-004**	**8.9000e-003**		**33.4597**	**33.4597**	**1.9800e-003**	**1.6900e-003**	**34.0142**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0204	0.0212	0.1538	3.2000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		33.4293	33.4293	1.9000e-003	1.6900e-003	33.9819
Total	**0.2376**	**0.0213**	**0.1679**	**3.2000e-004**	**0.0323**	**3.1000e-004**	**0.0326**	**8.6100e-003**	**2.9000e-004**	**8.9000e-003**		**33.4597**	**33.4597**	**1.9800e-003**	**1.6900e-003**	**34.0142**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/10/2023	5	20	
3	Building Construction	Building Construction	2/11/2023	12/29/2023	5	230	
4	Paving	Paving	1/2/2024	1/29/2024	5	20	
5	Architectural Coating	Architectural Coating	1/30/2024	2/26/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,950; Non-Residential Outdoor: 2,650; Striped Parking Area: 5,734 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	180.00	70.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2900e-003	0.1696	0.0769	8.4000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9600e-003		89.3754	89.3754	9.5000e-004	0.0132	93.3423
Worker	0.0565	0.0325	0.5146	1.3300e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		136.4155	136.4155	3.5900e-003	3.4300e-003	137.5262
Total	**0.0628**	**0.2021**	**0.5915**	**2.1700e-003**	**0.1807**	**2.0800e-003**	**0.1828**	**0.0486**	**1.9600e-003**	**0.0506**		**225.7909**	**225.7909**	**4.5400e-003**	**0.0167**	**230.8685**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2829	0.0000	7.2829	3.7430	0.0000	3.7430			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**7.2829**	**1.2660**	**8.5489**	**3.7430**	**1.1647**	**4.9077**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2900e-003	0.1696	0.0769	8.4000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9600e-003		89.3754	89.3754	9.5000e-004	0.0132	93.3423
Worker	0.0565	0.0325	0.5146	1.3300e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		136.4155	136.4155	3.5900e-003	3.4300e-003	137.5262
Total	**0.0628**	**0.2021**	**0.5915**	**2.1700e-003**	**0.1807**	**2.0800e-003**	**0.1828**	**0.0486**	**1.9600e-003**	**0.0506**		**225.7909**	**225.7909**	**4.5400e-003**	**0.0167**	**230.8685**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2900e-003	0.1696	0.0769	8.4000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9600e-003		89.3754	89.3754	9.5000e-004	0.0132	93.3423
Worker	0.0471	0.0271	0.4288	1.1100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		113.6796	113.6796	2.9900e-003	2.8600e-003	114.6051
Total	**0.0534**	**0.1967**	**0.5057**	**1.9500e-003**	**0.1556**	**1.9600e-003**	**0.1576**	**0.0420**	**1.8500e-003**	**0.0438**		**203.0549**	**203.0549**	**3.9400e-003**	**0.0161**	**207.9475**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6241	0.0000	2.6241	1.2689	0.0000	1.2689			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.6241**	**0.7749**	**3.3990**	**1.2689**	**0.7129**	**1.9818**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.2900e-003	0.1696	0.0769	8.4000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9600e-003		89.3754	89.3754	9.5000e-004	0.0132	93.3423
Worker	0.0471	0.0271	0.4288	1.1100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		113.6796	113.6796	2.9900e-003	2.8600e-003	114.6051
Total	**0.0534**	**0.1967**	**0.5057**	**1.9500e-003**	**0.1556**	**1.9600e-003**	**0.1576**	**0.0420**	**1.8500e-003**	**0.0438**		**203.0549**	**203.0549**	**3.9400e-003**	**0.0161**	**207.9475**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0734	1.9791	0.8973	9.8300e-003	0.3513	0.0157	0.3670	0.1012	0.0150	0.1162		1,042.7127	1,042.7127	0.0111	0.1544	1,088.9937
Worker	0.5653	0.3249	5.1460	0.0133	1.5060	7.2700e-003	1.5133	0.3995	6.7000e-003	0.4062		1,364.1548	1,364.1548	0.0359	0.0343	1,375.2617
Total	**0.6386**	**2.3040**	**6.0432**	**0.0232**	**1.8573**	**0.0230**	**1.8803**	**0.5007**	**0.0217**	**0.5224**		**2,406.8675**	**2,406.8675**	**0.0469**	**0.1886**	**2,464.2554**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0734	1.9791	0.8973	9.8300e-003	0.3513	0.0157	0.3670	0.1012	0.0150	0.1162		1,042.7127	1,042.7127	0.0111	0.1544	1,088.9937
Worker	0.5653	0.3249	5.1460	0.0133	1.5060	7.2700e-003	1.5133	0.3995	6.7000e-003	0.4062		1,364.1548	1,364.1548	0.0359	0.0343	1,375.2617
Total	**0.6386**	**2.3040**	**6.0432**	**0.0232**	**1.8573**	**0.0230**	**1.8803**	**0.5007**	**0.0217**	**0.5224**		**2,406.8675**	**2,406.8675**	**0.0469**	**0.1886**	**2,464.2554**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1414**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0439	0.0242	0.4020	1.0800e-003	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		110.9363	110.9363	2.7100e-003	2.6600e-003	111.7961
Total	**0.0439**	**0.0242**	**0.4020**	**1.0800e-003**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**110.9363**	**110.9363**	**2.7100e-003**	**2.6600e-003**	**111.7961**

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1414**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0439	0.0242	0.4020	1.0800e-003	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		110.9363	110.9363	2.7100e-003	2.6600e-003	111.7961
Total	**0.0439**	**0.0242**	**0.4020**	**1.0800e-003**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**110.9363**	**110.9363**	**2.7100e-003**	**2.6600e-003**	**111.7961**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**9.6443**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1053	0.0581	0.9649	2.5800e-003	0.3012	1.3900e-003	0.3026	0.0799	1.2800e-003	0.0812		266.2472	266.2472	6.5100e-003	6.3800e-003	268.3107
Total	**0.1053**	**0.0581**	**0.9649**	**2.5800e-003**	**0.3012**	**1.3900e-003**	**0.3026**	**0.0799**	**1.2800e-003**	**0.0812**		**266.2472**	**266.2472**	**6.5100e-003**	**6.3800e-003**	**268.3107**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**9.6443**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1053	0.0581	0.9649	2.5800e-003	0.3012	1.3900e-003	0.3026	0.0799	1.2800e-003	0.0812		266.2472	266.2472	6.5100e-003	6.3800e-003	268.3107
Total	**0.1053**	**0.0581**	**0.9649**	**2.5800e-003**	**0.3012**	**1.3900e-003**	**0.3026**	**0.0799**	**1.2800e-003**	**0.0812**		**266.2472**	**266.2472**	**6.5100e-003**	**6.3800e-003**	**268.3107**

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0204	0.0212	0.1538	3.2000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		33.4293	33.4293	1.9000e-003	1.6900e-003	33.9819
Unmitigated	0.0204	0.0212	0.1538	3.2000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		33.4293	33.4293	1.9000e-003	1.6900e-003	33.9819

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	8.01	8.01	8.01	15,275	15,275
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8.01	8.01	8.01	15,275	15,275

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	12.50	4.20	5.40	33.00	48.00	19.00	66	28	6
Other Non-Asphalt Surfaces	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Thermal Community Park - Riverside-Salton Sea County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Unmitigated	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Total	**0.2173**	**1.3000e-004**	**0.0141**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0303**	**0.0303**	**8.0000e-005**		**0.0323**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Total	**0.2173**	**1.3000e-004**	**0.0141**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0303**	**0.0303**	**8.0000e-005**		**0.0323**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Thermal Community Park

Riverside-Salton Sea County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	130.00	Space	1.17	52,000.00	0
City Park	7.63	Acre	7.63	332,362.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project Site = 9.8 acres. 130 parking spaces in parking lots on 1.17 acre. Approximately 1 acre of pavement for basketball courts, tennis court and walkways. Approx 5,300 sf of building space

Construction Phase -

Trips and VMT - 6 daily vendor truck trips added to Site Preparation and Grading phases to account for water truck emissions

Grading - Grading anticipated to be balanced (no import or export of dirt)

Vehicle Trips - VMT Screening Assessment (Ganddini, 2021) found project would generate 8 daily trips. Daily trip rates set to match VMT Assessment.

Construction Off-road Equipment Mitigation - Exposed Area 3x per day and Replace Ground Cover selected to account for SCAQMD Rule 403 Minimum requirements

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	1.96	1.05
tblVehicleTrips	SU_TR	2.19	1.05
tblVehicleTrips	WD_TR	0.78	1.05

2.0 Emissions Summary

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7170	27.7380	21.4186	0.0489	19.8377	1.2681	21.1058	10.1511	1.1667	11.3178	0.0000	4,837.7930	4,837.7930	1.1971	0.1901	4,910.8154
2024	9.7409	9.5497	14.9577	0.0238	0.3012	0.4691	0.5946	0.0799	0.4316	0.4649	0.0000	2,308.1331	2,308.1331	0.7167	6.5300e-003	2,326.8623
Maximum	**9.7409**	**27.7380**	**21.4186**	**0.0489**	**19.8377**	**1.2681**	**21.1058**	**10.1511**	**1.1667**	**11.3178**	**0.0000**	**4,837.7930**	**4,837.7930**	**1.1971**	**0.1901**	**4,910.8154**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	2.7170	27.7380	21.4186	0.0489	7.4636	1.2681	8.7317	3.7916	1.1667	4.9583	0.0000	4,837.7930	4,837.7930	1.1971	0.1901	4,910.8154
2024	9.7409	9.5497	14.9577	0.0238	0.3012	0.4691	0.5946	0.0799	0.4316	0.4649	0.0000	2,308.1331	2,308.1331	0.7167	6.5300e-003	2,326.8623
Maximum	**9.7409**	**27.7380**	**21.4186**	**0.0489**	**7.4636**	**1.2681**	**8.7317**	**3.7916**	**1.1667**	**4.9583**	**0.0000**	**4,837.7930**	**4,837.7930**	**1.1971**	**0.1901**	**4,910.8154**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	61.44	0.00	57.02	62.16	0.00	53.97	0.00	0.00	0.00	0.00	0.00	0.00

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0168	0.0225	0.1401	3.0000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		31.0945	31.0945	1.9900e-003	1.7300e-003	31.6604
Total	**0.2340**	**0.0226**	**0.1542**	**3.0000e-004**	**0.0323**	**3.1000e-004**	**0.0326**	**8.6100e-003**	**2.9000e-004**	**8.9000e-003**		**31.1248**	**31.1248**	**2.0700e-003**	**1.7300e-003**	**31.6928**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0168	0.0225	0.1401	3.0000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		31.0945	31.0945	1.9900e-003	1.7300e-003	31.6604
Total	**0.2340**	**0.0226**	**0.1542**	**3.0000e-004**	**0.0323**	**3.1000e-004**	**0.0326**	**8.6100e-003**	**2.9000e-004**	**8.9000e-003**		**31.1248**	**31.1248**	**2.0700e-003**	**1.7300e-003**	**31.6928**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/10/2023	5	20	
3	Building Construction	Building Construction	2/11/2023	12/29/2023	5	230	
4	Paving	Paving	1/2/2024	1/29/2024	5	20	
5	Architectural Coating	Architectural Coating	1/30/2024	2/26/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,950; Non-Residential Outdoor: 2,650; Striped Parking Area: 5,734 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	180.00	70.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**19.6570**	**1.2660**	**20.9230**	**10.1025**	**1.1647**	**11.2672**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7800e-003	0.1801	0.0797	8.5000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9700e-003		89.6513	89.6513	9.3000e-004	0.0133	93.6334
Worker	0.0517	0.0337	0.4245	1.2100e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		123.6651	123.6651	3.6600e-003	3.5100e-003	124.8020
Total	**0.0575**	**0.2138**	**0.5042**	**2.0600e-003**	**0.1807**	**2.0800e-003**	**0.1828**	**0.0486**	**1.9600e-003**	**0.0506**		**213.3164**	**213.3164**	**4.5900e-003**	**0.0168**	**218.4354**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.2829	0.0000	7.2829	3.7430	0.0000	3.7430			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**7.2829**	**1.2660**	**8.5489**	**3.7430**	**1.1647**	**4.9077**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7800e-003	0.1801	0.0797	8.5000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9700e-003		89.6513	89.6513	9.3000e-004	0.0133	93.6334
Worker	0.0517	0.0337	0.4245	1.2100e-003	0.1506	7.3000e-004	0.1513	0.0400	6.7000e-004	0.0406		123.6651	123.6651	3.6600e-003	3.5100e-003	124.8020
Total	**0.0575**	**0.2138**	**0.5042**	**2.0600e-003**	**0.1807**	**2.0800e-003**	**0.1828**	**0.0486**	**1.9600e-003**	**0.0506**		**213.3164**	**213.3164**	**4.5900e-003**	**0.0168**	**218.4354**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**7.0826**	**0.7749**	**7.8575**	**3.4247**	**0.7129**	**4.1377**		**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7800e-003	0.1801	0.0797	8.5000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9700e-003		89.6513	89.6513	9.3000e-004	0.0133	93.6334
Worker	0.0431	0.0281	0.3538	1.0100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		103.0543	103.0543	3.0500e-003	2.9200e-003	104.0017
Total	**0.0489**	**0.2082**	**0.4334**	**1.8600e-003**	**0.1556**	**1.9600e-003**	**0.1576**	**0.0420**	**1.8500e-003**	**0.0438**		**192.7056**	**192.7056**	**3.9800e-003**	**0.0162**	**197.6351**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6241	0.0000	2.6241	1.2689	0.0000	1.2689			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	**1.7109**	**17.9359**	**14.7507**	**0.0297**	**2.6241**	**0.7749**	**3.3990**	**1.2689**	**0.7129**	**1.9818**	**0.0000**	**2,872.6910**	**2,872.6910**	**0.9291**		**2,895.9182**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7800e-003	0.1801	0.0797	8.5000e-004	0.0301	1.3500e-003	0.0315	8.6700e-003	1.2900e-003	9.9700e-003		89.6513	89.6513	9.3000e-004	0.0133	93.6334
Worker	0.0431	0.0281	0.3538	1.0100e-003	0.1255	6.1000e-004	0.1261	0.0333	5.6000e-004	0.0339		103.0543	103.0543	3.0500e-003	2.9200e-003	104.0017
Total	**0.0489**	**0.2082**	**0.4334**	**1.8600e-003**	**0.1556**	**1.9600e-003**	**0.1576**	**0.0420**	**1.8500e-003**	**0.0438**		**192.7056**	**192.7056**	**3.9800e-003**	**0.0162**	**197.6351**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0674	2.1011	0.9295	9.8600e-003	0.3513	0.0158	0.3671	0.1012	0.0151	0.1163		1,045.9321	1,045.9321	0.0108	0.1550	1,092.3894
Worker	0.5172	0.3372	4.2451	0.0121	1.5060	7.2700e-003	1.5133	0.3995	6.7000e-003	0.4062		1,236.6510	1,236.6510	0.0366	0.0351	1,248.0200
Total	**0.5846**	**2.4384**	**5.1746**	**0.0219**	**1.8573**	**0.0230**	**1.8803**	**0.5007**	**0.0218**	**0.5224**		**2,282.5831**	**2,282.5831**	**0.0474**	**0.1901**	**2,340.4094**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0674	2.1011	0.9295	9.8600e-003	0.3513	0.0158	0.3671	0.1012	0.0151	0.1163		1,045.9321	1,045.9321	0.0108	0.1550	1,092.3894
Worker	0.5172	0.3372	4.2451	0.0121	1.5060	7.2700e-003	1.5133	0.3995	6.7000e-003	0.4062		1,236.6510	1,236.6510	0.0366	0.0351	1,248.0200
Total	**0.5846**	**2.4384**	**5.1746**	**0.0219**	**1.8573**	**0.0230**	**1.8803**	**0.5007**	**0.0218**	**0.5224**		**2,282.5831**	**2,282.5831**	**0.0474**	**0.1901**	**2,340.4094**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1414**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0402	0.0251	0.3319	9.8000e-004	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		100.5859	100.5859	2.7700e-003	2.7200e-003	101.4660
Total	**0.0402**	**0.0251**	**0.3319**	**9.8000e-004**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**100.5859**	**100.5859**	**2.7700e-003**	**2.7200e-003**	**101.4660**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.1533					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1414**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0402	0.0251	0.3319	9.8000e-004	0.1255	5.8000e-004	0.1261	0.0333	5.3000e-004	0.0338		100.5859	100.5859	2.7700e-003	2.7200e-003	101.4660
Total	**0.0402**	**0.0251**	**0.3319**	**9.8000e-004**	**0.1255**	**5.8000e-004**	**0.1261**	**0.0333**	**5.3000e-004**	**0.0338**		**100.5859**	**100.5859**	**2.7700e-003**	**2.7200e-003**	**101.4660**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**9.6443**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0966	0.0602	0.7967	2.3400e-003	0.3012	1.3900e-003	0.3026	0.0799	1.2800e-003	0.0812		241.4062	241.4062	6.6500e-003	6.5300e-003	243.5183
Total	**0.0966**	**0.0602**	**0.7967**	**2.3400e-003**	**0.3012**	**1.3900e-003**	**0.3026**	**0.0799**	**1.2800e-003**	**0.0812**		**241.4062**	**241.4062**	**6.6500e-003**	**6.5300e-003**	**243.5183**

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	9.4635					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**9.6443**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0966	0.0602	0.7967	2.3400e-003	0.3012	1.3900e-003	0.3026	0.0799	1.2800e-003	0.0812		241.4062	241.4062	6.6500e-003	6.5300e-003	243.5183
Total	**0.0966**	**0.0602**	**0.7967**	**2.3400e-003**	**0.3012**	**1.3900e-003**	**0.3026**	**0.0799**	**1.2800e-003**	**0.0812**		**241.4062**	**241.4062**	**6.6500e-003**	**6.5300e-003**	**243.5183**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0168	0.0225	0.1401	3.0000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		31.0945	31.0945	1.9900e-003	1.7300e-003	31.6604
Unmitigated	0.0168	0.0225	0.1401	3.0000e-004	0.0323	2.6000e-004	0.0325	8.6100e-003	2.4000e-004	8.8500e-003		31.0945	31.0945	1.9900e-003	1.7300e-003	31.6604

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	8.01	8.01	8.01	15,275	15,275
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8.01	8.01	8.01	15,275	15,275

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	12.50	4.20	5.40	33.00	48.00	19.00	66	28	6
Other Non-Asphalt Surfaces	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Thermal Community Park - Riverside-Salton Sea County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Unmitigated	0.2173	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Total	**0.2173**	**1.3000e-004**	**0.0141**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0303**	**0.0303**	**8.0000e-005**		**0.0323**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0519					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1641					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3000e-003	1.3000e-004	0.0141	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0303	0.0303	8.0000e-005		0.0323
Total	**0.2173**	**1.3000e-004**	**0.0141**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0303**	**0.0303**	**8.0000e-005**		**0.0323**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Level of Service and Vehicle Miles Traveled Screening Assessment

October 10, 2022

Mr. Jordan Parrish
THE ALTUM GROUP
44-600 Village Court Suite 100
Palm Desert CA, 92260

RE: Thermal Community Park Project Level of Service and Vehicle Miles Traveled Screening Assessment
Project No. 19457

Dear Mr. Parrish:

Ganddini Group, Inc. is pleased to provide this Level of Service and Vehicle Miles Traveled Screening Assessment for the proposed Thermal Community Park Project in the County of Riverside. The purpose of this analysis is to assess potential Level of Service impacts for general plan compliance and vehicle miles traveled (VMT) impacts associated with the proposed project for compliance with California Environmental Quality Act (CEQA) requirements. We trust the findings of this analysis will aid you and the County of Riverside in assessing the project.

PROJECT DESCRIPTION

The 10.0-acre project site is located at the southeast corner of the intersection of Olive Street and Church Street in the unincorporated Thermal community of the County of Riverside, California. The proposed site plan includes three youth soccer fields, one high school soccer field, two basketball courts, one tennis court, a pond, playground, splash pad, fitness station, four horse shoe pits, picnic area amenities, public restrooms and parking. The proposed site plan is shown in Attachment A.

PROJECT TRIP GENERATION

Table 1 shows the project trip generation forecasts based upon trip generation rates obtained from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021). Based on review of the ITE land use descriptions, Land Use Codes 411 (Public Park), 488 (Soccer Complex), and 490 (Tennis Courts) were determined to adequately represent the proposed project and were selected for the analysis. The description for ITE Land Use Code 411 (Public Parks) notes that the parks surveyed vary widely as to type and number of facilities, including boating or swimming facilities, beaches, hiking trails, ball fields, soccer fields, campsites and picnic facilities. The project site acreage was used to estimate trips generated for smaller facilities likely to generate high pedestrian demand, such as the playground and picnic tables. Since the soccer fields and tennis courts may attract more vehicular trips from further away, particularly during the respective seasons, trip generation for these facilities were calculated separately and added to the total. The number of trips forecast to be generated by the proposed project is determined by multiplying the trip generation rates and directional distributions by the land use quantities.

As shown in Table 1, the proposed project is forecast to generate a total of approximately 323 daily vehicle trips, including 5 trips during the AM peak hour and 70 trips during the PM peak hour.

Mr. Jordan Parrish
THE ALTUM GROUP
October 10, 2022

CRITERIA FOR THE PREPARATION OF TRAFFIC IMPACT ANALYSES

The project has been screened for both level of service analysis and vehicle miles traveled analysis using the County of Riverside established criteria, as specified in the County of Riverside *Transportation Analysis Guidelines for Level of Service [and] Vehicle Miles Traveled* (December 2020) ["the County TA Guidelines"].

LEVEL OF SERVICE SCREENING CRITERIA (NON-CEQA/GENERAL PLAN CONFORMITY)

As specified in the County TA Guidelines, Appendix B, the following types of development proposals are generally exempt from the requirement to prepare a Level of Service transportation impact analysis:

6. *Churches, Lodges, Community Centers, Neighborhood Parks and Community Parks.*

10. *Any use which can demonstrate, based on the most recent edition of the Trip Generation Report published by the Institute of Transportation Engineers (ITE) or other approved trip generation data, trip generation of less than 100 vehicle trips during the peak hours.*

These exemptions will apply in most cases; however, the Transportation Department reserves the right to require a traffic analysis for any development regardless of size and/or type.

The proposed project consists of a local-serving community park that is forecast to generate fewer than 100 vehicle trips during the peak hours. Assuming the project shall construct all on-site and off-site improvements (if any) in accordance with County design standards, the project would not create any new safety or operational concerns and is exempt from further operational analysis. Therefore, the proposed project satisfies two of the County-established exemption criteria and is not required to prepare further Level of Service or operational analysis.

VEHICLE MILES TRAVELED SCREENING CRITERIA (CEQA)

The County's TA Guidelines also establish evaluation criteria for VMT analysis, which is tailored to the regional and environmental context of the County of Riverside based on guidance from the Office of Planning and Research's (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (State of California, December 2018). The County's TA Guidelines identify screening criteria for certain types of projects that typically reduce VMT and may be presumed to result in a less than significant VMT impact. They are as follows:

- Small Projects (generate less greenhouse gas emissions than threshold criteria) [1]
- Projects near High Quality Transit
- Local Servicing Retail
- Affordable Housing
- Local Essential Service
- Map Based Screening
- Redevelopment Projects

To qualify for screening, a project needs to fulfill only one of the screening types listed.

[1] 3,000 MT CO2e = South Coast Air Quality Management District (SCAQMD) threshold of greenhouse gas (GHG) emissions in Metric Tons of Carbon Dioxide Equivalent (MTCO2e) per year which may be presumed to result in a less than significant VMT impact.

Mr. Jordan Parrish
THE ALTUM GROUP
October 10, 2022

Local Essential Service

The County TA Guidelines identify the following types of projects that may be presumed to have a less than significant VMT impact as they are local-serving and thus can be expected to reduce VMT or they are small enough to have a negligible impact:

- Local essential service
  - Day care center
  - Police or fire facility
  - Medical/dental office less than 50,000 square feet
  - Government offices (in-person services such as post office, library, utilities)
  - Local or community parks
  - Other local-serving projects as determined by the Transportation Department

The proposed 10-acre park is expected to serve the local community and is not large enough to be regionally significant. Therefore, the proposed project meets the County-established criteria for local essential service and may be presumed to result in a less than significant VMT impact.

CONCLUSION

The proposed project is forecast to generate a total of approximately 323 daily vehicle trips, including 5 trips during the AM peak hour and 70 trips during the PM peak hour.

Based on the local-serving nature of the proposed community park, the proposed project satisfies the County-established screening criteria for both Level of Service and VMT analysis and may be presumed to result in a less than significant transportation impact.

It has been a pleasure to assist you with this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 795-3100.

Sincerely,
GANDDINI GROUP, INC.

Perrie Ilercil, P.E. (AZ)
Senior Engineer

Giancarlo Ganddini, PE, PTP
Principal

Table 1
Project Trip Generation

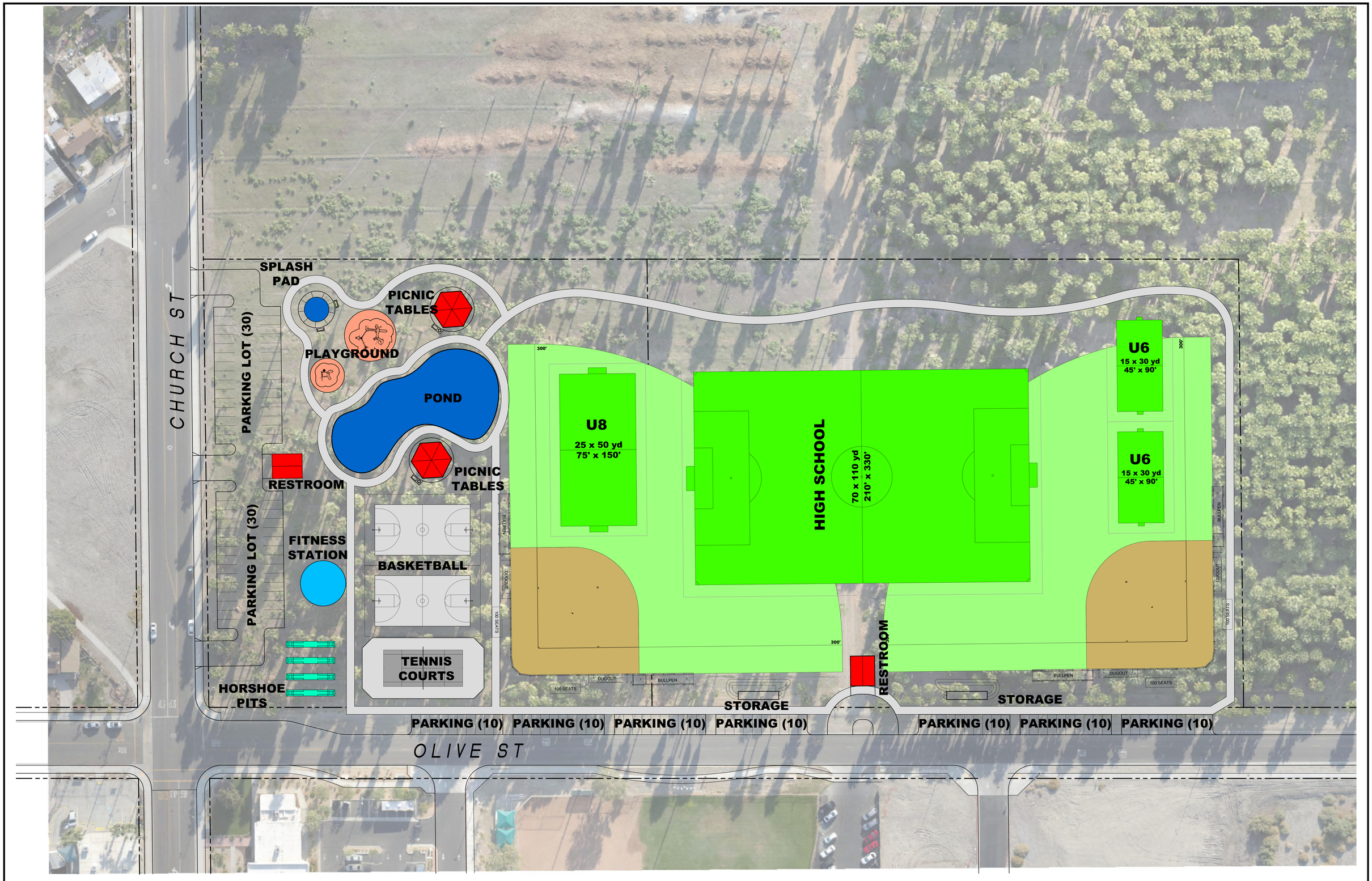
Trip Generation Rates									
Land Use	Source[1]	Land Use Variable[2]	AM Peak Hour			PM Peak Hour			Daily Rate
			% In	% Out	Rate	% In	% Out	Rate	
Public Park	ITE 411	AC	59%	41%	0.02	55%	45%	0.11	0.78
Soccer Complex	ITE 488	FLD	61%	39%	0.99	66%	34%	16.43	71.33
Tennis Courts	ITE 490	CRT	59%	41%	1.00	55%	45%	4.21	30.32

Trips Generated									
Land Use	Source	Quantity	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Public Park	ITE 411	10 AC	0	0	0	1	0	1	8
Soccer Complex	ITE 488	4 FLD	2	2	4	43	22	65	285
Tennis Courts	ITE 490	1 CRT	1	0	1	2	2	4	30
TOTAL TRIPS GENERATED			**3**	**2**	**5**	**46**	**24**	**70**	**323**

Notes:
1. ITE = Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021); ### = Land Use Code.
2. AC = Acres; FLD = Fields; CRT = Courts

ATTACHMENT A

SITE PLAN



HERMANN DESIGN GROUP
77-899 WOLF RD.
SUITE 102
PALM DESERT, CA
92211
LIC# 2754 EXP. 4/30/22
PH. (760) 777-9131
FAX (760) 777-9132

OWNER:

PROJECT:
THERMAL COMMUNITY PARK
-
THERMAL, CA

REVISIONS	DATE	BY

LICENSED LANDSCAPE ARCHITECT
CHRISTOPHER HERMANN REGISTERED
4/30/22
RENEWAL DATE
STATE OF CALIFORNIA

SHEET TITLE
NORTH/SOUTH CONCEPT 1

DESIGNED	CH
DRAWN	OPUS
CHECKED	-
DATE	10/21/21
SCALE	1"=30'
JOB NO.	21071

SHEET
L1.0
OF 1 SHEETS

0' 30' 60' 90'
SCALE: 1"=30'

Appendix C

Habitat Assessment CVMSHCP Project Consistency Analysis

THERMAL COMMUNITY PARK

THERMAL, RIVERSIDE COUNTY, CALIFORNIA

Habitat Assessment Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis

Prepared For:

The Altum Group
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Contact: *Anna Choudhuri*

Prepared By:

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Santa Ana, California 92711
Contact: *Travis J. McGill*

September 2022

THERMAL COMMUNITY PARK

THERMAL, RIVERSIDE COUNTY, CALIFORNIA

Habitat Assessment Coachella Valley Multiple Species Habitat Conservation Plan Consistency Analysis

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

Travis J. McGill
Director

Thomas J. McGill, Ph.D.
Managing Director

September 2022

Table of Contents

EXHIBITS

APPENDIX

Section 1 Introduction

This report contains the findings of ELMT Consulting (ELMT) Habitat Assessment and Coachella Valley Multiple Species Habitat Conservation plan (CVMSHCP) Consistency Analysis for the Thermal Community Park project (project site, project) located in Thermal, Riverside County, California. ELMT biologist Jacob H. Lloyd Davies conducted a field survey and evaluated the condition of the habitat within the proposed project on May 16, 2022.

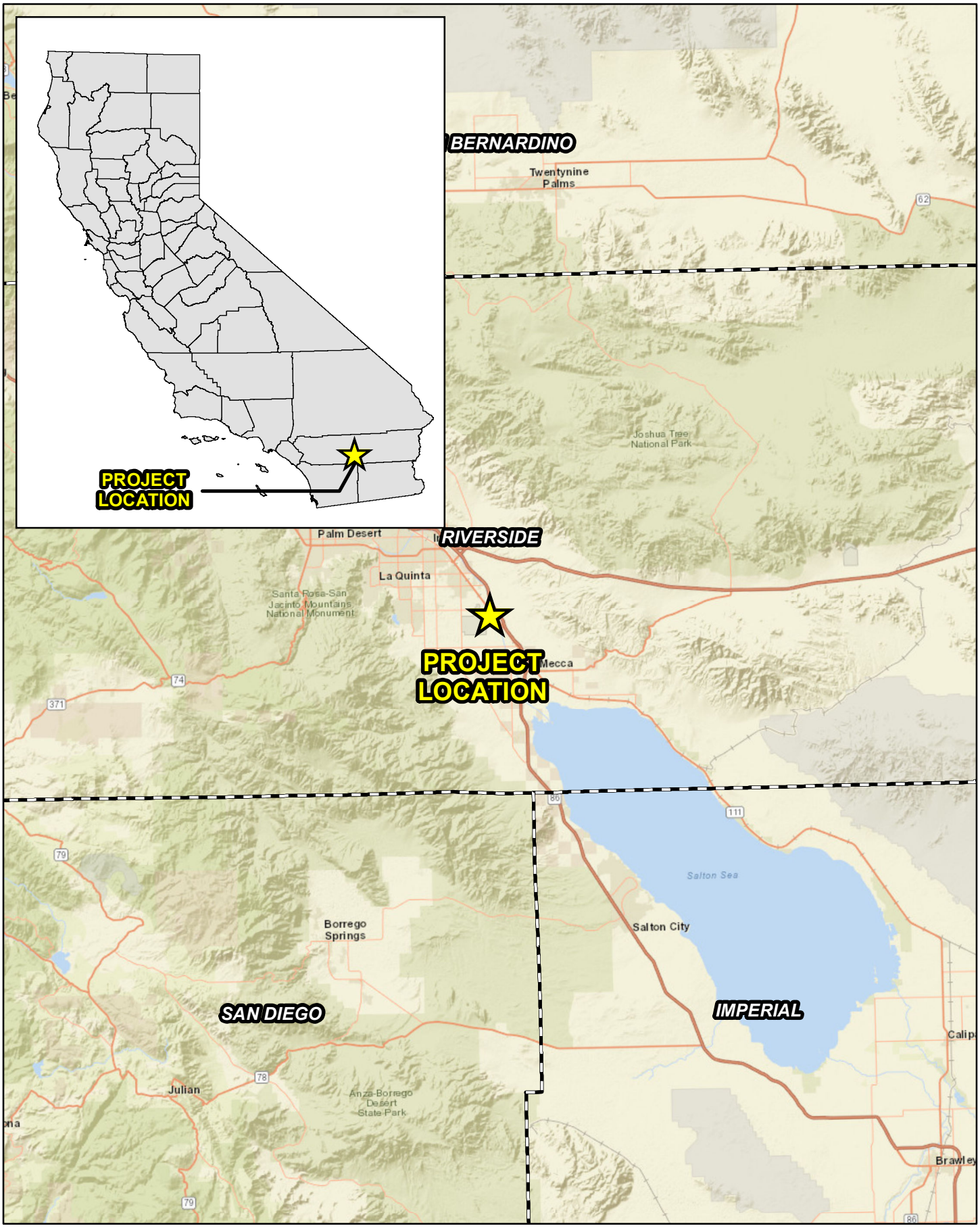
This report provides a detailed assessment of the suitability of the onsite habitat to support special-status plant and wildlife species that were identified by the California Natural Diversity Database (CNDDB) and other electronic databases as potentially occurring in the vicinity of the proposed project site. Special attention was given to the suitability of the on-site habitat to support species protected under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), and potential jurisdictional drainage features.

1.1 PROJECT LOCATION

The project site is generally located north and east of the Santa Rosa Mountains, south of Interstate 10, northwest of Salton Sea, and west of State Route 86 and 111 in the unincorporated community of Thermal, Riverside County, California (Exhibit 1, *Regional Vicinity*). The site is depicted on the Indio quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Section 26 of Township 6 South, Range 8 East (Exhibit 2, *Site Vicinity*). Specifically, the project site is located at the southeast corner of the intersection of Church Street and Olive Street within Assessor's Parcel Numbers 757-062-002 and -003 (refer to Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

The project proposes the development of a community recreation park supporting soccer fields, basketball courts, a tennis court, horseshoe pits, fitness station, picnic tables, a playground with a splash pad, a pond, and associated parking. Refer to Appendix A, *Site Plan*.



HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

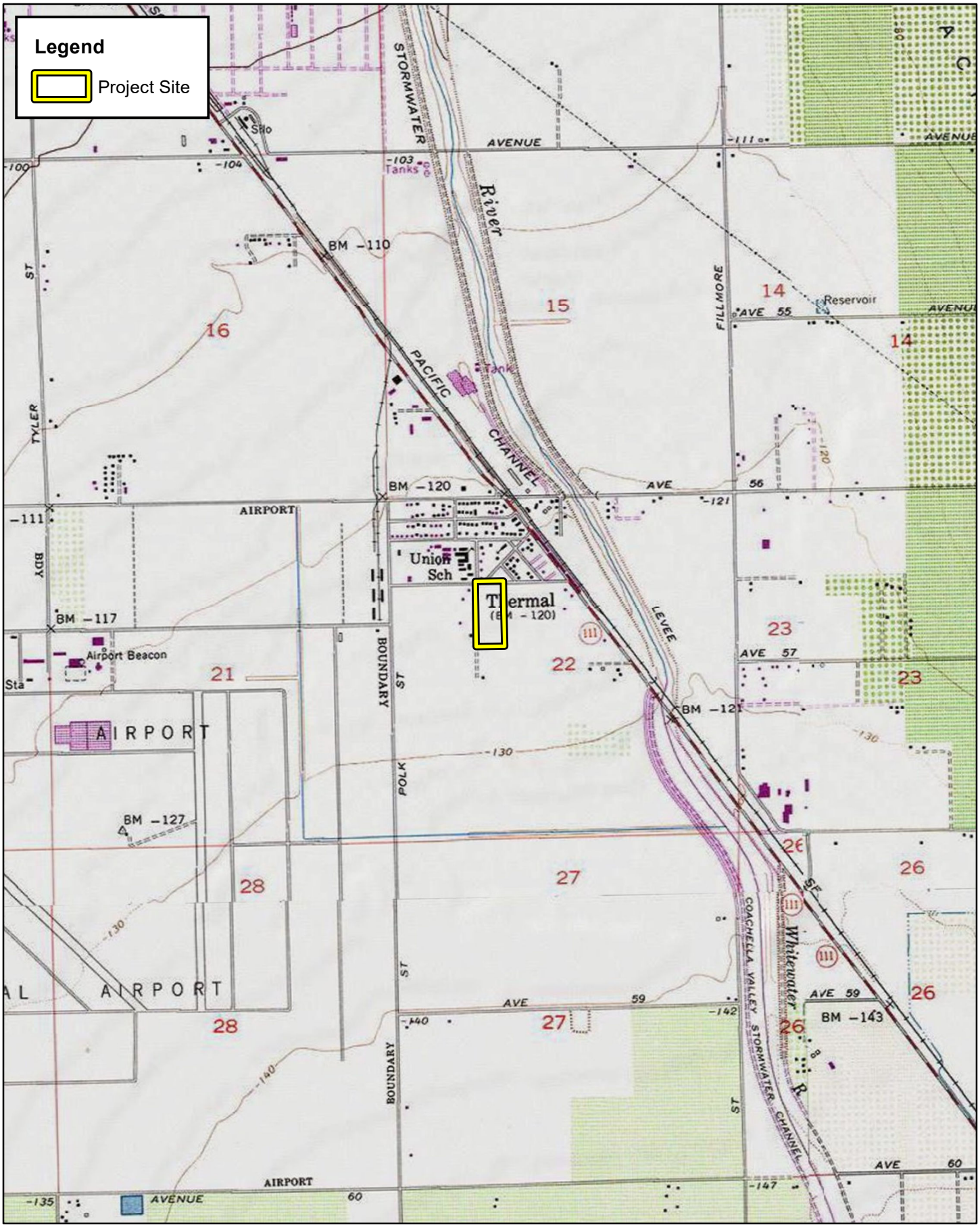
Regional Vicinity

ELMT CONSULTING

0 2.5 5 10 Miles

Source: World Street Map, Riverside County

Exhibit 1



HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

Site Vicinity

ELMT CONSULTING

0 1,000 2,000 4,000 Feet

Source: USA Topographic Map, Riverside County

Exhibit 2

HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

Project Site

ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Riverside County

Exhibit 3

Section 2 Methodology

A thorough literature review and records search was conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the proposed project. In addition, a general habitat assessment and field investigation of the proposed project and immediate surrounding area was conducted and provided information about the existing conditions on the proposed project and the potential for special-status biological resources to occur.

2.1 LITERATURE REVIEW

Prior to conducting the field investigation, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the proposed project. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the proposed project were determined through a query of the CDFW's CNDDB Rarefind 5, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

Literature detailing biological resources previously observed in the vicinity of the proposed project and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on special-status and non-special-status biological resources were reviewed for habitat requirements, as well as the following resources:

- Google Earth Pro historic aerial imagery (1985-2021);
- CDFW 2012 Staff Report on Burrowing Owl Mitigation;
- Coachella Valley Multiple Species Habitat Conservation Plan:
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), Soil Survey[1]; and
- USFWS Critical Habitat designations for Threatened and Endangered Species.

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the proposed project. Additional recorded occurrences of these species found on or near the proposed project were derived from database queries. The CNDDB ArcGIS database was used, in conjunction with ArcGIS software, to locate the nearest occurrence and determine the distance from the proposed project.

2.2 FIELD INVESTIGATION

ELMT biologist Jacob H. Lloyd Davies inventoried and evaluated the extent and conditions of the plant communities found within the boundaries of the proposed project and a 200-foot buffer on May 16,

[1] A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.

2022. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. The plant communities were evaluated for their potential to support special-status plant and wildlife species. In addition, field staff identified any natural corridors and linkages that may support the movement of wildlife through the area. Special attention was given to special-status habitats and/or undeveloped areas, which have higher potentials to support special-status plant and wildlife species.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

2.3 SOIL SERIES ASSESSMENT

On-site and adjoining soils were researched prior to the field visit using the USDA NRCS Soil Survey for Riverside County, California. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the proposed project has undergone.

2.4 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), delineated on an aerial photograph, and then digitized into GIS Arcview. The Arcview application was used to compute the area of each plant community in acres.

2.5 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less-familiar plants were photographed in the field and identified in the laboratory using taxonomical guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

2.6 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of species during surveys included The Sibley Field Guide to the Birds of Western North America (Sibley 2003) for birds, A Field Guide to Western Reptiles and Amphibians (Stebbins 2003) for herpetofauna, and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.7 JURISDICTIONAL DRAINAGES AND WETLANDS

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the United States Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the project site.

Section 3 Existing Conditions

3.1 LOCAL CLIMATE

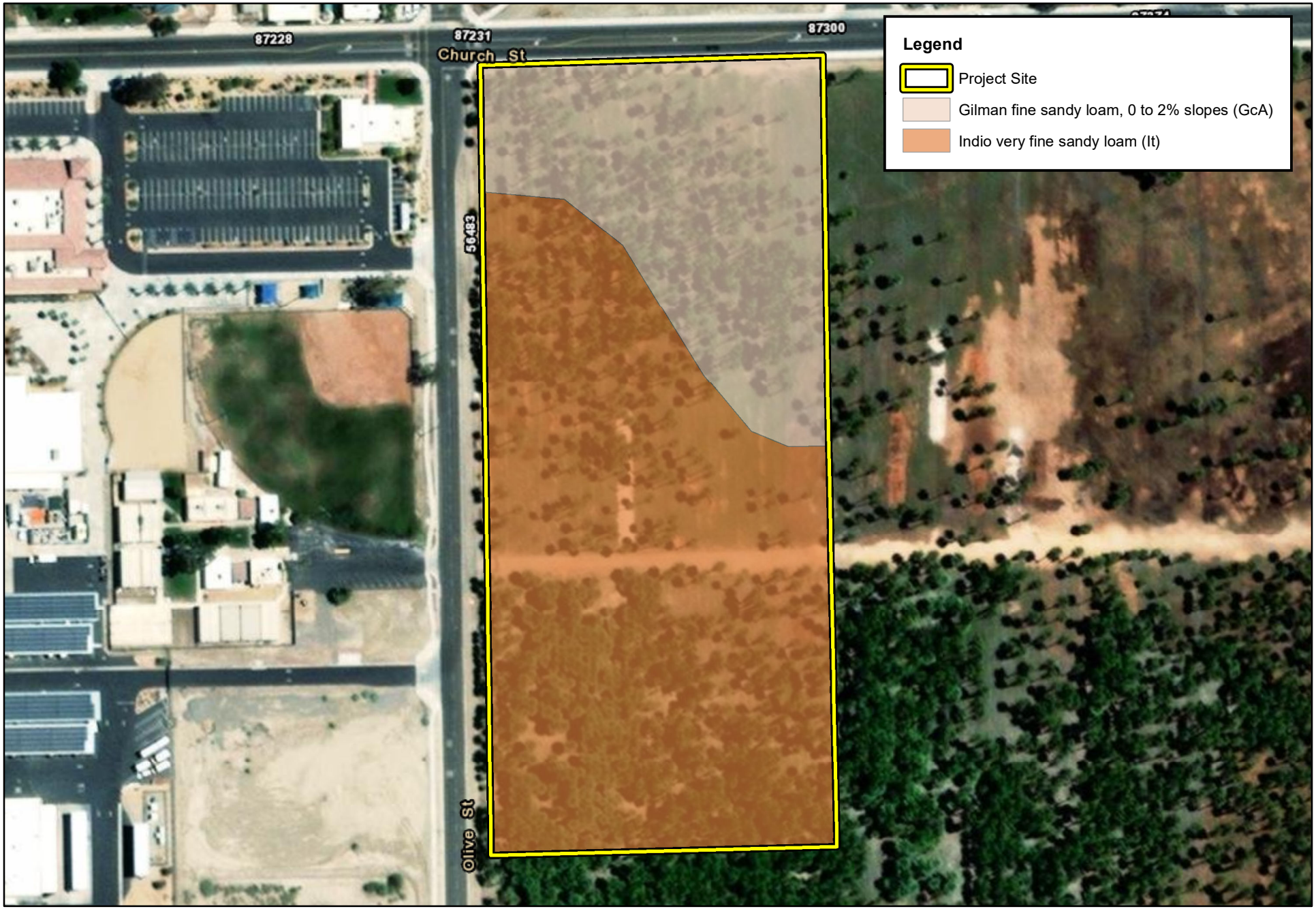
Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in Southern California, winters are colder with frost and with chilly to cold morning temperatures common. Climatological data obtained for the City of Indio indicates the annual precipitation averages 3.44 inches per year. Almost all of the precipitation occurs in the months between December and March, with hardly any occurring between the months of April and November, with the exception of heavy monsoonal rains in the summer, with August accumulating the most rainfall (0.54 inches). The wettest month is usually February, with a monthly average total precipitation of 0.64 inches. The average yearly maximum and minimum temperatures for the City of Indio are 89 and 62 degrees Fahrenheit (F) respectively with July and August being the hottest months (monthly average 107° F) and December being the coldest (monthly average 44° F). The temperature during the site visit was in the high 80s °F with clear skies.

3.2 TOPOGRAPHY AND SOILS

The project site is located at an approximate elevation of -125 to -120 feet above mean sea level and is generally flat. On-site topography consists of flat areas and shallow depressions and rises consistent with irrigation practices associated with the site's historic and present use as a date palm orchard. Based on the NRCS USDA Web Soil Survey, the project site is underlain by Gilman fine sandy loam (0 to 2 percent slopes, wet) and Indio very fine sandy loam (wet). Refer to Exhibit 4, *Soils*). All soils on-site are highly disturbed and compacted following decades of agricultural land uses.

3.3 SURROUNDING LAND USES

The project site is located in the unincorporated community of Thermal, which has undergone a gradual shift from rural agricultural community to urbanization. Agricultural land uses were dominant in the area throughout the majority of the 1900's. At present, the site is bounded to the north by Church Street with residential and institutional development beyond; to the east and south by active and defunct date palm orchards; and to the west by Olive Street with multiple public school facilities beyond.



HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

Soils

ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Riverside County

Exhibit 4

Section 4 Discussion

4.1 SITE CONDITIONS

The proposed project site consists of undeveloped land that supports a portion of a date farm that contributes to a larger operation to the south and east. Historic aerials suggest that the site has supported agricultural activities since at least 1953. In addition, an access road is present along the southern boundary of the site and several heaps of compost and fill material are present throughout the southern portion of the site. No natural plant communities are present within or nearby the project site.

4.2 VEGETATION

The project site supports undeveloped land that part of a larger date farm. The project site supports two (2) plant communities: date palm rows and non-native grassland. (refer to Exhibit 5, *Vegetation*). In addition, the site supports one (1) land cover type that would be classified as disturbed. Please refer to Appendix B, *Site Photographs*, for representative photographs of the proposed project. The plant communities and land cover type are described in further detail below.

4.2.1 Date Palm Rows

As part of a larger agricultural operation, the majority of the project site supports rows of date palm (*Phoenix dactylifera*) with an understory composed of non-native ruderal/early successional species. Common plant species observed in the date palm grove supported by the project site include cheeseweed (*Malva parviflora*), sweetclover (*Melilotus* sp.), Mediterranean grass (*Schismus barbatus*), cocklebur (*Xanthium strumarium*), foxtail barley (*Hordeum murinum*), puncture vine (*Tribulus terrestris*), and Bermuda grass (*Cynodon dactylon*).

4.2.2 Non-native Grassland

The project site supports swathes of non-native grassland where date palm rows have become inconsistent or no longer occur. These areas are dominated by non-native grasses support the same ruderal species as the understory of the date palm rows, and occasionally support scattered date palms.

4.2.3 Disturbed

The project site supports disturbed land where vegetation has been largely or completely removed by impacts associated with on-site agricultural activities and on-site and surrounding development. These areas are present along the northern and western boundaries and include an access road, spoils piles, and compost piles in the southern portion of the site. Disturbed areas vary in vegetation density and support the same ruderal species as the understory of the date palm rows.

4.3 WILDLIFE

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species observed, expected,

or not expected to occur on-site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather condition in which the survey was conducted. Wildlife observations were based on calls, songs, scat, tracks, burrows, and actual sightings of animals.

4.3.1 Fish

No fish or hydrogeomorphic features (e.g., creeks, ponds, lakes, reservoirs) that would provide suitable habitat for fish were observed on or within the vicinity of the proposed project. Therefore, no fish are expected to occur and are presumed absent from the site.

4.3.2 Amphibians

No amphibians or hydrogeomorphic features that would provide suitable habitat for amphibian species were observed on or within the vicinity of the proposed project. While the site does support artificial irrigation associated with on-site agricultural activities, such irrigation was not observed to be in use and no potentially suitable areas for amphibian populations to establish were present. Therefore, no amphibians are expected to occur and are presumed absent from the site.

4.3.3 Reptiles

The project site provides limited foraging and cover habitat for local reptilian species adapted to surviving in urban desert environments and agriculture. No reptilian species were observed during the field investigation. Common reptilian species that could be expected to occur include western side-blotched lizard (*Uta stansburiana elegans*) and western long-tailed brush lizard (*Urosaurus graciosus graciosus*). Due to the lack of natural plant communities and routine on-site and surrounding disturbance, no special-status reptile species are expected to occur on-site.

4.3.4 Birds

The project site provides suitable foraging and nesting habitat for a variety of avian species adapted to surviving in urban desert environments and agriculture. Avian species detected during the field investigation include common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), and house finch (*Haemorhous mexicanus*). Additional common avian species that could be expected to occur include American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*).

4.3.5 Mammals

The proposed project provides suitable foraging and denning habitat for mammalian species adapted to desert environments. However, most mammal species are nocturnal and are difficult to observe during a diurnal field visit. The only mammalian species detected during the field investigation was coyote (*Canis latrans*). Additional common mammalian species that could be expected to occur include domestic cat (*Felis cattus*), California ground squirrel (*Otospemophilus beecheyi*), and desert cottontail (*Sylvilagus audubonii*). Due to the project site supporting agricultural activities since at least the 1960's,

most fossorial mammal species that could be deemed agricultural pests are expected to have been actively precluded from the site.

4.4 NESTING BIRDS

No active nests or nesting behaviors were observed during the field investigation. The date palm rows supported by the project site provide suitable foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that have adapted to conditions in desert environments.

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

4.5 MIGRATORY CORRIDORS AND LINKAGES

Habitat linkages provide links between larger habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

According to the CVMSHCP, the project site does not occur within any identified wildlife migratory corridors or linkages. The nearest corridor to the site occurs approximately 0.2 miles to the northeast within the Whitewater River. The site is isolated from the Whitewater River by existing development and the eastern portion of the larger agricultural operation that the project site contributes to. In addition, the site does not support natural plant communities that would be expected to contribute to wildlife migratory behavior in a meaningful way. As a result, implementation of the proposed project will not disrupt or have any adverse effects on any migratory corridors or linkages in the surrounding area.

4.6 JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge and/or fill materials into "waters of the United States" pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and associated plant communities pursuant to Section 1602 of the Fish and Game Code, and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The USFWS NWI and the USGS National Hydrography Dataset were reviewed to determine if any blueline streams or riverine resources have been documented within or immediately surrounding the project site. The NWI and USGS National Hydrography Dataset provide off-site ancillary tools to assist in jurisdictional assessments, but they are not a substitute for field investigations. NWI resources are graphic representations of potential water features that are mapped at high altitudes based on the imagery that was used.

No jurisdictional drainage and/or wetland features were observed on the project site or within the during the field investigation. Further, no blueline streams have been recorded on the project site. The nearest recorded blueline stream to the site was identified approximately 0.26 miles to the northeast within the Whitewater River. Therefore, development of the project will not result in impacts to Corps, Regional Board, or CDFW jurisdiction and regulatory approvals will not be required.

4.7 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDB was queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Indio USGS 7.5-minute quadrangles. A search of published records of these species was conducted within this quadrangle using the CDFW's CNDDB Rarefind 5 online software and CNDDB Quickview Tool. The CNPS Inventory of Rare and Endangered Vascular Plants of California supplied information regarding the distribution and habitats of vascular plants in the vicinity of the proposed project. The field investigation was used to assess the ability of the plant communities found on-site to provide suitable habitat for relevant special-status plant and wildlife species.

The literature search identified nine (9) special-status plant species and twenty-five (25) special-status wildlife species as having potential to occur within the Indio quadrangle. No special-status vegetation communities were identified as occurring within the Indio quadrangle. Special-status plant and wildlife species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the proposed project are presented in Appendix C, *Potentially Occurring Special-Status Biological Resources*, and discussed below.

4.7.1 Special-Status Plants

Nine (9) special-status plant species have been recorded in the CNDDB and CNPS as occurring within the Indio quadrangle (refer to Appendix C). No special-status plant species were observed on-site during the field investigation. Based on habitat requirements for the identified special-status species, known species distributions, and existing site conditions, it was determined that the project site does not have the potential to support any special-status plant species and all are presumed to be absent. Due to the significant disturbance of on-site soils and complete lack of natural habitats, no special-status plant species are expected to occur and all are presumed absent

4.7.2 Special-Status Wildlife

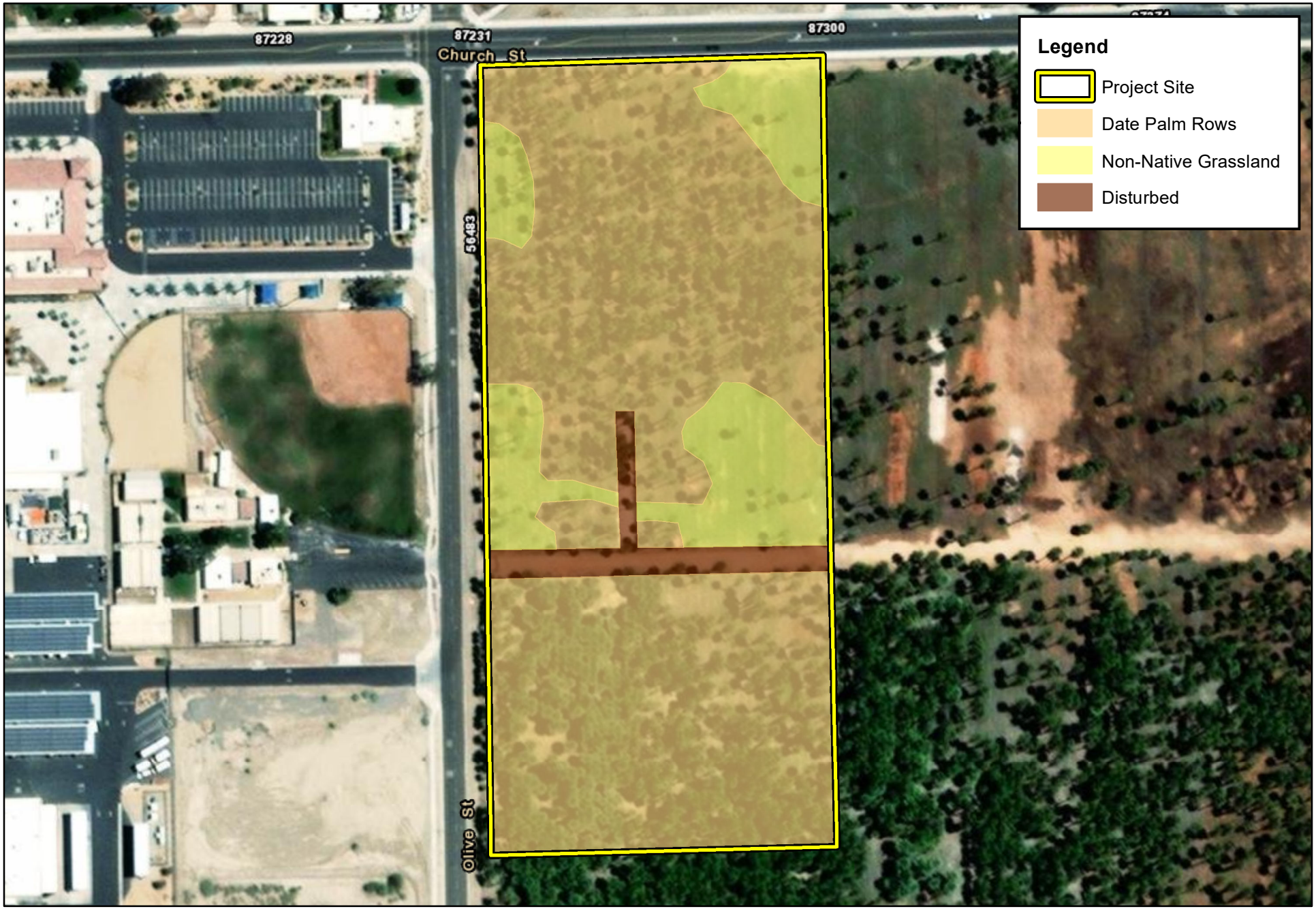
Twenty-five (25) special-status wildlife species have been reported in the Indio quadrangle (refer to Appendix C). No special-status animal species were observed during the field investigation. Based on habitat requirements for the identified special-status wildlife species, known distributions, and routine disturbance, it was determined that the proposed project has a high potential to support Cooper's hawk (*Accipiter cooperii*) and a low potential to support western yellow bat (*Lasiurus xanthinus*). Further, it was determined that no other special-status wildlife species have the potential to occur on-site and are presumed absent.

Cooper's hawk and western yellow bat are not state or federally listed as threatened or endangered. In order to ensure impacts to Cooper's hawk do not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction nesting bird clearance survey, impacts to Cooper's hawk will be less than significant and no mitigation will be required. Western yellow bat is covered under the CVMSHCP, and as such, no further surveys or additional mitigation measures will be required for this species, if present.

4.8 CRITICAL HABITAT

Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS) regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The project site is not located within federally designated Critical Habitat (refer to Exhibit 6, *Critical Habitat*). No federally designated Critical Habitat is present within at least six miles of the project site. Therefore, the loss or adverse modification of Critical Habitat will not occur as a result of the proposed project and consultation with the USFWS will not be required for implementation of the proposed project.



HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

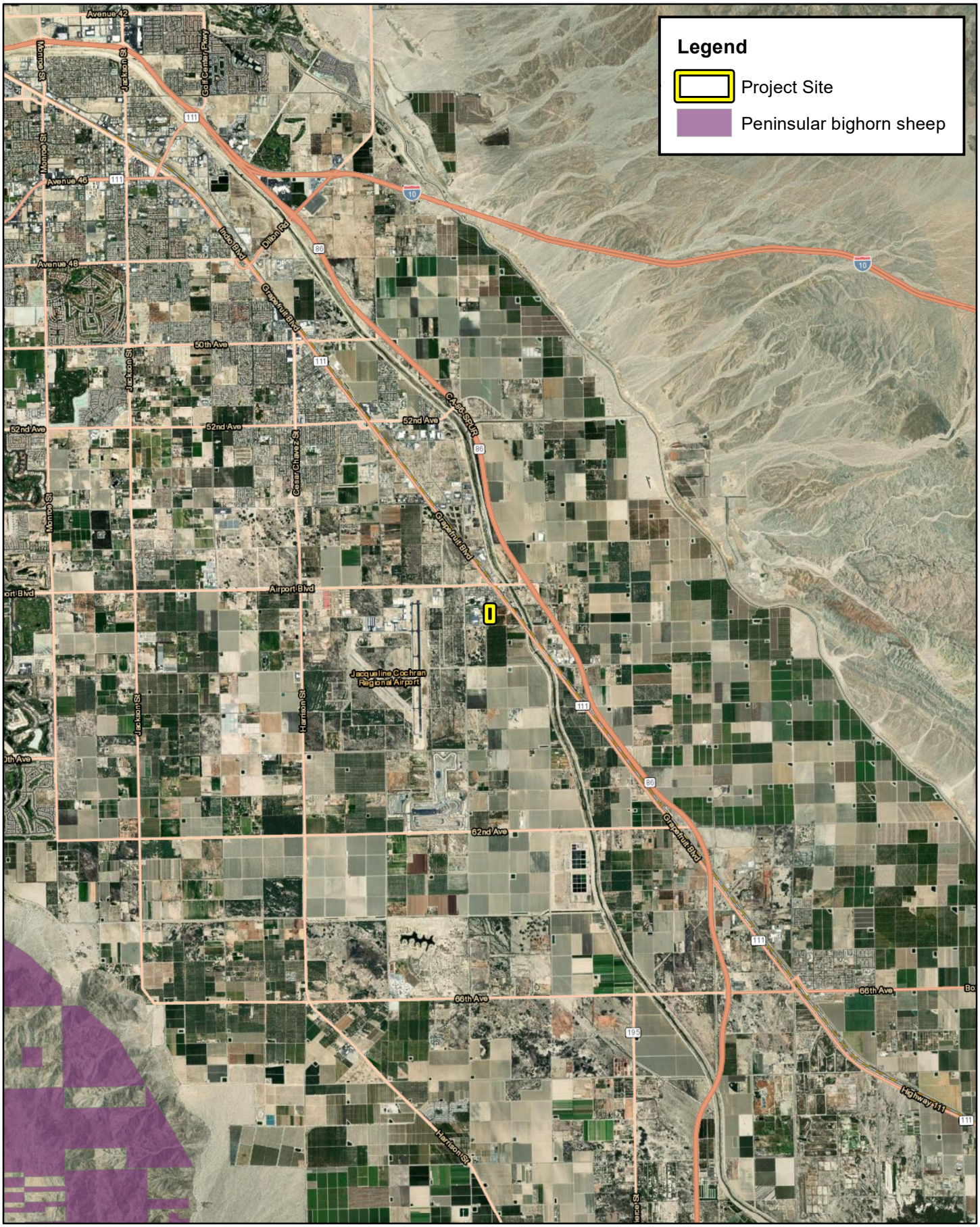
Vegetation

ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Riverside County

Exhibit 5



HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

Critical Habitat

ELMT CONSULTING

0 2,500 5,000 10,000 Feet

Source: ESRI Aerial Imagery, USFWS Critical Habitat, Riverside County

Exhibit 6

Section 5 Coachella Valley MSHCP Consistency Analyis

The project site is located within the boundaries of the CVMSHCP Area, but is not located within any Conservation Areas, Preserves, Cores, or Linkages (refer to Exhibit 7, *CVMSHCP Conservation Areas*).

5.1 COVERED ACTIVITIES OUTSIDE CONSERVATION AREAS

The proposed project was reviewed to determine consistency with the CVMSHCP. Geographic Information System (GIS) software was utilized to map the proposed project in relation to the CVMSHCP including conservation areas, corridors and linkages, and sand transport areas. The CVMSHCP requires that local permittees comply with various protective measures for covered species, communities, essential ecological processes, and biological corridors. In addition, certain projects may be subject to local development mitigation fees, a Joint Project Review Process, or other conservation or implementation measures.

The proposed project is not listed as a planned "Covered Activity" under the published CVMSHCP but is still considered to be a current Covered Activity pursuant to Section 7.1 of the CVMSHCP. According to Section 7.1 of the CVMSHCP, take authorization will be provided for certain activities that take place outside of Conservation Areas including "*new projects approved pursuant to county and city general plans, transportation improvement plans for roads in addition to those addressed in Section 7.2, master drainage plans, capital improvement plans, water and waste management plans, the County's adopted Trails Master Plan, and other plans adopted by the Permittees*."

As a Covered Activity located outside designated conservation areas, construction of the proposed project is expected to be consistent with the applicable avoidance, minimization, and mitigation measures described in Section 4.4 of the CVMSHCP. Since the proposed project is considered a Covered Activity under Section 7.1 of the CVMSHCP, no further avoidance, minimization, and mitigation measures are required, and the project is in compliance with the CVMSHCP.

The CVMSHCP did not identify any modeled habitat for covered species as occurring within the project site. Therefore, no impacts to CVMSHCP Modeled Habitat for Covered Species are expected to occur.

5.2 CVMSHCP LAND USE ADJACENCY GUIDELINES

The purpose of Land Use Adjacency Guidelines (Section 4.5 of the CVMSHCP) is to avoid or minimize indirect effects from development adjacent to or within the Conservation Areas. Adjacent means sharing a common boundary with any parcel in a Conservation Area. Such indirect effects are commonly referred to as edge effects, and may include noise, lighting, drainage, intrusion of people, and the introduction of non-native plants and non-native predators such as dogs and cats.

The proposed project is not located within or adjacent to any CVMSHCP Conservation Areas. Therefore, the CVMSHCP Land Use Adjacency Guidelines do not apply to implementation of the proposed project.

HABITAT ASSESSMENT AND CVMSHCP CONSISTENCY ANALYIS
THERMAL COMMUNITY PARK

CVMSHCP Conservation Areas

ELMT CONSULTING

Source: ESRI Aerial Imagery, CVMSHCP, Riverside County

Exhibit 7

Section 6 Conclusion and Recommendations

The project site is located northwest of the Salton Sea, south of Interstate 10, and almost immediately southwest of State Route 111 in the unincorporated community of Thermal in an area that has gradually undergone a conversion from natural habitats to agricultural land uses to gradual urbanization that now supports a mosaic of agricultural activities and residential, institutional, industrial, and commercial developments. Undeveloped areas within the site have been significantly altered and impact by decades of agricultural activities and adjacent development. Due to these disturbances, no natural plant communities occur on-site. The project site supports two (2) plant communities: date palm rows and non-native grassland, and one (1) land cover types that would be classified as disturbed.

Based literature review and field survey, and existing site conditions discussed in this report, implementation of the project will have no significant impacts on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the project will have no effect on designated Critical Habitat or regional wildlife corridors/linkage because none exists within the area. No jurisdictional drainage and/or wetland features were observed on the project site during the field investigation. No further surveys are recommended.

With completion of recommendations provided below and payment of the CVMSHCP Mitigation Fee, development of the project site is fully consistent with the CVMSHCP and no significant impacts to special-status species are expected to occur.

Special-Status Plant Species

No special-status plant species were observed during the field investigation. Based on habitat requirements for the identified special-status species, known species distributions, and existing site conditions, the site was determined not to have potential to support any special-status plant species, and all are presumed to be absent.

Special-Status Wildlife Species

No special-status animal species were observed on-site during the field investigation. Based on habitat requirements for the identified special-status wildlife species, known distributions, and the and routine disturbance, it was determined that the proposed project has a high potential to support Cooper's hawk and a low potential to support western yellow bat. It was further determined that no other special-status wildlife species have the potential to occur on-site and all are presumed absent.

Cooper's hawk is not state or federally listed as threatened or endangered. In order to ensure impacts to Cooper's hawk does not occur from implementation of the proposed project, a pre-construction nesting bird clearance survey shall be conducted prior to ground disturbance. With implementation of the pre-construction nesting bird clearance survey, impacts to Cooper's hawk will be less than significant and no mitigation will be required.

Migratory Bird Treaty Act and Fish and Game Code Compliance

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs). If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a 300-foot buffer around the active nest. For listed and raptor species, this buffer should be expanded to 500 feet. A biological monitor should be present to delineate the boundaries of the buffer area and monitor the active nest to ensure that nesting behavior is not adversely affected by construction activities. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.

Western yellow bat is a covered species under the CVMSHCP, and no further surveys or additional mitigation measures will be required for impacts to this species, if present.

Riparian Habitat and Special-Status Natural Communities

No jurisdictional drainage and/or wetland features were observed within the proposed project during the field survey. Therefore, development of the proposed project will not result in impacts to Corps, Regional Board, or CDFW jurisdiction and regulatory approvals will not be required.

No special-status natural communities were observed within the boundaries of the proposed project. Therefore, no special-status natural communities will be impacted by project implementation.

Wildlife Corridors and Linkages

Due to surrounding development, the project site is isolated from wildlife corridors or linkages. Therefore, no wildlife corridors or linkages will be impacted by project implementation.

Local, Regional, and State Plans

As a Covered Activity located outside designated conservation areas, construction of the proposed project is expected to implement the applicable avoidance, minimization, and mitigation measures described in Section 4.4 of the CVMSHCP. With implementation of applicable avoidance and minimization measures, the proposed project would be fully consistent with the biological goals and objectives of the CVMSHCP.

Section 7 References

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Appendix A Site Plan

HERMANN DESIGN GROUP
77-899 WOLF RD.
SUITE 102
PALM DESERT, CA
92211
LIC# 2754 EXP. 4/30/22
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OWNER:

PROJECT:
THERMAL COMMUNITY PARK
-
THERMAL, CA

REVISIONS	DATE	BY

LICENSED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA

SHEET TITLE
NORTH / SOUTH
CONCEPT 1

DESIGNED	CH
DRAWN	CP/JS
CHECKED	-
DATE	10/21/21
SCALE	1"=30'
JOB NO.	21071

SHEET
L1.0
OF 1 SHEETS

0' 30' 60' 90'
SCALE: 1"=30'

Appendix B Site Photographs

Photograph 1: From the northwest corner of the project site looking south along the western boundary.

Photograph 2: From the northwest corner of the project site looking east along the northern boundary.

Photograph 3: From the northeast corner of the project site looking west along the northern boundary.

Photograph 4: From the northeast corner of the project site looking south along the eastern boundary.

Photograph 5: From the southeast corner of the project site looking north along the eastern boundary.

Photograph 6: From the southeast corner of the project site looking west along the southern boundary.

Photograph 7: From the southwest corner of the project site looking east along the southern boundary.

Photograph 8: From the southwest corner of the project site looking north along the western boundary.

Appendix C Potentially Occurring Special-Status Biological Resources

Table C-1: Potentially Occurring Sensitive Biological Resources

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
SPECIAL – STATUS WILDLIFE SPECIES				
Accipiter cooperii Cooper's hawk	Fed: None CA: WL CVMSHCP: Not Covered	Generally found in forested areas up to 3,000 feet in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests but can be found in urban and suburban areas where there are tall trees for nesting. Common in open areas during nesting season.	No	**High** Suitable foraging habitat is present on-site, but the site lacks suitable nesting opportunities. This species is well-adapted to urban and agricultural environments and occurs commonly.
Anodonta californiensis California floater	Fed: None CA: None CVMSHCP: Not Covered	Found in lakes and lake-like stream environments at low altitudes.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Athene cunicularia burrowing owl	Fed: None CA: SSC CVMSHCP: Covered	Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	No	**Presumed Absent.** Portions of the project site provide line-of-sight observations favored by burrowing owls. However, no suitable burrows (>4 inches) were observed during the field investigation and the site supports and is surrounded by many tall trees and utility poles that provide perching opportunities for large raptors that prey on burrowing owls.
Buteo regalis ferruginous hawk	Fed: None CA: WL CVMSHCP: Not Covered	Common winter resident of grasslands and agricultural areas in southwestern California. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Does not breed in California.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Coleonyx variegatus abbotti San Diego banded gecko	Fed: None CA: SSC CVMSHCP: Not Covered	Prefers rocky areas in coastal sage and chaparral within granite or rocky outcrops. Occurs in coastal and cismontane southern California from interior Ventura Co. south.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Eumops perotis californicus western mastiff bat	Fed: None CA: SSC CVMSHCP: Not Covered	Occurs in open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Euparagia unidentata Algodones euparagia	Fed: None CA: None CVMSHCP: Not Covered	Scavenges dead insects in sandy areas to feed larvae. Adults nectar primarily on *Croton* sp., upon which it is closely reliant.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Falco peregrinus anatum American peregrine falcon	Fed: Delisted CA: Delisted; FP CVMSHCP: Not Covered	Very uncommon breeding resident, and uncommon as a migrant. Active nesting sites are known along the coast north of Santa Barbara, in the Sierra Nevada, and in other mountains of northern California. Breeds mostly in woodland, forest, and coastal habitats. Riparian areas and coastal and inland wetlands are important habitats yearlong, especially in nonbreeding seasons.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Gopherus agassizii desert tortoise	Fed: **THR** CA: **THR** CVMSHCP: Covered	Widely distributed in the Mojave, Sonoran, and Colorado deserts from below sea level to 7,220 feet. Most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except those on the most precipitous slopes.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Hesperopsis gracielae MacNeill's sootywing	Fed: None CA: None CVMSHCP: Not Covered	Found along riparian or otherwise moist areas within arid regions. Larvae are dependent upon *Atriplex lentiformes*.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Lasiurus xanthinus western yellow bat	Fed: None CA: SSC CVMSHCP: Covered	Occurs in valley/foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts under palm trees and feeds in, and near, palm oases and riparian habitats.	No	**Low.** The date palm rows present on-site provide potential roosting opportunities, but no oases or riparian habitats are present within or nearby the site.
Lithobates yavapaiensis Lowland leopard frog	Fed: Delisted CA: SSC CVMSHCP: Not Covered	Occurs in temperate forests, rivers, intermittent rivers, freshwater lakes, and freshwater marshes.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Macrobaenetes valgum Coachella giant sand treader cricket	Fed: None CA: None CVMSHCP: Covered	Nocturnal and moisture sensitive insects. Emergence occurs with winter rains and appear at maximum densities in January-February. Can be detected via their characteristic delta-shaped burrow excavations.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Perognathus longimembris bangsi Palm Springs pocket mouse	Fed: None CA: SSC CVMSHCP: Covered	Inhabits areas having flat to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or sandy soils on slopes ranging from 0% to approximately 15%. Remaining habitat in the Coachella Valley and environs is about 142,000 acres.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Phrynosoma mcallii flat-tailed horned lizard	Fed: None CA: SSC CVMSHCP: Covered	Typical habitat is sandy desert hardpan or gravel flats with scattered sparse vegetation of low species diversity. Most common in areas with high density of harvester ants and fine windblown sand, but rarely occurs on dunes.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Piranga rubra summer tanager	Fed: None CA: SSC CVMSHCP: Covered	Breed in gaps and edges of open deciduous or pine-oak forests across the southern and mid-Atlantic U.S. Uncommon (formerly common) summer resident and breeder in desert riparian habitat along lower Colorado River. Breeds in mature, desert riparian habitat dominated by cottonwoods and willows.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Polioptila melanura black-tailed gnatcatcher	Fed: None CA: WL CVMSHCP: Not Covered	In Mojave, Great Basin, Colorado and Sonoran desert communities, prefers nesting and foraging in densely lined arroyos and washes dominated by creosote bush and salt bush with scattered bursage, burrowed, ocotillo, saguaro, barrel cactus, nipple cactus, and prickly pear and cholla.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Pyrocephalus rubinus vermilion flycatcher	Fed: None CA: SSC CVMSHCP: Not Covered	Occupies desert riparian habitat, particularly cottonwoods, willows, mesquite, and other large desert riparian trees, in habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas where it can forage.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Rallus obsoletus yumanensis Yuma Ridgeway's rail	Fed: **END** CA: **THR**; FP CVMSHCP: Not Covered	Nests in freshwater marches along the Colorado River and Salton Sea. Prefers stands of cattails and tules dissected by narrow channels of flowing water.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Taxidea taxus American badger	Fed: None CA: SSC CVMSHCP: Not Covered	Primarily occupy grasslands, parklands, farms, tallgrass and shortgrass prairies, meadows, shrub-steppe communities and other treeless areas with sandy loam soils where it can dig more easily for its prey. Occasionally found in open chaparral (with less than 50% plant cover) and riparian zones.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Toxostoma crissale Crissal thrasher	Fed: None CA: SSC CVMSHCP: Covered	Year round resident in California. Occupies a relatively large variety of desert riparian and scrub habitats from below sea level to over 6,000 feet. Occurs in areas dominated by mesquite hummocks and thickets with acacias, arrowweed, and desert saltbush scrub.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Toxostoma lecontei Le Conte's thrasher	Fed: None CA: SSC CVMSHCP: Covered	An uncommon to rare, local resident in southern California deserts from southern Mono Co. south to the Mexican border, and in western and southern San Joaquin Valley. Occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Uma inornata Coachella Valley fringe-toed lizard	Fed: **THR** CA: **END** CVMSHCP: Covered	Sparsely-vegetated arid areas with fine wind-blown sand, including dunes, washes, and flats with sandy hummocks formed around the bases of vegetation. Needs fine, loose sand for burrowing.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Xanthocephalus xanthocephalus yellow-headed blackbird	Fed: None CA: SSC CVMSHCP: Not Covered	Occurs in freshwater emergent wetlands, and moist, open areas along croplands and mud flats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by tules, cattails, or other similar plant species along the border of lakes and ponds.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
Xerospermophilus tereticaudus chlorus Palm Springs round-tailed ground squirrel	Fed: None CA: SSC CVMSHCP: Covered	Inhabits sandy arid regions of Lower Sonoran Life Zone. Its scrub and wash habitats include mesquite and creosote dominated sand dunes, creosote bush scrub, creosote palo verde and saltbush/alkali scrub.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site.
SPECIAL – STATUS PLANT SPECIES				
Abronia villosa* var. *aurita chaparral sand-verbena	Fed: None CA: None CNPS: 1B.1 CVMSHCP: Not Covered	Found on the coastal side of the southern California mountains in chaparral and coastal sage scrub plant communities in areas of full sun and sandy soils. Found at elevations ranging from 262 to 5,249 feet. Blooming period is from January to September.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Astragalus lentiginosus* var. *coachellae Coachella Valley milk-vetch	Fed: **END** CA: None CNPS: 1B.2 CVMSHCP: Covered	Preferred habitat includes desert dunes and sandy Sonoran desert scrub. Found at elevations ranging from 131 to 2,149 feet in elevation. Blooming period is from February to May.	No	**Presumed Absent.** There is no suitable habitat present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Astragalus preussii* var. *laxiflorus Lancaster milk-vetch	Fed: None CA: None CNPS: 1B.1 CVMSHCP: Not Covered	Occurs on alkaline clay flats, gravelly or sandy washes, and along draws in gullied badlands. Found at elevations around 2,379 feet. Blooming period is from March to May.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Astragalus sabulonum gravel milk-vetch	Fed: None CA: None CNPS: 2B.2 CVMSHCP: Not Covered	Occurs in sandy and gravelly soils in flats, washes, and roadsides in desert dunes and Mojavean and Sonoran desert scrub. Found at elevations ranging from 98 to 2,936 feet. Blooming period is from February to May.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Ditaxis claryana glandular ditaxis	Fed: None CA: None CNPS: 2B.2 CVMSHCP: Not Covered	Found in sandy soils in dry washes and rocky hillsides within Mojavean and Sonoran desert scrub. Occurs at elevations ranging from 0 to 1,525 feet. Blooming period is October and December through March.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.

Scientific Name Common Name	**Status**		**Habitat**	**Observed On-site**	**Potential to Occur**
Horsfordia alata pink velvet-mallow	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Occurs in rocky Sonoran desert scrub. Found at elevations ranging from 328 to 1,640 feet. Blooming period is from February to December.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Horsfordia newberryi Newberry's velvet-mallow	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Occurs in rocky Sonoran desert scrub. Found at elevations ranging from 10 to 2,624 feet. Blooming period includes February, April, November, and December.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.
Johnstonella costata ribbed cryptantha	Fed: CA: CNPS: CVMSHCP:	None None 4.3 Not Covered	Occurs in sandy soils within desert dunes and Mojavean and Sonoran desert scrub. Found at elevations ranging from -197 to 1,640 feet. Blooming period is from February to May.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site.
Juncus acutus* ssp. *leopoldii southwestern spiny rush	Fed: CA: CNPS: CVMSHCP:	None None 4.2 Not Covered	Occurs in mesic coastal dunes, alkaline soils in meadows and seeps, and coastal salt marshes and swamps. Found at elevations ranging from 10 to 2,952 feet. Blooming period is typically from May to June and can begin as early as March.	No	**Presumed Absent.** No suitable habitat is present within or adjacent to the project site. The project site occurs outside of the known elevation range for this species.

U.S. Fish and Wildlife Service (USFWS) - Federal
END - Federal Endangered
THR - Federal Threatened

California Department of Fish and Wildlife (CDFW) - California
END - California Endangered
THR - California Threatened
SSC - California Species of Concern
WL - Watch List
FP - California Fully Protected

California Native Plant Society (CNPS)
California Rare Plant Rank
1A - Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B - Plants Rare, Threatened, or Endangered in California and Elsewhere
2B - Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
4 - Plants of Limited Distribution – A Watch List

Threat Ranks
0.1 - Seriously threatened in California
0.2 - Moderately threatened in California
0.3 - Not very threatened in California

Appendix D Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). Section 9 of the ESA prohibits "take" of threatened or endangered species. "Take" under the ESA is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the United States Fish and Wildlife Service (USFWS) may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an ESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines "endangered" and "rare" species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as; "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the

absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere

1B- Plants Rare, Threatened, or Endangered in California and Elsewhere

2A- Plants Presumed Extirpated in California, But More Common Elsewhere

2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3- Plants about Which More Information is Needed - A Review List

4- Plants of Limited Distribution - A Watch List

Threat Ranks

.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

Local Policies

Coachella Valley MSHCP

A Multiple Species Habitat Conservation Plan (Plan) was prepared for the entire Coachella Valley and surrounding mountains to address current and potential future state and federal Endangered Species Act issues in the Plan Area. A Memorandum of Understanding ("Planning Agreement") was developed to govern the preparation of the Plan. In late 1995 and early 1996, under the auspices of CVAG, the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; County of Riverside (County); U.S. Fish and Wildlife Service (USFWS); California Department of Fish and Game (CDFG); Bureau of Land Management (BLM); U.S. Forest Service (USFS); and National Park Service (NPS) signed the Planning Agreement to initiate the planning effort. Subsequently, Caltrans, Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), Riverside County Flood Control and Water Conservation District (County Flood Control), Riverside County Regional Park and Open Space District (County Parks), Riverside County Waste Resources Management District (County Waste), California Department of Parks and Recreation (State Parks), and CVMC decided to participate in the Plan.

The Plan balances environmental protection and economic development objectives in the Plan Area and simplifies compliance with endangered species related laws. The Plan is intended to satisfy the legal requirements for the issuance of Permits that will allow the Take of species covered by the Plan in the course of otherwise lawful activities. The Plan will, to the maximum extent practicable, minimize and mitigate the impacts of the Taking and provide for Conservation of the Covered Species.

The Conservation Plan includes the establishment of an MSHCP Reserve System, setting Conservation Objectives to ensure the Conservation of the Covered Species and conserved natural communities in the MSHCP Reserve System, provisions for management of the MSHCP Reserve System, and a Monitoring Program, and Adaptive Management. The MSHCP Reserve System will be established from lands within

21 Conservation Areas. Because some Take Authorization is provided under the Plan for Development in Conservation Areas, the actual MSHCP Reserve System will be somewhat smaller than the total acres in the Conservation Areas. When assembled, the Reserve System will provide for the Conservation of the Covered Species in the Plan Area.

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.," including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term "*waters of the United States*" is defined as follows:

(i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) All interstate waters, including interstate wetlands[1].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as waters of the United States under the definition.

(v) All tributaries[2] of waters identified in paragraphs (i) through (iii) mentioned above.

(vi) All waters adjacent[3] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

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1 The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

2 The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

3 The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as "waters of the United States" even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(ii) Prior converted cropland.

(iii) The following ditches:

- (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
- (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
- (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

- (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
- (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
- (C) Artificial reflecting pools or swimming pools created in dry land;
- (D) Small ornamental waters created in dry land;
- (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
- (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
- (G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;
(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

Appendix D

Cultural Resources Survey

A PHASE I CULTURAL RESOURCES SURVEY FOR THE THERMAL COMMUNITY PARK PROJECT

RIVERSIDE COUNTY, CALIFORNIA

Portions of APNs 757-062-002 and -003

Project Site Location: Section 22 of Township 6 South, Range 8 East of the *Indio, California* USGS Quadrangle

Prepared on Behalf of:

The Altum Group, Inc.
44-600 Village Court, Suite 100
Palm Desert, California 92260

Prepared for:

Desert Recreation District
45-305 Oasis Street
Indio, California 92201

Prepared by:

BFSA Environmental Services,
a Perennial Company (BFSA) ~~**Brian F. Smith and Associates, Inc.**~~
14010 Poway Road, Suite A
Poway, California 92064

October 12, 2022; Revised January 30, 2023

BFSA Environmental Services
A Perennial Company

Fieldwork Performed: December 21, 2021 and October 6, 2022
Key Words: 10.3 acres; negative survey; monitoring recommended.

Archaeological Report Summary Information

Authors:	Andrew J. Garrison, M.A., RPA
Prepared by:	BFSA Environmental Services, a Perennial Company ~~Brian F. Smith and Associates, Inc.~~ 14010 Poway Road, Suite A Poway, California 92064 (858) 679-8218
Report Date:	October 12, 2022; Revised January 30, 2023
Report Title:	A Phase I Cultural Resources Survey for the Thermal Community Park Project, Thermal, Riverside County, California
Prepared on Behalf of:	The Altum Group, Inc. 44-600 Village Court, Suite 100 Palm Desert, California 92260
Prepared for:	Desert Recreation District 45-305 Oasis Street Indio, California 92201
Assessor's Parcel Numbers:	Portions of APNs 757-062-002 and -003
USGS Quadrangle:	Section 22, Township 6 South, Range 8 East, of the *Indio, California* USGS quadrangle.
Study Area:	10.3 acres
Key Words:	Archaeological survey; negative; County of Riverside; 10.3 acres; *Indio, California* USGS quadrangle; monitoring recommended.

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1.0 MANAGEMENT SUMMARY/ABSTRACT

The following report describes the results of the cultural resources survey program conducted by BFSA Environmental Services, a Perennial Company (BFSA) ~~Brian F. Smith and Associates, Inc. (BFSA)~~ for the Thermal Community Park Project. The project is identified as portions of Assessor's Parcel Numbers (APNs) 757-062-002 and -003 and is located southeast of the intersection of Olive and Church streets in the community of Thermal, unincorporated Riverside County, California. The subject property is within Section 22, Township 6 South, Range 8 East, of the San Bernardino Baseline and Meridian, on the U.S. Geological Survey (USGS) 7.5-minute *Indio, California* topographic quadrangle map. The project proposes to clear the 10.3-acre property to create a community park with facilities for various sports, playgrounds, parking, trails, and other amenities.

BFSA conducted the archaeological assessment to locate and record any cultural resources present within the project in compliance with the California Environmental Quality Act (CEQA) and following County of Riverside Cultural Resource Guidelines. The subject property includes an area that has been used agriculturally since at least 1953. During the survey, no cultural resources were identified within the project.

1.1 Purpose of Investigation

The purpose of this investigation was to determine if any cultural resources would be affected by the proposed land development. This study consisted of the processing of a records search of previously recorded archaeological sites on or near the property and the completion of an archaeological survey of the project. The archaeological records search results from the Eastern Information Center (EIC) at the University of California at Riverside (UCR) indicated that 33 cultural resources are located within one mile of the subject property. In addition, the Native American Heritage Commission (NAHC) was contacted for a Sacred Lands File (SLF) search. The SLF search was negative for the presence of sacred sites or areas of ceremonial or religious importance within the search radius. In accordance with previous recommendations of the NAHC, BFSA contacted all Native American consultants listed by the NAHC at least two weeks prior to the initiation of the field survey.

1.2 Major Findings

During the survey, ground visibility was characterized as moderate to poor. The property can be characterized as flat and has largely been disturbed by agricultural activities since at least 1953 to the present. The Phase I survey of the Thermal Community Park Project did not result in the identification of any cultural resources within the project.

1.3 Recommendation Summary

Based upon the results of the current study, mitigation monitoring is recommended for the

project development. Although aerial photographs indicate that the property has been disturbed by past use, there is still a potential to encounter deposits associated with the prehistoric and historic uses of the property. Therefore, it is recommended that all earthwork required to develop the property be monitored by a qualified archaeologist and a Native American representative. The protocols to be followed for the mitigation monitoring of the property are presented in Section 5.0 of this report. A copy of this report will be permanently filed with the EIC at UCR. All notes, photographs, and other materials related to this project will be curated at the archaeological laboratory of BFSA in Poway, California.

2.0 INTRODUCTION

BFSA was retained by the Altum Group, Inc. to conduct a cultural resources survey for the Thermal Community Park Project. The archaeological survey was conducted in order to comply with CEQA and County of Riverside Cultural Resource Guidelines with regards to development-generated impacts to cultural resources. The project is located in an area of moderate cultural resource sensitivity, as suggested by the local topography. Sensitivity for cultural resources in a given area is usually indicated by known settlement patterns, which in Riverside County are focused around environments with accessible food and water.

The 10.3-acre project, which includes portions of APNs 757-062-002 and -003, is located southeast of the intersection of Olive and Church streets in the community of Thermal, Riverside County, California (Figure 2.0–1). The property is situated within Section 22, Township 6 South, Range 8 East, of the San Bernardino Baseline and Meridian, on the USGS 7.5-minute *Indio, California* topographic quadrangle map (Figure 2.0–2). The project proposes to clear the approximately 10.3-acre property to create a community park with facilities for various sports, playgrounds, parking, trails, and other amenities (Figure 2.0–3).

Principal Investigator Brian F. Smith, M.A., directed the cultural resources study for the project. Director of Field Operations Clarence Hoff and field archaeologist Charles Callahan conducted the pedestrian surveys of the project on December 21, 2021 and October 6, 2022, respectively. The surveys were conducted in 10 to 15-meter interval transects. Visibility of the natural ground surface was moderate to poor. Project Archaeologist Andrew J. Garrison, M.A., RPA prepared the technical report and graphics and Summer Forsman and Courtney McNair conducted technical editing and report production. Qualifications of key personnel are provided in Appendix A.

2.1 Previous Work

The records search for the property was requested from the EIC at UCR on December 8, 2021. Results were received and processed by BFSA on September 13, 2022. The results of the records search indicated that 33 cultural resources have been previously recorded within a one-mile radius of the project, none of which are located within the subject property. Almost all (N=31) of these resources are historic in age. The results of the records search also indicate that a total of 33 cultural resources studies have been previously conducted within a one-mile radius of the project, one of which (Van Horn et al. 1990) overlaps the subject property. No cultural resources have ever been located within the Thermal Community Park Project property as a result of any previous study. BFSA also reviewed the National Register of Historic Places (NRHP) index, historic USGS data, and historic aerial photographs (1932, 1953, 1965, 1972, 1996, and 2002) for the project area. The historic aerials show that since 1953, the subject property has been devoid of any structures and primarily used for agricultural purposes.

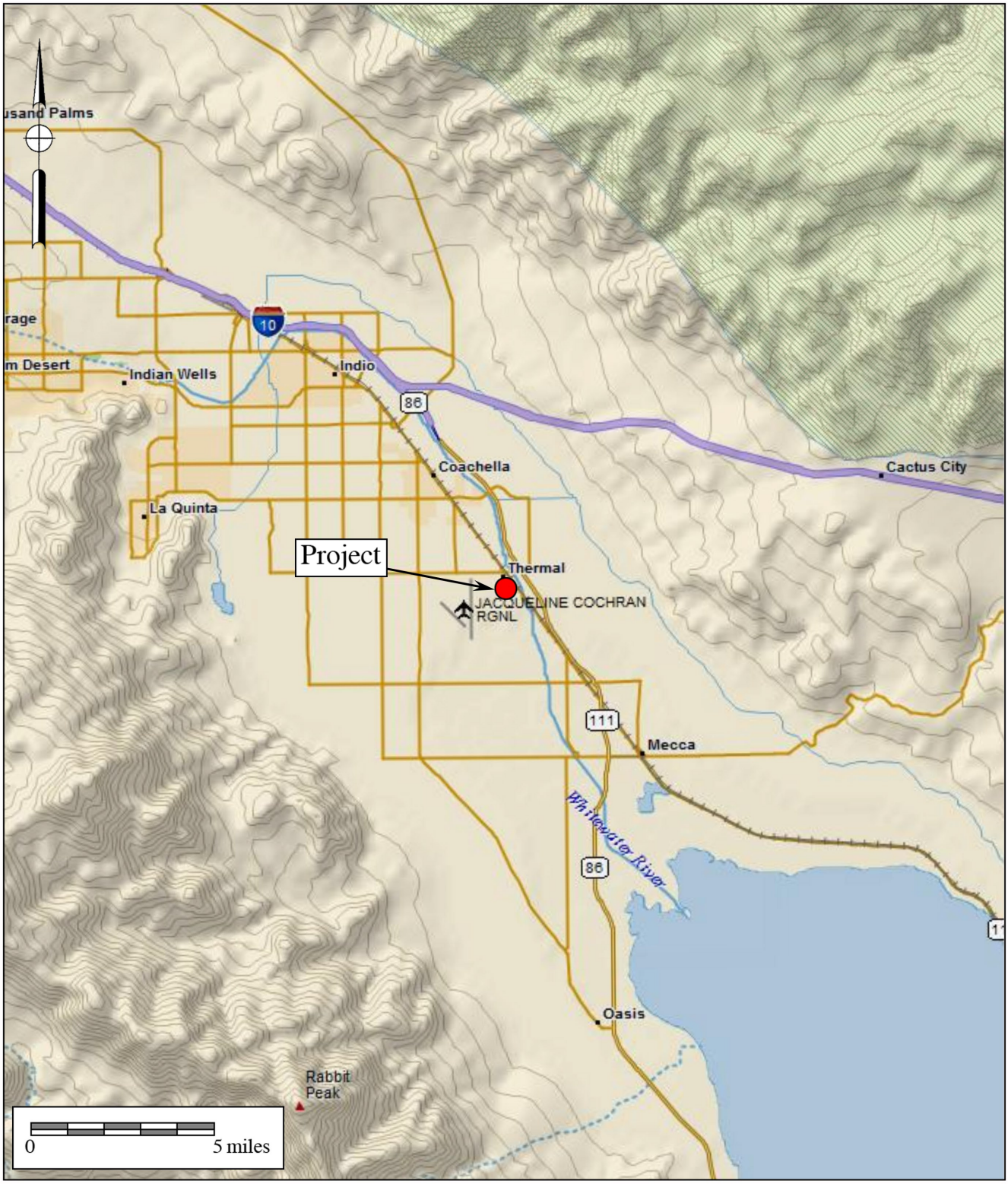

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Figure 2.0–1

General Location Map

The Thermal Community Park Project

DeLorme (1:250,000 series)

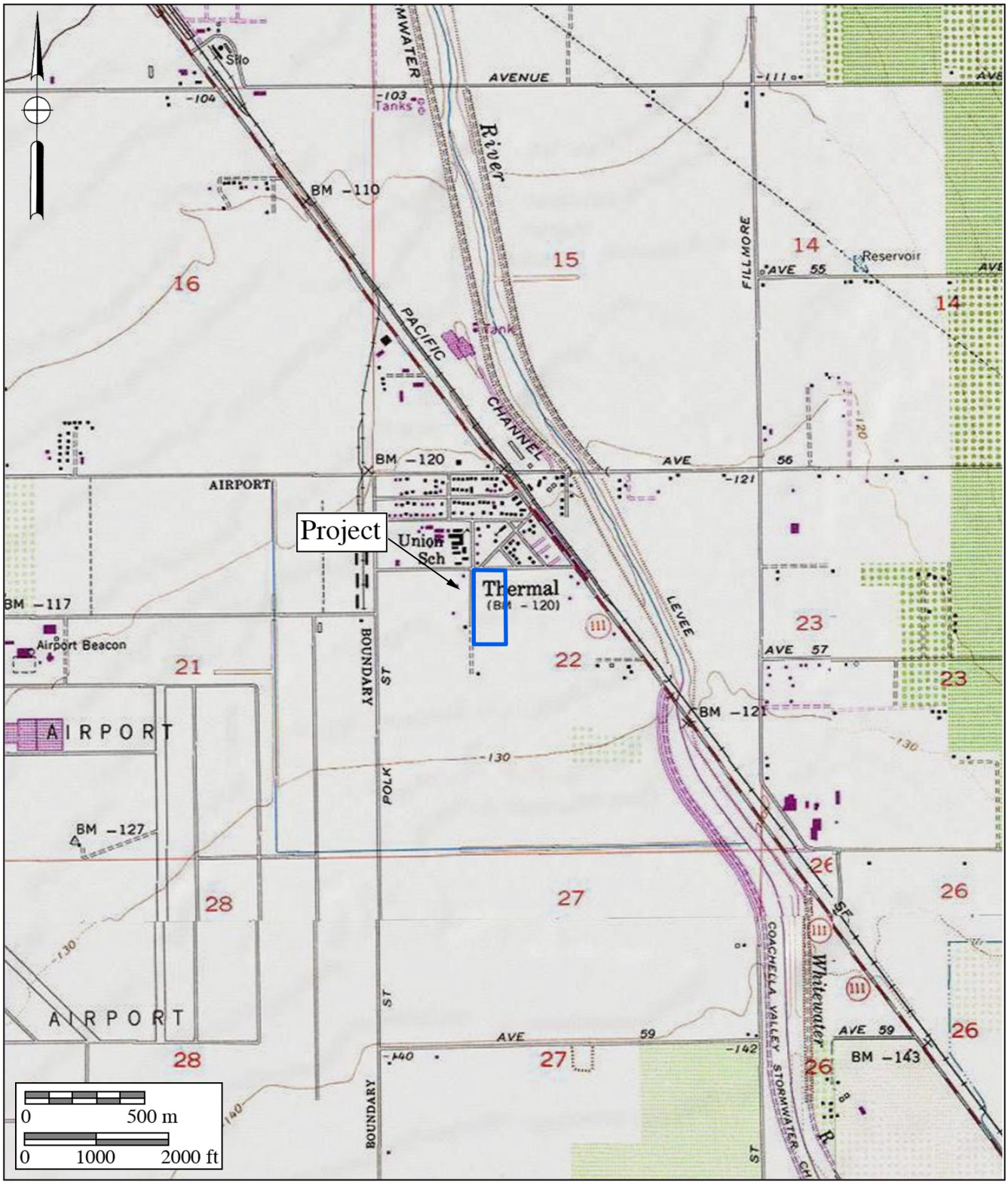

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Figure 2.0–2
Project Location Map
The Thermal Community Park Project
USGS *Indio* Quadrangle (7.5-minute series)

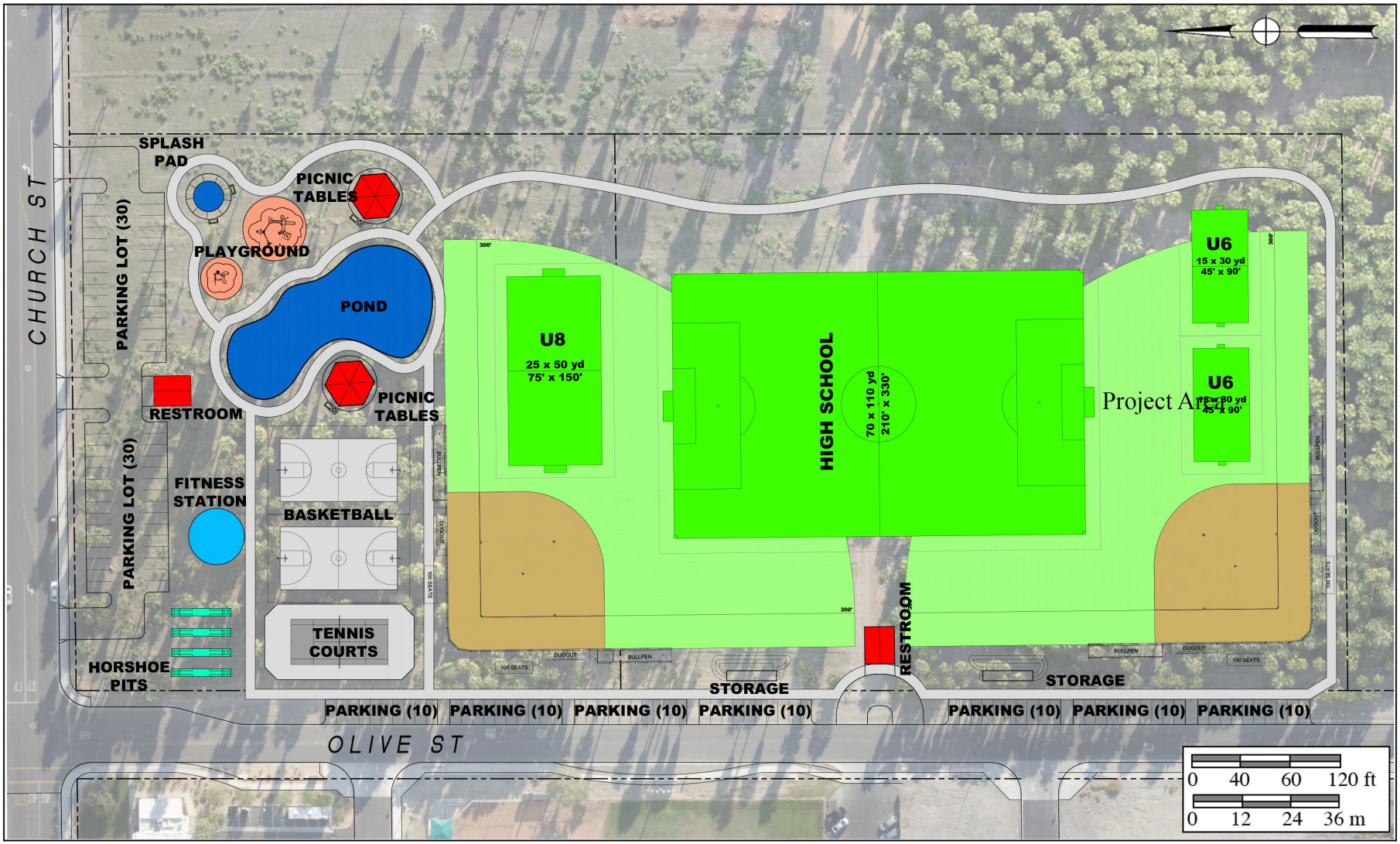

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Figure 2.0–3
Concepetual Plan
The Thermal Community Park Project

2.2 Project Setting

The subject property is located in the Peninsular Ranges Geologic Province of southern California. The range, which lies in a northwest to southeast trend through the county, extends approximately 1,000 miles from the Raymond-Malibu Fault Zone in western Los Angeles County to the southern tip of Baja California.

Regionally, the project is located in the Coachella Valley within the Salton Basin. The basin is a depressed structural block bounded on the west by the Santa Rosa and Coyote mountains and on the east by the San Andreas fault zone and the Chocolate Mountains (Norris and Webb 1990; Dibblee 2008). Based upon mapping and descriptions by Rogers (1965), Dibblee (2008), and others, the project is situated over interbedded early Holocene fluvial sediments and lacustrine (lakebed) sediments of ancient Lake Cahuilla (Dibblee 2008).

Much of the Salton Basin is covered by the fluvial and lacustrine sediments of ancient Lake Cahuilla. The lacustrine sediments were deposited intermittently during the last 10,000 years when the enclosed basin was periodically covered by flood waters of the Colorado River following breaching of the natural river levees. As the basin filled up, the natural river levees reformed, and the lake would eventually dry up as a result of evaporation. The extent of the basin-margin fluvial sediments was greatest when the lake was at its lowest levels. At its highest extent, about 12 meters (approximately 40 feet) above modern sea level, the lake would be 95 meters (approximately 312 feet) deep and cover an area of approximately 5,700 square kilometers (2,200 square miles) (Waters 1983).

Based upon stratigraphic studies, complemented by radiocarbon (14C) dating, basin flooding and creation of an inland freshwater lake occurred several times during the latter half of the Holocene Epoch. Flooding of the enclosed Salton Basin occurred multiple times during the late Pleistocene and early Holocene subsequent to the blockage of the natural drainage pattern to the Gulf of California by development of the Colorado River fan. The last versions of the lake existed as late as during the first half of the seventeenth century and during the middle of the eighteenth century (Ross 2020). Coarser-grained fluvial sediments are more prevalent along the basin margins, whereas finer-grained lacustrine sediments (silts and clays), derived from suspended Colorado River sediment, dominate the central areas of the basin. The thickness of Lake Cahuilla sediments ranges from only a few feet along its margins to as much as approximately 300 feet (90 meters) in deeper parts of the original basin (Norris and Webb 1990).

The project is generally associated with the Sonoran Life Zone (Munz 1974; Munz and Keck 1949, 1950). The biological zone supports a desert vegetation that is generally comprised of creosote bush, mesquite, and desert sage scrub communities. Other species may include white bursage, burrobush, iodine bush, quailbush, brittlebush, cholla, saltbush, prickly pear cactus, yucca, goosefoot, bulrush, and various grasses. Fauna identified in the region include various species of mice, kangaroo rat, woodrat, desert cottontail, black-tailed jackrabbit, ground squirrels, gray fox, kit fox, desert bighorn sheep (*Ovis canadensis nelsoni*) coyote, and bobcat (Wilke 1984:5; Wilke 1986:2; Ryan 1968).

At the present, the project is characterized as relatively flat with an average elevation of 125 feet below mean sea level. Currently, the subject property contains the remains of a palm tree nursery. Prehistorically, the subject property would have either been submerged under Lake Cahuilla, or, as the lake receded, on the periphery of the ancient Lake Cahuilla. As a freshwater lake, during periods when it was present, Lake Cahuilla was utilized by the prehistoric inhabitants. The lake has also been referred to as Lake LeConte, Agua Grande, and Blake Sea (Jertberg 1981; Wilke 1986). The project is also just over one-quarter mile from the Whitewater River, which was channelized and converted into the Coachella Valley Water District Stormwater Channel during the mid-twentieth century.

2.3 Cultural Setting – Archaeological Perspectives

The archaeological perspective seeks to reconstruct past cultures based upon the material remains left behind. This is done using a range of scientific methodologies, almost all of which draw from evolutionary theory as the base framework. Archaeology allows one to look deeper into history or prehistory to see where the beginnings of ideas manifest via analysis of material culture, allowing for the understanding of outside forces that shape social change. Thus, the archaeological perspective allows one to better understand the consequences of the history of a given culture upon modern cultures. Archaeologists seek to understand the effects of past contexts of a given culture on *this* moment in time, not culture in context *in* the moment.

Despite this, a distinction exists between "emic" and "etic" ways of understanding material culture, prehistoric lifeways, and cultural phenomena in general (Harris 1991). While "emic" perspectives serve the subjective ways in which things are perceived and interpreted by the participants within a culture, "etic" perspectives are those of an outsider looking in hoping to attain a more scientific or "objective" understanding of the given phenomena. Archaeologists, by definition, will almost always serve an etic perspective as a result of the very nature of their work. As indicated by Laylander et al. (2014), it has sometimes been suggested that etic understanding, and therefore an archaeological understanding, is an imperfect and potentially ethnocentric attempt to arrive at emic understanding. In contrast to this, however, an etic understanding of material culture, cultural phenomena, and prehistoric lifeways can address significant dimensions of culture that lie entirely beyond the understanding or interest of those solely utilizing an emic perspective. As Harris (1991:20) appropriately points out, "Etic studies often involve the measurement and juxtaposition of activities and events that native informants find inappropriate or meaningless." This is also likely true of archaeological comparisons and juxtapositions of material culture. However, culture as a whole does not occur in a vacuum and is the result of several millennia of choices and consequences influencing everything from technology, to religions, to institutions. Archaeology allows for the ability to not only see what came before, but to see how those choices, changes, and consequences affect the present. Where possible, archaeology should seek to address both emic and etic understandings to the extent that they may be recoverable from the archaeological record as manifestations of patterned human behavior (Laylander et al. 2014).

To that point, the culture history offered herein is primarily based upon archaeological (etic) and ethnographic (partially emic and partially etic) information. It is understood that the ethnographic record and early archaeological records were incompletely and imperfectly collected. In addition, in most cases, more than a century of intensive cultural change and cultural evolution had elapsed since the terminus of the prehistoric period. Coupled with the centuries and millennia of prehistoric change separating the "ethnographic present" from the prehistoric past, this has affected the emic and etic understandings of prehistoric cultural settings. Regardless, there remains a need to present the changing cultural setting within the region under investigation. As a result, both archaeological and Native American perspectives are offered when possible.

2.3.1 Introduction

Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Takic groups are the three general cultural periods represented in Riverside County. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was primarily represented by the Cahuilla, Gabrielino, and Luiseño Indians.

Absolute chronological information, where possible, will be incorporated into this archaeological discussion to examine the effectiveness of continuing to interchangeably use these terms. Reference will be made to the geological framework that divides the archaeologically-based culture chronology of the area into four segments: the late Pleistocene (20,000 to 10,000 years before the present [YBP]), the early Holocene (10,000 to 6,650 YBP), the middle Holocene (6,650 to 3,350 YBP), and the late Holocene (3,350 to 200 YBP).

2.3.2 Paleo Indian Period (Late Pleistocene: 11,500 to circa 9,000 YBP)

Archaeologically, the Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or two to six kilometers further west than its present location (Masters 1983).

Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss

and Erlandson 1995).

2.3.3 Archaic Period (Early and Middle Holocene: circa 9,000 to 1,300 YBP)

Archaeological data indicates that between 9,000 and 8,000 YBP, a widespread complex was established in the southern California region, primarily along the coast (Warren and True 1961). This complex is locally known as the La Jolla Complex (Rogers 1939; Moriarty 1966), which is regionally associated with the Encinitas Tradition (Warren 1968) and shares cultural components with the widespread Milling Stone Horizon (Wallace 1955). The coastal expression of this complex appeared in southern California coastal areas and focused upon coastal resources and the development of deeply stratified shell middens that were primarily located around bays and lagoons. The older sites associated with this expression are located at Topanga Canyon, Newport Bay, Agua Hedionda Lagoon, and some of the Channel Islands. Radiocarbon dates from sites attributed to this complex span a period of over 7,000 years in this region, beginning over 9,000 YBP.

The Encinitas Tradition is best recognized for its pattern of large coastal sites characterized by shell middens, grinding tools that are closely associated with the marine resources of the area, cobble-based tools, and flexed human burials (Shumway et al. 1961; Smith and Moriarty 1985). While ground stone tools and scrapers are the most recognized tool types, coastal Encinitas Tradition sites also contain numerous utilized flakes, which may have been used to pry open shellfish. Artifact assemblages at coastal sites indicate a subsistence pattern focused upon shellfish collection and nearshore fishing. This suggests an incipient maritime adaptation with regional similarities to more northern sites of the same period (Koerper et al. 1986). Other artifacts associated with Encinitas Tradition sites include stone bowls, doughnut stones, discoidals, stone balls, and stone, bone, and shell beads.

The coastal lagoons in southern California supported large Milling Stone Horizon populations circa 6,000 YBP, as is shown by numerous radiocarbon dates from the many sites adjacent to the lagoons. The ensuing millennia were not stable environmentally, and by 3,000 YBP, many of the coastal sites in central San Diego County had been abandoned (Gallegos 1987, 1992). The abandonment of the area is usually attributed to the sedimentation of coastal lagoons and the resulting deterioration of fish and mollusk habitat. This is a well-documented situation at Batiquitos Lagoon, where over a two-thousand-year period, dominant mollusk species occurring in archaeological middens shift from deep-water mollusks (*Argopecten* sp.) to species tolerant of tidal flat conditions (*Chione* sp.), indicating water depth and temperature changes (Miller 1966; Gallegos 1987).

This situation likely occurred for other small drainages (Buena Vista, Agua Hedionda, San Marcos, and Escondido creeks) along the central San Diego coast where low flow rates did not produce sufficient discharge to flush the lagoons they fed (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo lagoons) (Byrd 1998). Drainages along the northern and southern San Diego coastline were larger and flushed the coastal hydrological features they fed, keeping them

open to the ocean and allowing for continued human exploitation (Byrd 1998). Peñasquitos Lagoon exhibits dates as late as 2,355 YBP (Smith and Moriarty 1985) and San Diego Bay showed continuous occupation until the close of the Milling Stone Horizon (Gallegos and Kyle 1988). Additionally, data from several drainages in Camp Pendleton indicate a continued occupation of shell midden sites until the close of the period, indicating that coastal sites were not entirely abandoned during this time (Byrd 1998).

By 5,000 YBP, an inland expression of the La Jolla Complex is evident in the archaeological record, exhibiting influences from the Campbell Tradition from the north. These inland Milling Stone Horizon sites have been termed "Pauma Complex" (True 1958; Warren et al. 1961; Meighan 1954). By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex (True 1980), it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. Evidence from the 4S Project in inland San Diego County suggests that these inland sites may represent seasonal components within an annual subsistence round by La Jolla Complex populations (Raven-Jennings et al. 1996). Including both coastal and inland sites of this time period in discussions of the Encinitas Tradition, therefore, provides a more complete appraisal of the settlement and subsistence system exhibited by this cultural complex.

More recent work by Sutton has identified a more localized complex known as the Greven Knoll Complex. The Greven Knoll Complex is a redefined northern inland expression of the Encinitas Tradition first put forth by Mark Sutton and Jill Gardener (2010). Sutton and Gardener (2010:25) state that "[t]he early millingstone archaeological record in the northern portion of the interior southern California was not formally named but was often referred to as 'Inland Millingstone,' 'Encinitas,' or even 'Topanga.'" Therefore, they proposed that all expressions of the inland Milling Stone in southern California north of San Diego County be grouped together in the Greven Knoll Complex.

The Greven Knoll Complex, as postulated by Sutton and Gardener (2010), is broken into three phases and obtained its name from the type-site Greven Knoll located in Yucaipa, California. Presently, the Greven Knoll Site is part of the Yukaipa't Site (SBR-1000) and was combined with the adjacent Simpson Site. Excavations at Greven Knoll recovered manos, metates, projectile points, discoidal cogged stones, and a flexed inhumation with a possible cremation (Kowta 1969:39). It is believed that the Greven Knoll Site was occupied between 5,000 and 3,500 YBP. The Simpson Site contained mortars, pestles, side-notched points, and stone and shell beads. Based upon the data recovered at these sites, Kowta (1969:39) suggested that "coastal Milling Stone Complexes extended to and interdigitated with the desert Pinto Basin Complex in the vicinity of the Cajon Pass."

Phase I of the Greven Knoll Complex is generally dominated by the presence of manos and

metates, core tools, hammerstones, large dart points, flexed inhumations, and occasional cremations. Mortars and pestles are absent from this early phase, and the subsistence economy emphasized hunting. Sutton and Gardener (2010:26) propose that the similarity of the material culture of Greven Knoll Phase I and that found in the Mojave Desert at Pinto Period sites indicates that the Greven Knoll Complex was influenced by neighbors to the north at that time. Accordingly, Sutton and Gardener (2010) believe that Greven Knoll Phase I may have appeared as early as 9,400 YBP and lasted until about 4,000 YBP.

Greven Knoll Phase II is associated with a period between 4,000 and 3,000 YBP. Artifacts common to Greven Knoll Phase II include manos and metates, Elko points, core tools, and discoidals. Pestles and mortars are present; however, they are only represented in small numbers. Finally, there is an emphasis upon hunting and gathering for subsistence (Sutton and Gardener 2010:8).

Greven Knoll Phase III includes manos, metates, Elko points, scraper planes, choppers, hammerstones, and discoidals. Again, small numbers of mortars and pestles are present. Greven Knoll Phase III spans from approximately 3,000 to 1,000 YBP and shows a reliance upon seeds and yucca. Hunting is still important, but bones seem to have been processed to obtain bone grease more often in this later phase (Sutton and Gardener 2010:8).

The shifts in food processing technologies during each of these phases indicate a change in subsistence strategies; although people were still hunting for large game, plant-based foods eventually became the primary dietary resource (Sutton 2011a). Sutton's (2011b) argument posits that the development of mortars and pestles during the middle Holocene can be attributed to the year-round exploitation of acorns as a main dietary provision. Additionally, the warmer and drier climate may have been responsible for groups from the east moving toward coastal populations, which is archaeologically represented by the interchange of coastal and eastern cultural traits (Sutton 2011a).

2.3.4 Late Prehistoric Period (Late Holocene: 1,300 YBP to 1790)

Many Luiseño hold the world view that as a population they were created in southern California. Archaeological and anthropological data, however, proposes a scientific/archaeological perspective, suggesting that at approximately 1,350 YBP, Takic-speaking groups from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period. An analysis of the Takic expansion by Sutton (2009) indicates that inland southern California was occupied by "proto-Yuman" populations before 1,000 YBP. The comprehensive, multi-phase model offered by Sutton (2009) employs linguistic, ethnographic, archaeological, and biological data to solidify a reasonable argument for population replacement of Takic groups to the north by Penutians (Laylander 1985). As a result, it is believed that Takic expansion occurred starting around 3,500 YBP moving toward southern California, with the Gabrielino language diffusing south into neighboring Yuman (Hokan) groups around 1,500 to 1,000 YBP, possibly resulting in the Luiseño dialect.

Based upon Sutton's model, the final Takic expansion would not have occurred until about 1,000 YBP, resulting in Vanyume, Serrano, Cahuilla, and Cupeño dialects. The model suggests that the Luiseño did not simply replace Hokan speakers, but were rather a northern San Diego County/southern Riverside County Yuman population who adopted the Takic language. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including Cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far-reaching as the Colorado River Basin and cremation of the dead.

2.3.5 Protohistoric Period (Late Holocene: 1790 to Present)

Ethnohistorical and ethnographic evidence indicates that three Shoshonean-speaking groups occupied portions of Riverside County during the Protohistoric period, including the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and proto-historic times are difficult to place.

At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory that included the San Bernardino Mountains, Orocopia Mountain, and the Chocolate Mountains to the east, the Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. The Cahuilla were a Takic-speaking people closely related to their Gabrielino and Luiseño neighbors, although relations with the Gabrielino were more intense than with the Luiseño. They differed from the Luiseño and Gabrielino in that their religion was more similar to the Mohave tribes of the eastern deserts than the *Chingichngish* beliefs of the Luiseño and Gabrielino.

The project itself is within the Coachella Valley. This region is known to be associated with numerous habitation sites of the Desert Cahuilla (Barrows 1900; Hooper 1920; Kroeber 1976; Curtis 1926; Strong 1929; Bean and Saubel 1972; Bean 1978). The Desert Cahuilla are identified as one of three distinct Cahuilla populations associated with the Coachella Valley. Wilke (1978) suggests the Cahuilla migrated into the upland areas after the last desiccation of Lake Cahuilla, and finally returned to the desert floor once the area began to grow again. The population that returned to the valley evolved into the Desert Cahuilla as indicated by ethnographic research.

Cahuilla: An Archaeological and Ethnographic Perspective

At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory that included the San Bernardino Mountains, Orocopia Mountain, and the Chocolate Mountains to the west, Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. The Cahuilla are a Takic-speaking people closely

related to their Gabrielino and Luiseño neighbors, although relations with the Gabrielino were more intense than with the Luiseño. They differ from the Luiseño and Gabrielino in that their religion is more similar to the Mohave tribes of the eastern deserts than the Chingichngish religious group of the Luiseño and Gabrielino. The following is a summary of ethnographic data regarding this group (Bean 1978; Kroeber 1976).

Subsistence and Settlement

Cahuilla villages were typically permanent and located on low terraces within canyons in proximity to water sources. These locations proved to be rich in food resources and also afforded protection from prevailing winds. Villages had areas that were publicly owned and areas that were privately owned by clans, families, or individuals. Each village was associated with a particular lineage and series of sacred sites that included unique petroglyphs and pictographs. Villages were occupied throughout the year; however, during a several-week period in the fall, most of the village members relocated to mountain oak groves to take part in acorn harvesting (Bean 1978; Kroeber 1976).

The Cahuilla's use of plant resources is well documented. Plant foods harvested by the Cahuilla included valley oak acorns and single-leaf pinyon pine nuts. Other important plant species included bean and screw mesquite, agave, Mohave yucca, cacti, palm, chia, quail brush, yellowray goldfield, goosefoot, manzanita, catsclaw, desert lily, mariposa lily, and a number of other species such as grass seed. A number of agricultural domesticates were acquired from the Colorado River tribes including corn, bean, squash, and melon grown in limited amounts. Animal species taken included deer, bighorn sheep, pronghorn antelope, rabbit, hare, rat, quail, dove, duck, roadrunner, and a variety of rodents, reptiles, fish, and insects (Bean 1978; Kroeber 1976).

Social Organization

The Cahuilla was not a political nation, but rather a cultural nationality with a common language. Two non-political, non-territorial patrimoieties were recognized: the Wildcats (túktem) and the Coyotes (?ístam). Lineage and kinship were memorized at a young age among the Cahuilla, providing a backdrop for political relationships. Clans were comprised of three to 10 lineages; each lineage owned a village site and specific resource areas. Lineages within a clan cooperated in subsistence activities, defense, and rituals (Bean 1978; Kroeber 1976).

A system of ceremonial hierarchy operated within each lineage. The hierarchy included the lineage leader, who was responsible for leading subsistence activities, guarding the sacred bundle, and negotiating with other lineage leaders in matters concerning land use, boundary disputes, marriage arrangements, trade, warfare, and ceremonies. The ceremonial assistant to the lineage leader was responsible for organizing ceremonies. A ceremonial singer possessed and performed songs at rituals and trained assistant singers. The shaman cured illnesses through supernatural powers, controlled natural phenomena, and was the guardian of ceremonies, keeping evil spirits away. The diviner was responsible for finding lost objects, telling future events, and

locating game and other food resources. Doctors were usually older women who cured various ailments and illnesses with their knowledge of medicinal herbs. Finally, certain Cahuilla specialized as traders, who ranged as far west as Santa Catalina and as far east as the Gila River (Bean 1978; Kroeber 1976).

Marriages were arranged by parents from opposite moieties. When a child was born, an alliance formed between the families, which included frequent reciprocal exchanges. The Cahuilla kinship system extended to relatives within five generations. Important economic decisions, primarily the distribution of goods, operated within this kinship system (Bean 1978; Kroeber 1976).

Material Culture

Cahuilla houses were dome-shaped or rectangular, thatched structures. The home of the lineage leader was the largest, located near the ceremonial house with the best access to water. Other structures within the village included the men's sweathouse and granaries (Bean 1978; Kroeber 1976).

Cahuilla clothing, like other groups in the area, was minimal. Men typically wore a loincloth and sandals; women wore skirts made from mesquite bark, animal skin, or tules. Babies wore mesquite bark diapers. Rabbit skin cloaks were worn in cold weather (Bean 1978; Kroeber 1976).

Hunting implements included the bow and arrow, throwing sticks, and clubs. Grinding tools used in food processing included manos, metates, and wood mortars. The Cahuilla were known to use long grinding implements made from wood to process mesquite beans; the mortar was typically a hollowed log buried in the ground. Other tools included steatite arrow shaft straighteners (Bean 1978; Kroeber 1976).

Baskets were made from rush, deer grass, and skunkbrush. Different species and leaves were chosen for different colors in the basket design. Coiled-ware baskets were either flat (for plates, trays, or winnowing), bowl-shaped (for food serving), deep, inverted, and cone-shaped (for transporting), or rounded and flat-bottomed for storing utensils and personal items (Bean 1978; Kroeber 1976).

Cahuilla pottery was made from a thin, red-colored ceramic ware that was often painted and incised. Four basic vessel types are known for the Cahuilla: small-mouthed jars, cooking pots, bowls, and dishes. Additionally, smoking pipes and flutes were fashioned from ceramic (Bean 1978; Kroeber 1976).

Luiseño: An Archaeological and Ethnographic Perspective

When contacted by the Spanish in the sixteenth century, the Luiseño occupied a territory bounded on the west by the Pacific Ocean, on the east by the Peninsular Ranges mountains at San Jacinto (including Palomar Mountain to the south and Santiago Peak to the north), on the south by Agua Hedionda Lagoon, and on the north by Aliso Creek in present-day San Juan Capistrano. The

Luiseño were a Takic-speaking people more closely related linguistically and ethnographically to the Cahuilla, Gabrielino, and Cupeño to the north and east rather than the Kumeyaay who occupied territory to the south. The Luiseño differed from their neighboring Takic speakers in having an extensive proliferation of social statuses, a system of ruling families that provided ethnic cohesion within the territory, a distinct worldview that stemmed from the use of datura (a hallucinogen), and an elaborate religion that included the creation of sacred sand paintings depicting the deity Chingichngish (Bean and Shipek 1978; Kroeber 1976).

Subsistence and Settlement

The Luiseño occupied sedentary villages most often located in sheltered areas in valley bottoms, along streams, or along coastal strands near mountain ranges. Villages were located near water sources to facilitate acorn leaching and in areas that offered thermal and defensive protection. Villages were comprised of areas that were publicly and privately (by family) owned. Publicly owned areas included trails, temporary campsites, hunting areas, and quarry sites. Inland groups had fishing and gathering sites along the coast that were intensively used from January to March when inland food resources were scarce. During October and November, most of the village would relocate to mountain oak groves to harvest acorns. The Luiseño remained at village sites for the remainder of the year, where food resources were within a day's travel (Bean and Shipek 1978; Kroeber 1976).

The most important food source for the Luiseño was the acorn, six different species of which were used (*Quercus californica, Quercus agrifolia, Quercus chrysolepis, Quercus dumosa, Quercus engelmannii,* and *Quercus wislizenii*). Seeds, particularly of grasses, flowering plants, and mints, were also heavily exploited. Seed-bearing species were encouraged through controlled burns, which were conducted at least every third year. A variety of other stems, leaves, shoots, bulbs, roots, and fruits were also collected. Hunting augmented this vegetal diet. Animal species taken included deer, rabbit, hare, woodrat, ground squirrel, antelope, quail, duck, freshwater fish from mountain streams, marine mammals, and other sea creatures such as fish, crustaceans, and mollusks (particularly abalone, or *Haliotis* sp.). In addition, a variety of snakes, small birds, and rodents were eaten (Bean and Shipek 1978; Kroeber 1976).

Social Organization

Social groups within the Luiseño nation consisted of patrilinear families or clans, which were politically and economically autonomous. Several clans comprised a religious party, or nota, which was headed by a chief who organized ceremonies and controlled economics and warfare. The chief had assistants who specialized in particular aspects of ceremonial or environmental knowledge and who, with the chief, were part of a religion-based social group with special access to supernatural power, particularly that of Chingichngish. The positions of chief and assistants were hereditary, and the complexity and multiplicity of these specialists' roles likely increased in coastal and larger inland villages (Bean and Shipek 1978; Kroeber 1976; Strong 1929).

Marriages were arranged by the parents, often made to forge alliances between lineages. Useful alliances included those between groups of differing ecological niches and those that resulted in territorial expansion. Residence was patrilocal (Bean and Shipek 1978; Kroeber 1976). Women were primarily responsible for plant gathering and men principally hunted, but at times, particularly during acorn and marine mollusk harvests, there was no division of labor. Elderly women cared for children and elderly men participated in rituals, ceremonies, and political affairs. They were also responsible for manufacturing hunting and ritual implements. Children were taught subsistence skills at the earliest age possible (Bean and Shipek 1978; Kroeber 1976).

Material Culture

House structures were conical, partially subterranean, and thatched with reeds, brush, or bark. Ramadas were rectangular, protected workplaces for domestic chores such as cooking. Ceremonial sweathouses were important in purification rituals; these were round and partially subterranean thatched structures covered with a layer of mud. Another ceremonial structure was the wámkis (located in the center of the village, serving as the place of rituals), where sand paintings and other rituals associated with the Chingichngish religious group were performed (Bean and Shipek 1978; Kroeber 1976).

Clothing was minimal; women wore a cedar-bark and netted twine double apron and men wore a waist cord. In cold weather, cloaks or robes of rabbit fur, deerskin, or sea otter fur were worn by both sexes. Footwear included deerskin moccasins and sandals fashioned from yucca fibers. Adornments included bead necklaces and pendants made of bone, clay, stone, shell, bear claw, mica, deer hooves, and abalone shell. Men wore ear and nose piercings made from cane or bone, which were sometimes decorated with beads. Other adornments were commonly decorated with semiprecious stones including quartz, topaz, garnet, opal, opalite, agate, and jasper (Bean and Shipek 1978; Kroeber 1976).

Hunting implements included the bow and arrow. Arrows were tipped with either a carved, fire-hardened wood tip or a lithic point, usually fashioned from locally available metavolcanic material or quartz. Throwing sticks fashioned from wood were used in hunting small game, while deer head decoys were used during deer hunts. Coastal groups fashioned dugout canoes for nearshore fishing and harvested fish with seines, nets, traps, and hooks made of bone or abalone shell (Bean and Shipek 1978; Kroeber 1976).

The Luiseño had a well-developed basket industry. Baskets were used in resource gathering, food preparation, storage, and food serving. Ceramic containers were shaped by paddle and anvil and fired in shallow, open pits to be used for food storage, cooking, and serving. Other utensils included wood implements, steatite bowls, and ground stone manos, metates, mortars, and pestles (Bean and Shipek 1978; Kroeber 1976). Additional tools such as knives, scrapers, choppers, awls, and drills were also used. Shamanistic items include soapstone or clay smoking pipes and crystals made of quartz or tourmaline (Bean and Shipek 1978; Kroeber 1976).

Gabrielino: An Archaeological and Ethnographic Perspective

The territory of the Gabrielino at the time of Spanish contact covers much of present-day Los Angeles and Orange counties. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains. The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California. Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Bean and Smith 1978; Kroeber 1976).

Subsistence and Settlement

The Gabrielino lived in permanent villages and occupied smaller resource-gathering camps at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams and in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Bean and Smith 1978; Kroeber 1976).

Resources procured along the coast and on the islands were primarily marine in nature and included tuna, swordfish, ray and shark, California sea lion, Stellar sea lion, harbor seal, northern elephant seal, sea otter, dolphin and porpoise, various waterfowl species, numerous fish species, purple sea urchin, and mollusks, such as rock scallop, California mussel, and limpet. Inland resources included oak acorn, pine nut, Mohave yucca, cacti, sage, grass nut, deer, rabbit, hare, rodent, quail, duck, and a variety of reptiles such as western pond turtle and numerous snake species (Bean and Smith 1978; Kroeber 1976).

Social Organization

Little is known about the social structure of the Gabrielino; however, there appears to have been at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long-established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Bean and Smith 1978; Kroeber 1976).

Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Bean and Smith 1978; Kroeber 1976).

Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding the sacred bundle, locating lost items, identifying and collecting poisons for arrows, and making rain (Bean and Smith 1978; Kroeber 1976).

Marriages were made between individuals of equal social status and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Bean and Smith 1978; Kroeber 1976).

Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Bean and Smith 1978; Kroeber 1976).

Material Culture

Gabrielino houses were domed, circular structures made of thatched vegetation. Houses varied in size and could house from one to several families. Sweathouses (semicircular, earth-covered buildings) were public structures used in male social ceremonies. Other structures included menstrual huts and a ceremonial structure called a yuvar, an open-air structure built near the chief's house (Bean and Smith 1978; Kroeber 1976).

Clothing was minimal; men and children most often went naked, while women wore deerskin or bark aprons. In cold weather, deerskin, rabbit fur, or bird skin (with feathers intact) cloaks were worn. Island and coastal groups used sea otter fur for cloaks. In areas of rough terrain, yucca fiber sandals were worn. Women often used red ochre on their faces and skin for adornment or protection from the sun. Adornment items included feathers, fur, shells, and beads (Bean and Smith 1978; Kroeber 1976).

Hunting implements included wood clubs, sinew-backed bows, slings, and throwing clubs. Maritime implements included rafts, harpoons, spears, hook and line, and nets. A variety of other tools included deer scapulae saws, bone and shell needles, bone awls, scrapers, bone or shell flakers, wedges, stone knives and drills, metates, mullers, manos, shell spoons, bark platters, and wood paddles and bowls. Baskets were made from rush, deer grass, and skunkbush. Baskets were fashioned for hoppers, plates, trays, and winnowers for leaching, straining, and gathering. Baskets were also used for storing, preparing, and serving food, and for keeping personal and ceremonial items (Bean and Smith 1978; Kroeber 1976).

The Gabrielino had exclusive access to soapstone, or steatite, procured from Santa Catalina Island quarries. This highly prized material was used for making pipes, animal carvings, ritual

objects, ornaments, and cooking utensils. The Gabrielino profited well from trading steatite since it was valued so much by groups throughout southern California (Bean and Smith 1978; Kroeber 1976).

2.3.6 Ethnohistoric Period (1769 to Present)

Traditionally, the history of the state of California has been divided into three general periods: the Spanish Period (1769 to 1821), the Mexican Period (1822 to 1846), and the American Period (1848 to present) (Caughey 1970). The American Period is often further subdivided into additional phases: the nineteenth century (1848 to 1900), the early twentieth century (1900 to 1950), and the Modern Period (1950 to present). From an archaeological standpoint, all of these phases can be referred to together as the Ethnohistoric Period. This provides a valuable tool for archaeologists, as ethnohistory is directly concerned with the study of indigenous or non-Western peoples from a combined historical/anthropological viewpoint, which employs written documents, oral narrative, material culture, and ethnographic data for analysis.

European exploration along the California coast began in 1542 with the landing of Juan Rodriguez Cabrillo and his men at San Diego Bay. Sixty years after the Cabrillo expeditions, an expedition under Sebastian Viscaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Viscaíno had the most lasting effect upon the nomenclature of the coast. Many of his place names have survived, whereas practically every one of the names created by Cabrillo have faded from use. For instance, Cabrillo named the first (now) United States port he stopped at "San Miguel"; 60 years later, Viscaíno changed it to "San Diego" (Rolle 1969). The early European voyages observed Native Americans living in villages along the coast but did not make any substantial, long-lasting impact. At the time of contact, the Luiseño population was estimated to have ranged from 4,000 to as many as 10,000 individuals (Bean and Shipek 1978; Kroeber 1976).

The historic background of the project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). As a result, by the late eighteenth century, a large portion of southern California was overseen by Mission San Luis Rey (San Diego County), Mission San Juan Capistrano (Orange County), and Mission San Gabriel (Los Angeles County), who began colonization the region and surrounding areas (Chapman 1921).

Up until this time, the only known way to feasibly travel from Sonora to Alta California was by sea. In 1774, Juan Bautista de Anza, an army captain at Tubac, requested and was given permission by the governor of the Mexican State of Sonora to establish an overland route from Sonora to Monterey (Chapman 1921). In doing so, Juan Bautista de Anza passed through Riverside County and described the area in writing for the first time (Caughey 1970; Chapman 1921). In 1797, Father Presidente Lausen (of Mission San Diego de Alcalá), Father Norberto de Santiago, and Corporal Pedro Lisalde (of Mission San Juan Capistrano) led an expedition through southwestern Riverside County in search of a new mission site to establish a presence between

San Diego and San Juan Capistrano (Engelhardt 1921). Their efforts ultimately resulted in the establishment of Mission San Luis Rey in Oceanside, California.

Each mission gained power through the support of a large, subjugated Native American workforce. As the missions grew, livestock holdings increased and became increasingly vulnerable to theft. In order to protect their interests, the southern California missions began to expand inland to try and provide additional security (Beattie and Beattie 1939; Caughey 1970). In order to meet their needs, the Spaniards embarked on a formal expedition in 1806 to find potential locations within what is now the San Bernardino Valley. As a result, by 1810, Father Francisco Dumetz of Mission San Gabriel had succeeded in establishing a religious site, or capilla, at a Cahuilla rancheria called Guachama (Beattie and Beattie 1939). San Bernardino Valley received its name from this site, which was dedicated to San Bernardino de Siena by Father Dumetz. The Guachama rancheria was located in present-day Bryn Mawr in San Bernardino County.

These early colonization efforts were followed by the establishment of estancias at Puente (circa 1816) and San Bernardino (circa 1819) near Guachama (Beattie and Beattie 1939). These efforts were soon mirrored by the Spaniards from Mission San Luis Rey, who in turn established a presence in what is now Lake Elsinore, Temecula, and Murrieta (Chapman 1921). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1961). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook 1976).

Mexico achieved independence from Spain in 1822 and became a federal republic in 1824. As a result, both Baja and Alta California became classified as territories (Rolle 1969). Shortly thereafter, the Mexican Republic sought to grant large tracts of private land to its citizens to begin to encourage immigration to California and to establish its presence in the region. Part of the establishment of power and control included the desecularization of the missions circa 1832. These same missions were also located on some of the most fertile land in California and, as a result, were considered highly valuable. The resulting land grants, known as "ranchos," covered expansive portions of California and by 1846, more than 600 land grants had been issued by the Mexican government. Rancho Jurupa was the first rancho to be established and was issued to Juan Bandini in 1838. Although Bandini primarily resided in San Diego, Rancho Jurupa was located in what is now Riverside County (Pourade 1963). A review of Riverside County place names quickly illustrates that many of the ranchos in Riverside County lent their names to present-day locations, including Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo (Gunther 1984). As was typical of many ranchos, these were all located in the valley environments within western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off of their land or put to work on the now privately-owned ranchos, most often as slave labor. In light of the brutal ranchos, the degree to which Native Americans

had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from Mission San Luis Rey petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

> We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission … We plead and beseech you … to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The Mexican and American ranchers did not accept Native Americans into their social order and used them specifically for the extraction of labor, resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

By 1846, tensions between the United States and Mexico had escalated to the point of war (Rolle 1969). In order to reach a peaceful agreement, the Treaty of Guadalupe Hidalgo was put into effect in 1848, which resulted in the annexation of California to the United States. Once California opened to the United States, waves of settlers moved in searching for gold mines, business opportunities, political opportunities, religious freedom, and adventure (Rolle 1969; Caughey 1970). By 1850, California had become a state and was eventually divided into 27 separate counties. While a much larger population was now settling in California, this was primarily in the central valley, San Francisco, and the Gold Rush region of the Sierra Nevada mountain range (Rolle 1969; Caughey 1970). During this time, southern California grew at a much slower pace than northern California and was still dominated by the cattle industry that was established during the earlier rancho period. However, by 1859, the first United States Post Office in what would eventually become Riverside County was set up at John Magee's store on the Temecula Rancho (Gunther 1984).

During the same decade, circa 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified these treaties, and the promise of one large reservation was rescinded (Brigandi 1998).

With the completion of the Southern Pacific Railroad in 1869, southern California saw its first major population expansion. The population boom continued circa 1874 with the completion of connections between the Southern Pacific Railroad in Sacramento to the transcontinental Central Pacific Railroad in Los Angeles (Rolle 1969; Caughey 1970). The population influx brought farmers, land speculators, and prospective developers to the region. As the Jurupa area became more and more populated, circa 1870, Judge John Wesley North and a group of associates founded the city of Riverside on part of the former rancho.

Although the first orange trees were planted in Riverside County circa 1871, it was not until a few years later when a small number of Brazilian navel orange trees were established that the citrus industry truly began in the region (Patterson 1971). The Brazilian navel orange was well suited to the climate of Riverside County and thrived with assistance from several extensive irrigation projects. At the close of 1882, an estimated half a million citrus trees were present in California. It is estimated that nearly half of that population was in Riverside County. Population growth and 1880s tax revenue from the booming citrus industry prompted the official formation of Riverside County in 1893 out of portions of what was once San Bernardino County (Patterson 1971).

Shortly thereafter, with the start of World War I, the United States began to develop a military presence in Riverside County with the construction of March Air Reserve Base. During World War II, Camp Haan and Camp Anza were constructed near the city of Riverside. In the decades that followed, populations spread throughout the county into Lake Elsinore, Corona, Norco, Murrieta, and Wildomar. However, a significant portion of the county remained largely agricultural well into the 1970s. Following the 1970s, Riverside saw a period of dramatic population increase as the result of new development, more than doubling the population of the county with a population of over 1.3 million residents (Patterson 1971).

General History of the Project Area

Historically, development within the Coachella Valley, originally centered around Indio, north of Thermal, in response to a need for a halfway station for the Southern Pacific Railroad between Yuma, Arizona, and Los Angeles as the railroad engines required a location to be refilled with water. The initial name of the town was Indian Wells but due to the high frequency of locations with similar names, the name Indio was chosen as a Spanish derivation of the word "Indian." After the railroad's arrival in 1876, Indio began to expand. The first permanent building was the Southern Pacific Depot station and hotel. Although the region was difficult to live in, Southern Pacific tried to make life as comfortable as possible for their employees. As a result, the hotel became the center of all social life in the area with an elegant dining room and entertainment (Laflin 2008).

The community of Thermal was originally named Kokell during the late 1890s and early 1900s and was utilized as a railroad camp for employees of the Southern Pacific Railroad. The Kokell post office officially changed its name to Thermal on June 7, 1912 (Nordland 1978). While

many of the Coachella communities like Thermal began as railroad towns, the valley quickly developed into an agricultural area, farming onions, cotton, grapes, citrus, and dates in the arid climate through well-based and canal-fed farm systems. As a result, the population of Thermal grew quickly during the early 1900s; however, Indio remained the "Hub of the Valley," as it was called. By 1920, about 1,000 to 2,000 year-round residents lived in Indio, with the population more than doubling to 2,500 to 5,000 during the winter months and was advertised as a health resort for senior citizens and those with respiratory diseases and ailments in the rest of the twentieth century. Indio also served as the home of the United States Department of Agriculture's Date Station, where leading scientific research was taking place on date crops in the early 1900s. By the late 1910s, dates were the primary crop produced in the Coachella Valley, and today, all dates produced in the United States are grown in the area (City of Indio n.d.).

In addition to agriculture, the Coachella Valley was utilized during the 1940s by the United States Military. The Thermal Ground Support Base was established in the community in 1942 to support General George S. Patton's Desert Training Center in nearby Chiriaco Summit (General Patton Memorial Museum 2013; ESA 2016). The Desert Training Center program ended in 1944, and between 1947 and 1948, the majority of the property "including the airfield runway and major operational facilities, was sold to the County of Riverside for use as a municipal airport, and the remainder of the land was sold to the Coachella Valley Water District (40 acres) and the United Date Growers of California (39 acres)" (ESA 2016). The new airport was utilized during the 1950s for flight training and experimental aviation and was where Jacqueline Cochran, the founder and director of the Womens Airforces Service Pilots and the first women to break the sound barrier, housed her personal aircraft. In 1998, the airport was renamed from the Thermal Airport to the Jacqueline Cochran Regional Airport (ESA 2016).

2.4 Research Goals

The primary goal of the research design is to attempt to understand the way in which humans have used the land and resources within the project area through time, as well as to aid in the determination of resource significance. For the current project, the study area under investigation is the southeastern portion of Riverside County. The scope of work for the archaeological program conducted for the Thermal Community Park Project included the survey of an approximately 10-acre property. Given the area involved and the narrow focus of the cultural resources study, the research design for this project was necessarily limited and general in nature. Since the main objective of the investigation was to identify the presence of and potential impacts to cultural resources, the goal is not necessarily to answer wide-reaching theories regarding the development of early southern California, but to investigate the role and importance of the identified resources. Although survey-level investigations are limited in terms of the amount of information available, several specific research questions were developed that could be used to guide the initial investigations of any observed cultural resources. The following research questions take into account the size and location of the project.

Research Questions:

- Can located cultural resources be situated with a specific time period, population, or individual?
- Do the types of located cultural resources allow a site activity/function to be determined from a preliminary investigation? What are the site activities? What is the site function? What resources were exploited?
- How do the located sites compare to others reported from different surveys conducted in the area?
- How do the located sites fit existing models of settlement and subsistence for valley environments of the region?

Data Needs

At the survey level, the principal research objective is a generalized investigation of changing settlement patterns in both the prehistoric and historic periods within the study area. The overall goal is to understand settlement and resource procurement patterns of the project area occupants. Therefore, adequate information on site function, context, and chronology from an archaeological perspective is essential for the investigation. The fieldwork and archival research were undertaken with these primary research goals in mind:

1) To identify cultural resources occurring within the project;
2) To determine, if possible, site type and function, context of the deposit, and chronological placement of each cultural resource identified;
3) To place each cultural resource identified within a regional perspective; and
4) To provide recommendations for the treatment of each of the cultural resources identified.

3.0 METHODOLOGY

The archaeological program for the Thermal Community Park Project consisted of institutional records searches, an intensive pedestrian survey of the 10.3-acre property by a qualified archaeologist, and preparation of this report. This archaeological study conformed to County of Riverside Cultural Resource Guidelines and the statutory requirements of CEQA, Section 15064.5. Specific definitions for archaeological resource type(s) used in this report are those established by the State Historic Preservation Office (SHPO 1995).

3.1 Archaeological Records Search

The records search for the property was requested from the EIC at UCR on December 8, 2021. The records search results are discussed in Section 4.1. BFSA reviewed the NRHP index, historic USGS data, and historic aerial photographs. In addition, land patent records, held by the Bureau of Land Management (BLM) and accessible through the BLM General Land Office (GLO) website, were reviewed for pertinent project information, and the BFSA research library was consulted for any relevant historical information.

3.2 Field Methodology

The archaeological surveys of the project were conducted on December 21, 2021 and October 6, 2022 and consisted of a series of parallel transects spaced at approximately 10 to 15-meter intervals that covered all areas of the project. Photographs were taken to document project conditions during the surveys (see Section 4.2). Ground visibility throughout the property was moderate to poor. Rodent spoil piles and patches of turned soil were closely inspected for evidence of subsurface archaeological materials.

3.3 Report Preparation and Recordation

This report contains statutory requirements for the project, a brief description of the setting, research methods employed, and the overall results of the survey. The report includes all appropriate illustrations and tabular information needed to make a complete and comprehensive presentation of these activities, including the methodologies employed and the personnel involved. A copy of the final technical report will be placed at the EIC at UCR. Any newly recorded sites or sites requiring updated information will be recorded on the appropriate Department of Parks and Recreation (DPR) forms, which will be filed with the EIC.

3.4 Native American Consultation

BFSA requested a review of the SLF by the NAHC on December 8, 2021 to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within one mile of the project. The NAHC SLF search was returned with negative results regarding the presence of sacred sites or locations of religious or ceremonial importance within

the search radius. However, in accordance with the recommendations from the NAHC, BFSA contacted all Native American consultants listed by the NAHC at least two weeks prior to the initiation of the field survey.

4.0 RESULTS

4.1 Records Search Results

An archaeological records search for the project and the surrounding area within a one-mile radius was requested from the EIC at UCR on December 8, 2021. Results were received and processed by BFSA on September 13, 2022. The results of the records search indicated that 33 cultural resources have been previously recorded within a one-mile radius of the project, none of which are located within the subject property (Table 4.1–1). Almost all (N=31) of these resources are historic in age, and include eight historic single-family residences, the historic Coachella Valley High School building, one historic boarding house, one historic water company warehouse, the historic Coachella Canal, the historic Union Pacific Railroad/Southern Pacific Railroad, the Coachella Valley Stormwater Channel, one historic refuse pit, nine historic roads, one historic power line, and six historic isolated artifacts. The remaining two resources are prehistoric isolated artifacts.

Table 4.1–1
Archaeological Sites Located Within One Mile of the Thermal Community Park Project

Site	Description	Distance From the Project (m)
P-33-024737	Prehistoric isolate	465.2
P-33-024739		503.9
P-33-005637	Historic single-family residence	203.7
P-33-005639		204.1
P-33-005640		204.0
P-33-005641		264.4
P-33-005643		135.6
P-33-005694		233.0
P-33-011223		2.9
P-33-014812		1,297.7
P-33-005638	Historic Coachella Valley High School building	136.1
P-33-005642	Historic boarding house	248.3
P-33-005646	Historic water company warehouse	178.7
P-33-005705	Historic Coachella Canal	900.5
P-33-009498	Historic Union Pacific Railroad/Southern Pacific Railroad	214.4
P-33-017259	Historic Coachella Valley Stormwater Channel	478.0
P-33-019859	Historic refuse pit	558.2
P-33-019860	Historic road	1,065.7
P-33-020750		1,247.9

Site	Description	Distance From the Project (m)
P-33-020906		843.0
P-33-020921		465.3
P-33-020925		403.2
P-33-020926		300.5
P-33-020927		202.5
P-33-020928		162.7
P-33-024105		1,079.9
P-33-020764	Historic power lines	990.3
P-33-024735	Historic isolate	520.4
P-33-024736		955.1
P-33-024738		373.1
P-33-024740		569.7
P-33-024741		1,010.0
P-33-024742		1,381.7

The results of the records search also indicate that a total of 33 cultural resources studies have been previously conducted within a one-mile radius of the project, one of which (Van Horn et al. 1990) overlaps the subject property. The Van Horn et al. (1990) study consisted of a cultural resources sensitivity overview assessment for a large, 27,000-acre study area for the Coachella Valley Enterprise Zone, and as such, did not directly address the subject property. No cultural resources have ever been located within the Thermal Community Park Project property as a result of any previous study.

Table 4.1–2

Previous Studies Conducted Within One Mile of the Thermal Community Park Project

Allred, Carla

2006 Letter Report: Proposed Cellular Tower Project(s) in Riverside County, California, Site Number(s)/Name(s): CA-8579/Airport Blvd TCNS# 17287. EarthTouch, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Bray, Madeline and Candace Ehringer

2012 Phase I Cultural Resources Assessment for the Jacqueline Cochran Regional Airport Land Acquisition and Exchange Project. ESA. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Brock, James

2002 Phase I Cultural Resources Assessment for 56831 Olive Street, Thermal, Riverside County, California (APN 757-061-010-9). Archaeological Advisory Group. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Brunzell, David
2006 Cultural Resources Assessment: Jacqueline Cochran Regional Airport Sheriff Station, Forensic Laboratory, and Helipad, Unincorporated Community of Thermal, Riverside County, California. LSA Associates, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Chambers Group, Inc.
2006 Cultural Resources Survey Report, Union Pacific Railroad, Fingal-Thermal Phase III Expansion, Riverside County, California. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Dicken, Everson, Billy Silva, and John Eddy
2010 Extended Phase I (XPI) Proposal for the State Route 86S & Airport Boulevard New Interchange Project Riverside County, California. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Dominici, Debra A.
1985 Report of an Archaeological Survey for the Proposed 86 Expressway in Riverside County. CalTrans District 11, San Diego. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

1988 Negative Archaeological Survey Report First Addendum – Route 11-RIV-86 P.M. 2.9/22.0. CalTrans District 11, San Diego. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

1992 Negative Archaeological Survey Report – Sixth Addendum. CalTrans District 11, San Diego. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Dominici, Debra A. and Richaelene Kelsay
1985 Negative Archaeological Survey Report – First Addendum. Department of Transportation. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Formica, Tracy H.
2007 Class III Cultural Resources Survey of the Airport Boulevard Water Transmission Pipeline Project Corridor for the Coachella Valley Water District, Thermal, Riverside County, California (APRA Permit No. LC-CA-07-11P). Applied EarthWorks, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Garcia, Kyle, Mathew Wetherbee, Margarita Wuellner, and Jon Wilson
2011 Draft Cultural Resources Assessment for the Proposed Oasis Date Gardens Project, County of Riverside, California. PCR Services Corporation. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

George, Joan and Josh Smallwood

2016 Cultural Resource Assessment for the Airport Boulevard Domestic Water Transmission Pipeline Phase 3A-2 Project, Community of Thermal, Riverside County, California. Applied EarthWorks, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

George, Joan and Vanessa Mirro

2013 Phase 1 Cultural Resources Assessment for the Coachella Valley Water District's Whitewater River, Coachella Valley Stormwater Channel Project, Riverside County, California. Applied EarthWorks, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Gust, Sherri and Molly Valasik

2013 Coachella Valley Unified School District Community Education Support Complex Cultural Resources Assessment, Thermal Area of Riverside County, California. Cogstone. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Hogan, Michael

2006 Letter Report: Supplementary Archaeological Survey and Subsurface Testing, Rancho Coachella Vineyard Specific Plan, City of Coachella, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Lando, Richard

1979 Cultural Resources Reconnaissance (Stage II) of Flood Control Alternatives for the Whitewater River Basin, Riverside County, California. Archaeological Reearch Unit, U.C. Riverside. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Leonard, III, N. Nelson, Phillip J. Wilke, Richard Lando, and Daniel Bell

1977 An Archaeological and Ethnographical Evaluation of the Thermal Airport Property. Archaeological Research Unit, U.C. Riverside. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Love, Bruce and Bai "Tom" Tang

2000 Cultural Resource Element City of La Quinta General Plan. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

McDougall, Dennis and Vanessa Mirro

2011 Cultural Resources Monitoring of the Coachella Valley Water District's Airport Boulevard Agricultural Drainline Project. Applied EarthWorks. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

McDougall, Dennis, Joan George, and Josh Smallwood

2015 Phase I Cultural Resources Assessment for the Coachella Valley Water District's Irrigation Lateral 99.8-0.51 Replacement Project Near Thermal, Riverside County, California. Applied EarthWorks, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Mirro, Michael

2012 Archaeological Sensitivity Model for the Whitewater River Stormwater Channel, Riverside County, California. Applied Earthworks. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai Tom

2008 Letter Report: Addendum to Historical/Archaeological/Paleontological Resources Survey Report Thermal Street, Water, and Sewer Improvements in and near the Community of Thermal, Riverside County, California. CRM TECH Contract #1880/2447. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai and Harry Quinn

2008 Letter Report: RE: Historical/Archaeological/Paleontological Survey of Whitewater River Channel Thermal 551 Brookfield Project Near the Community of Thermal, Riverside County, California CRM Tech Contract No. 2265A. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai, Michael Zachary Hruby, and Daniel Ballester

2006 Historical/Archaeological Resources Survey Report: Rancho Coachella Vineyard Specific Plan, in and near the City of Coachella, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai "Tom," Clarence Bodmer, Daniel Ballester, and Laura Shaker

2008 Phase I Archaeological Assessment: 1898 DACE-Rancho Housing Alliance Valle Estrellas Project, Assessor's Parcel Nos. 757-090-001 through 757-090-003, near the Unincorporated Community of Thermal, Riverside, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai, Michael Hogan, Dierdre Encarnacion, and Daniel Ballester

2006a Historical/Archaeological Resources Survey Report, Maravilla Specific Plan EIR, in and near the City of Coachella, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

2006b Historical/Archaeological Resources Survey Report, Maravilla Specific Plan EIR, in and near the City of Coachella, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside,

California.

2006c Historical/Archaeological Resources Survey Report: Thermal Street, Water, and Sewer Improvements, Near the Community of Thermal, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai, Michael Hogan, Nina Gallardo, and Daniel Ballester

2005 Historical/Archaeological Resources Survey Report: APNs 763-290-002, 763-310-009, -010, -013, and -014, Near the Community of Thermal, Riverside County, California. LSA Associates, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Tang, Bai, Michael Hogan, Dierdre Encarnacion, Casey Tibbet, and Daniel Ballester

2004 Historical/Archaeological Resources Survey Report: Thermal 551 Brookfield Project, Near the Community of Thermal, Riverside County, California. CRM Tech. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Van Horn, David M., Laurie S. White, and Robert S. White

1990 Cultural Resources Sensitivity Overview for the Coachella Valley Enterprise Zone. Archaeological Associates, Inc. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

Von Werlhof, Jay

1974 A Cultural Impact Survey, Phase I. Imperial Valley College Museum. Unpublished report on file at the Eastern Information Center at the University of California at Riverside, Riverside, California.

In addition, BFSA reviewed the following sources to help facilitate a better understanding of the historic use of the property:

- The NRHP index
- BLM GLO Records (patents and maps)
- Historic USGS maps
    - 1957, 1963, and 1977 *Indio* 7.5-minute quadrangle maps
    - 1944 *Coachella* 15-minute quadrangle map
- Historic aerial photographs (1932, 1953, 1965, 1972, 1996, 2002)

No properties listed on the NRHP were identified within the subject property. The BLM GLO records list a 1902 patent for the northwest quarter of Section 22 to Horace A. Greene, but no other land ownership is listed and survey maps on file with the GLO for Township 6 South, Range 8 East do not show any structures within the subject property. Further, the historic USGS

maps and aerial photographs also indicate that no structures have ever been located within the subject property. The 1932 photograph shows the subject property as vacant, and by 1953, the property appears to be a cleared agricultural field. The subsequent 1965 photograph shows rows of crops across most of the property along with small (possibly) palm trees within the western third of the project. There is little change visible on the 1972 photograph, while the 1996 aerial shows the entire property had been cleared for rows of crops with some palm tree cultivation in the southern portion. Regardless, by the 2002 photograph, the crop rows have been replaced by rows of palm trees across the entire project.

Although the data available for the current review did not identify the presence of archaeological resources within the project, for background research, the absence of positive results does not necessarily indicate the absence of historic resources. Based upon the EIC records search results, historic-age resources are the most likely resource type to be present within the subject property. The closest resource to the subject property is P-33-011223, a historic single-family residence, which is located adjacent to the current project to the west. In addition, given the historic settlement of the region and proximity to the locations of ancient Lake Cahuilla and the Whitewater River, there is the potential for archaeological discoveries. The complete records search results are provided in Appendix B.

4.1.1 Native American Consultation

BFSA also requested a SLF search from the NAHC to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within one mile of the project. The SLF search was returned with negative results. In accordance with previous recommendations from the NAHC, BFSA contacted all Native American consultants listed by the NAHC at least two weeks prior to the initiation of the field survey. To date, BFSA has received three responses. The Viejas Band of Kumeyaay Indians determined that the project has little cultural significance or ties to them, the Quechan Tribe of the Fort Yuma Reservation indicates they have no comments on this project, and the Augustine Band of Cahuilla Indians stated that they were unaware of any specific cultural resources that may be affected by the project. All correspondence received by BFSA is provided in Appendix C.

Through the lead agency's tribal consultation process, the Torres Martinez Desert Cahuilla Indians indicated that there are multiple known village sites and Tribal Cultural Resources (TCRs) within the project vicinity. As, such they have indicated that TCRs may be impacted by the project. To mitigate this potential, they have requested that a Cultural Resources Monitoring and Treatment Plan (CRMTP) be prepared prior to any ground-disturbing activities to establish that a plan is in place should any resources be inadvertently discovered during the development process, and that the Tribe be able to review the subsurface excavation within the project for potentially buried resources. The Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Office noted a TCR near the proposed project, requested copies of all project documents, and requested a cultural resource monitor be present during any ground-disturbing activities.

4.2 Survey Results

Director of Field Operations Clarence Hoff and field archaeologist Charles Callahan conducted the archaeological surveys of the Thermal Community Park Project on December 21, 2021 and October 6, 2022 under the supervision of Principal Investigator Brian F. Smith. The archaeological surveys of the property consisted of a series of parallel survey transects spaced at approximately 10- to 15-meter intervals. The entire property was accessible; however, ground visibility was characterized as moderate to poor due to vegetation, ground covering, and previous impacts to the property. Vegetation observed within the project included rows of fan palm trees throughout the majority of the project, interrupted by pockets of weeds and non-native grasses. A dirt road runs through the relative center of the property from east to west. Further, the project has been impacted by its agricultural use, and depressions were noted in areas where palm trees have been removed. A modern well was noted in the northwest corner of the project and valves associated with an irrigation system are spread throughout the property.

The characterization of the property as surficially disturbed is relevant to the consideration of cultural resources being present within the project. When parcels are cleared, disked, or otherwise disturbed, evidence of surface artifact scatters is lost. Whether or not cultural resources have ever existed in this parcel, the current status of the property appears to have affected the potential to discover any surface scatters of artifacts. Photographs were taken to document project conditions at the time of the survey (Plates 4.2–1 to 4.2–3). The survey did not result in the identification of any historic or prehistoric cultural resources.

Plate 4.2–1: Overview of the project from the northeast corner, facing southwest.

Plate 4.2–2: Overview of the project from the west boundary, facing north.

Plate 4.2–3: View of the modern well and valves in the northwest corner of the property, facing east.

5.0 RECOMMENDATIONS

The Phase I archaeological assessment for the Thermal Community Park Project was negative for the presence of cultural resources. As stated previously, the subject property has been impacted or partially graded in the past for agriculture as early as 1953. When land is cleared, disked, or otherwise disturbed, evidence of surface artifact scatters is typically lost. Whether or not cultural resources have ever existed on the Thermal Community Park Project parcel is unclear. The current status of the property appears to have affected the potential to discover any surface scatters of artifacts, and cultural materials that may have been on site could have been masked by both disking and prior grading across the property. Given that the prior development within the project area might mask archaeological deposits, and the proximity to known features exploited by the prehistoric inhabitants of the area such as Lake Cahuilla and the Whitewater River, there is a potential that buried archaeological deposits are present within the project boundaries. Further, the Torres Martinez Desert Cahuilla Indians and the Agua Caliente Band of Cahuilla Indians have indicated that there remains a potential for subsurface resources within the project based upon the presence of TCRs within the project vicinity. Therefore, it is recommended that the project be allowed to proceed with the implementation of a cultural resources monitoring program conducted by an archaeologist and Native American representative during grading of the property. The recommended cultural resources conditions to be incorporated into the project's Mitigation Monitoring and Reporting Program (MMRP) ~~recommended as a condition of approval for this property is~~are presented in Section 5.1.

5.1 Cultural Resources Monitoring

Monitoring during ground-disturbing activities, such as grading or trenching, by a qualified archaeologist is recommended to ensure that if buried features (*i.e.,* human remains, hearths, or cultural deposits) are present, they will be handled in a timely and proper manner. The Torres Martinez Desert Cahuilla Indians have requested to review the potential for subsurface resources prior to mass grading on of the property, in addition to the preparation of a CRMTP prior to any ground disturbance. The lead agency has indicated that the removal of the palm trees and stumps found within the project is slated to occur prior to mass grading. As such, the monitoring program shall include archaeological and Native American monitoring of the tree removal process. The full recommended scope of the monitoring program is provided below.

Cultural Resource Conditions
~~***Mitigation Monitoring and Reporting Program***~~

CUL-1 The Applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior (SOI) Standards to oversee and coordinate archaeological monitoring of the development. The applicant shall provide written verification that a certified archaeologist has been retained to

implement the monitoring program. This verification shall be presented in a letter from the project archaeologist to the lead agency.

CUL-2 During the original cutting of previously undisturbed deposits, the archaeological monitor(s) and tribal representative shall be on-site, as determined by the consulting archaeologist, to perform periodic inspections of the excavations. The frequency of inspections will depend upon the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The consulting archaeologist shall have the authority to modify the monitoring program if the potential for cultural resources appears to be less than anticipated.

CUL-3 Prior to the issuance of grading permits, the applicant shall enter into a Native American monitoring agreement with one of the Consulting Tribes for the Project. The Native American monitor shall be on-site during all initial ground disturbing activities, including clearing, grubbing, vegetation removal, grading, and trenching, within native soils. In consultation with the consulting archaeologist, the Native American Monitor will have the authority to temporarily divert, redirect, or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources.

CUL-4 The qualified archaeologist shall develop a Cultural Resources Monitoring and Treatment Plan (CRMTP) to address the details, timing, and responsibility of all archaeological and cultural resource activities that occur on the Project site, in coordination with the Consulting Tribe(s).

CUL-5 The initial removal of palm trees and stumps within the project, which is scheduled prior to formal grading, shall be monitored by the consulting archaeologist and the Consulting Tribe in accordance with the CRMTP to provide an early view of the subsurface.

CUL-6 The archaeological monitor shall conduct an Archaeological Sensitivity Training "Sensitivity Workshop," in conjunction with the Consulting Tribe(s)'s Tribal Historic Preservation Officer (THPO). The training session will focus on … the archaeological and tribal cultural resources that may be encountered during earthmoving activities and the procedures to be followed in such an event.

CUL-7 In the event that previously unidentified cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural resources. Isolates and clearly non-significant deposits will be minimally documented in the field so the monitored grading can proceed. For potentially significant resources, the archaeologist shall contact the lead agency at the time of discovery. The archaeologist, in consultation with the lead agency, shall determine the significance of the discovered resources. The lead agency must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the lead agency before being carried out using professional archaeological methods. All cultural material collected during the grading monitoring program shall be processed and curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility, to be accompanied by payment of the fees necessary for permanent curation.

CUL-8 In the event of discovery of human remains during grading or other ground disturbance, work in the immediate vicinity (within a 100-foot buffer of the discovery) shall cease and the landowner shall comply with State Health and Safety Code § 7050.5 and Public Resources Code (PRC) § 5097.98. In the event human remains are found and identified as Native American, the landowner shall also notify the … [lead agency so that they] can ensure PRC § 5097.98 is followed.

CUL-9 A final monitoring report documenting the field and analysis results and interpreting any discovered artifact[s] and research data obtained during the monitoring phase shall be completed and submitted to the satisfaction of the lead agency at the conclusion of the project. The report will include Department of Parks and Recreation Primary and Archaeological Site Forms if applicable and will also be provided to any consulting tribe.

~~A MMRP to mitigate potential impacts to undiscovered buried cultural resources within the Thermal Community Park Project shall be implemented to the satisfaction of the lead agency. This program shall include, but not be limited to, the following actions:~~

~~Prior to issuance of a grading permit, the applicant shall provide written verification that a certified archaeologist has been retained to implement the monitoring program. This verification~~

shall be presented in a letter from the project archaeologist to the lead agency.

The project applicant shall provide Native American monitoring during grading. The Native American monitor shall work in concert with the archaeological monitor to observe ground disturbances and search for cultural materials.

The certified archaeologist shall attend the pre-grading meeting with the contractors to explain and coordinate the requirements of the monitoring program.

During the original cutting of previously undisturbed deposits, the archaeological monitor(s) and tribal representative shall be on-site, as determined by the consulting archaeologist, to perform periodic inspections of the excavations. The frequency of inspections will depend upon the rate of excavation, the materials excavated, and the presence and abundance of artifacts and features. The consulting archaeologist shall have the authority to modify the monitoring program if the potential for cultural resources appears to be less than anticipated.

5) Isolates and clearly non-significant deposits will be minimally documented in the field so the monitored grading can proceed.

6) In the event that previously unidentified cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural resources. The archaeologist shall contact the lead agency at the time of discovery. The archaeologist, in consultation with the lead agency, shall determine the significance of the discovered resources. The lead agency must concur with the evaluation before construction activities will be allowed to resume in the affected area. For significant cultural resources, a Research Design and Data Recovery Program to mitigate impacts shall be prepared by the consulting archaeologist and approved by the lead agency before being carried out using professional archaeological methods. If any human bones are discovered, the county coroner and lead agency shall be contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the NAHC, shall be contacted in order to determine proper treatment and disposition of the remains.

7) Before construction activities are allowed to resume in the affected area, the artifacts shall be recovered and features recorded using professional archaeological methods. The project archaeologist shall determine the amount of material to be recovered for an adequate artifact sample for analysis.

8) All cultural material collected during the grading monitoring program shall be processed and curated according to the current professional repository standards. The collections and associated records shall be transferred, including title, to an appropriate curation facility, to be accompanied by payment of the fees necessary for permanent curation.

9) A report documenting the field and analysis results and interpreting the artifact and research data within the research context shall be completed and submitted to the satisfaction of the lead agency prior to the issuance of any building permits. The report will include DPR Primary and Archaeological Site Forms.

6.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Andrew J Garrison — January 30, 2023

Andrew J. Garrison, M.A., RPA — Date
Project Archaeologist
County of Riverside Registration #319

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APPENDIX A

Qualifications of Key Personnel

Andrew J. Garrison, MA, RPA

Project Archaeologist

BFSA Environmental Services, A Perennial Company
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Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: agarrison@bfsa.perennialenv.com

Education

Master of Arts, Public History, University of California, Riverside **2009**

Bachelor of Science, Anthropology, University of California, Riverside **2005**

Bachelor of Arts, History, University of California, Riverside **2005**

Professional Memberships

Register of Professional Archaeologists
Society for California Archaeology
Society for American Archaeology
California Council for the Promotion of History
Society of Primitive Technology
Lithic Studies Society
California Preservation Foundation
Pacific Coast Archaeological Society

Experience

Project Archaeologist **June 2017–Present**
BFSA Environmental Serives, A Perennial Company **Poway, California**

Project management of all phases of archaeological investigations for local, state, and federal agencies including National Register of Historic Places (NRHP) and California Environmental Quality Act (CEQA) level projects interacting with clients, sub-consultants, and lead agencies. Supervise and perform fieldwork including archaeological survey, monitoring, site testing, comprehensive site records checks, and historic building assessments. Perform and oversee technological analysis of prehistoric lithic assemblages. Author or co-author cultural resource management reports submitted to private clients and lead agencies.

Senior Archaeologist and GIS Specialist **2009–2017**
Scientific Resource Surveys, Inc. **Orange, California**

Served as Project Archaeologist or Principal Investigator on multiple projects, including archaeological monitoring, cultural resource surveys, test excavations, and historic building assessments. Directed projects from start to finish, including budget and personnel hours proposals, field and laboratory direction, report writing, technical editing, Native American consultation, and final report submittal. Oversaw all GIS projects including data collection, spatial analysis, and map creation.

Preservation Researcher **2009**
City of Riverside Modernism Survey **Riverside, California**

Completed DPR Primary, District, and Building, Structure and Object Forms for five sites for a grant-funded project to survey designated modern architectural resources within the City of Riverside.

Information Officer **2005, 2008–2009**
Eastern Information Center (EIC), University of California, Riverside **Riverside, California**

Processed and catalogued restricted and unrestricted archaeological and historical site record forms. Conducted research projects and records searches for government agencies and private cultural resource firms.

Reports/Papers

2019 A Class III Archaeological Study for the Tuscany Valley (TM 33725) Project National Historic Preservation Act Section 106 Compliance, Lake Elsinore, Riverside County, California. Contributing author. Brian F. Smith and Associates, Inc.

2019 A Phase I and II Cultural Resources Assessment for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California. Brian F. Smith and Associates, Inc.

2019 A Phase I Cultural Resources Assessment for the 10575 Foothill Boulevard Project, Rancho Cucamonga, California. Brian F. Smith and Associates, Inc.

2019 Cultural Resources Study for the County Road and East End Avenue Project, City of Chino, San Bernardino County, California. Brian F. Smith and Associates, Inc.

2019 Phase II Cultural Resource Study for the McElwain Project, City of Murrieta, California. Contributing author. Brian F. Smith and Associates, Inc.

2019 A Section 106 (NHPA) Historic Resources Study for the McElwain Project, City of Murrieta, Riverside County, California. Brian F. Smith and Associates, Inc.

2018 Cultural Resource Monitoring Report for the Sewer Group 818 Project, City of San Diego. Brian F. Smith and Associates, Inc.

2018 Phase I Cultural Resource Survey for the Stone Residence Project, 1525 Buckingham Drive, La Jolla, California 92037. Brian F. Smith and Associates, Inc.

2018 A Phase I Cultural Resources Assessment for the Seaton Commerce Center Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Marbella Villa Project, City of Desert Hot Springs, Riverside County, California. Brian F. Smith and Associates, Inc.

2017 Phase I Cultural Resources Survey for TTM 37109, City of Jurupa Valley, County of Riverside. Brian F. Smith and Associates, Inc.

2017 A Phase I Cultural Resources Assessment for the Winchester Dollar General Store Project, Riverside County, California. Brian F. Smith and Associates, Inc.

2016 John Wayne Airport Jet Fuel Pipeline and Tank Farm Archaeological Monitoring Plan. Scientific Resource Surveys, Inc. On file at the County of Orange, California.

2016 Historic Resource Assessment for 220 South Batavia Street, Orange, CA 92868 Assessor's Parcel Number 041-064-4. Scientific Resource Surveys, Inc. Submitted to the City of Orange as part of Mills Act application.

2015 Historic Resource Report: 807-813 Harvard Boulevard, Los Angeles. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2015 Exploring a Traditional Rock Cairn: Test Excavation at CA-SDI-13/RBLI-26: The Rincon Indian Reservation, San Diego County, California. Scientific Resource Surveys, Inc.

2014 Archaeological Monitoring Results: The New Los Angeles Federal Courthouse. Scientific Resource Surveys, Inc. On file at the South Central Coastal Information Center, California State University, Fullerton.

2012 Bolsa Chica Archaeological Project Volume 7, Technological Analysis of Stone Tools, Lithic Technology at Bolsa Chica: Reduction Maintenance and Experimentation. Scientific Resource Surveys, Inc.

Presentations

2017 "Repair and Replace: Lithic Production Behavior as Indicated by the Debitage Assemblage from CA-MRP-283 the Hackney Site." Presented at the Society for California Archaeology Annual Meeting, Fish Camp, California.

2016 "Bones, Stones, and Shell at Bolsa Chica: A Ceremonial Relationship?" Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Markers of Time: Exploring Transitions in the Bolsa Chica Assemblage." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2016 "Dating Duress: Understanding Prehistoric Climate Change at Bolsa Chica." Presented at the Society for California Archaeology Annual Meeting, Ontario, California.

2014 "New Discoveries from an Old Collection: Comparing Recently Identified OGR Beads to Those Previously Analyzed from the Encino Village Site." Presented at the Society for California Archaeology Annual Meeting, Visalia, California.

2012 Bolsa Chica Archaeology: Part Seven: Culture and Chronology. Lithic demonstration of experimental manufacturing techniques at the April meeting of The Pacific Coast Archaeological Society, Irvine, California.

APPENDIX B

Archaeological Records Search Results

(Deleted for Public Review; Bound Separately)

APPENDIX C

NAHC Sacred Lands File Search Results

(Deleted for Public Review; Bound Separately)

Appendix E

Energy Impact Assessment

Appendix B - Energy Calculations

Construction-Related Petroleum Fuels

The off-road construction equipment fuel usage was calculated through use of the off-road equipment assumptions utilized in the CalEEMod model run provided in Appendix A and the fuel usage calculations provided in the 2017 Off-road Diesel Emission Factors spreadsheet, prepared by CARB (https://ww3.arb.ca.gov/msei/ordiesel.htm). The Spreadsheet provides the following formula to calculate fuel usage from off-road equipment:

Fuel Used = Load Factor x Horsepower x Total Operational Hours x BSFC / Unit Conversion

Where:

Load Factor - Obtained from CalEEMod default values

Horsepower – Obtained from CalEEMod default values

Total Operational Hours – Calculated by multiplying CalEEMod default daily hours by the estimated number of working days for each phase of construction

BSFC – Brake Specific Fuel Consumption (pounds per horsepower-hour) – If less than 100 Horsepower = 0.408, if greater than 100 Horsepower = 0.367

Unit Conversion – Converts pounds to gallons = 7.109

The Following Table shows the off-road construction equipment fuel calculations based on the above formula, which shows that the off-road equipment utilized during construction of the proposed project would consume 37,226 gallons of diesel fuel.

Off-Road Construction Equipment Modeled in CalEEMod and Fuel Used

Equipment Type	Equipment Quantity	Horse-Power	Load Factor	Operating Hours Per Day	Total Operational Hours[1]	Fuel Used (gallons)
Site Preparation						
Rubber Tired Dozers	3	247	0.40	8	240	1,224
Tractors/Loaders/Backhoes	4	97	0.37	8	320	659
Grading						
Excavator	1	158	0.38	8	160	496
Grader	1	187	0.41	8	160	633
Rubber Tired Dozer	1	247	0.40	8	160	816
Tractors/Loaders/Backhoes	3	97	0.37	8	480	989
Building Construction						
Crane	1	231	0.29	7	1,610	5,568
Forklifts	3	89	0.20	8	5,520	5,639
Generator Set	1	84	0.74	8	1,840	6,564

Equipment Type	Equipment Quantity	Horse-Power	Load Factor	Operating Hours Per Day	Total Operational Hours[1]	Fuel Used (gallons)
Tractors/Loaders/Backhoes	3	97	0.37	7	4,830	9,949
Welder	1	46	0.45	8	1,840	2,186
Paving						
Paver	2	130	0.42	8	320	902
Paving Equipment	2	132	0.36	8	320	785
Rollers	2	80	0.38	8	320	558
Architectural Coatings						
Air Compressor	1	78	0.48	6	120	258
Total Off-Road Equipment Fuel used during Construction of the Proposed Project (gallons)						**37,226**

Notes:

[1] Based on 10 days for Site Preparation, 20 days for Grading ,230 days for Building Construction, 20 days for Paving, and 20 days for Architectural Coatings.

Source: CalEEMod Version 2020.4.0, CARB, 2018.

The on-road construction-related vehicle trips fuel usage was calculated through use of the default construction vehicle trip assumptions from the CalEEMod model run. The fleet average miles per gallon rates have been calculated through use of the EMFAC2017 model (https://www.arb.ca.gov/emfac/2017/) for the Salton Sea portion of Riverside County miles per gallon rates for the year 2023 and the EMFAC2017 model printouts are attached. The worker trips were based on the entire fleet average miles per gallon rate for gasoline powered vehicles and the vendor trips were based on the Heavy-Heavy Duty Truck (HHDT), Medium Duty Vehicle (MDV), and Medium Heavy-Duty Vehicle (MHDV) fleet average miles per gallon rate for diesel-powered vehicles. The following Table shows the on-road construction vehicle trips modeled in CalEEMod and the fuel usage calculations, which shows that the on-road construction-related vehicle trips would consume 18,133 gallons of gasoline and 10,846 gallons of diesel fuel for the proposed Project.

On-Road Construction Vehicle Trips Modeled in CalEEMod and Fuel Used

Vehicle Trip Types / Fuel Type	Daily Trips	Trip Length (miles)	Total per Day (miles)	Total per Phase (miles)	Fleet Average Miles per Gallon	Fuel Used (gallons)
Site Preparation						
Worker (Gasoline)	18	11	198	1,980	26.0	76
Vendor (Diesel	6	5.4	32	324	8.1	40
Grading						
Worker (Gasoline)	15	11	165	3.300	26.0	127
Vendor (Diesel)	6	5.4	32	648	8.1	80
Building Construction						
Worker (Gasoline)	180	11	1,980	455,400	26.0	17,499
Vendor (Diesel)	15	5.4	378	86,940	8.1	10,726
Paving						

Vehicle Trip Types / Fuel Type	Daily Trips	Trip Length (miles)	Total per Day (miles)	Total per Phase (miles)	Fleet Average Miles per Gallon	Fuel Used (gallons)
Worker (Gasoline)	15	11	165	3,300	26.0	127
Architectural Coatings						
Worker (Gasoline)	36	11	396	7,920	26.0	304
Total Gasoline Fuel Used from On-Road Construction Vehicles (gallons)						**18,133**
Total Diesel Fuel Used from On-Road Construction Vehicles (gallons)						**10,846**

Notes:
[1] Based on 10 days for Site Preparation, 20 days for Grading, 230 days for Building Construction, 20 days for Paving, and 20 days for Architectural Coatings.
Source: CalEEMod Version 2020.4.0, CARB, 2018.

Operations-Related Petroleum Fuels

The on-road operations-related vehicle trips fuel usage was calculated through use of the total annual vehicle miles traveled assumptions from the CalEEMod model run provided in Appendix A, which found that operation of the proposed Project would generate 15,275 vehicle miles traveled per year. The calculated total operational miles were then divided by the Salton Sea portion of Riverside County average rate of 26.0 miles per gallon, which was calculated through use of the EMFAC2017 model and based on year 2023. The EMFAC2017 model printouts are attached to this Appendix. Based on the above calculation methodology, the operation of the proposed Project would consume 587 gallons per year.

Operations-Related Electricity Use

The operations-related electricity usage was calculated in the CalEEMod model run provided in Appendix A that depicts the electricity use from the operation of the proposed project would be 18,200 kilo-watt hours (kWh) per year.

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SS)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar	Vehicle Ca	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Riverside (SS)	2023	HHDT	Aggregated	Aggregatec	GAS	0.7	203.6	13.5	0.0
Riverside (SS)	2023	LDA	Aggregated	Aggregatec	GAS	156390.0	5192942.8	741236.9	162.3
Riverside (SS)	2023	LDT1	Aggregated	Aggregatec	GAS	19126.2	682922.3	87976.4	25.5
Riverside (SS)	2023	LDT2	Aggregated	Aggregatec	GAS	59197.3	2157743.5	277962.3	85.0
Riverside (SS)	2023	LHDT1	Aggregated	Aggregatec	GAS	4132.2	144496.5	61563.3	13.3
Riverside (SS)	2023	LHDT2	Aggregated	Aggregatec	GAS	918.7	29428.3	13686.7	3.1
Riverside (SS)	2023	MCY	Aggregated	Aggregatec	GAS	6651.5	73761.0	13302.9	1.9
Riverside (SS)	2023	MDV	Aggregated	Aggregatec	GAS	44496.1	1618610.1	204821.7	78.4
Riverside (SS)	2023	MH	Aggregated	Aggregatec	GAS	924.2	8267.1	92.5	1.6
Riverside (SS)	2023	MHDT	Aggregated	Aggregatec	GAS	671.0	51776.5	13426.1	9.9
Riverside (SS)	2023	OBUS	Aggregated	Aggregatec	GAS	124.0	9440.4	2481.5	1.8
Riverside (SS)	2023	SBUS	Aggregated	Aggregatec	GAS	65.1	4584.2	260.3	0.5

vehicle miles per day (All Categories)	9,974,176	383	1,000 gall per day
		383,266	gallons per day
Fleet Avg Miles per gallon	26.0		

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Riverside (SS)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	Calendar	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
Riverside (SS)	2023	HHDT	Aggregated	Aggregated	DSL	7579.11	1192453	93547	158.72
Riverside (SS)	2023	LDA	Aggregated	Aggregated	DSL	1454.94	51146	6950	0.95
Riverside (SS)	2023	LDT1	Aggregated	Aggregated	DSL	8.28	207	27	0.01
Riverside (SS)	2023	LDT2	Aggregated	Aggregated	DSL	388.68	15308	1917	0.39
Riverside (SS)	2023	LHDT1	Aggregated	Aggregated	DSL	3263.37	122790	41049	5.63
Riverside (SS)	2023	LHDT2	Aggregated	Aggregated	DSL	1346.96	48864	16943	2.45
Riverside (SS)	2023	MDV	Aggregated	Aggregated	DSL	924.77	38003	4525	1.27
Riverside (SS)	2023	MH	Aggregated	Aggregated	DSL	543.94	4583	54	0.42
Riverside (SS)	2023	MHDT	Aggregated	Aggregated	DSL	3386.12	222700	29208	19.30
Riverside (SS)	2023	OBUS	Aggregated	Aggregated	DSL	127.98	10037	1189	1.02
Riverside (SS)	2023	SBUS	Aggregated	Aggregated	DSL	271.79	8588	3136	1.12
Riverside (SS)	2023	UBUS	Aggregated	Aggregated	DSL	0.00	0	0	0.00

Diesel Truck (HHDT, MDV, MHDT) vehicle miles per day	1,453,156	179	1,000 gall per day
		179,287	gallons per day
Diesel Truck Fleet Avg Miles per gallon	8.1		

Appendix F

Greenhouse Gas Emissions Impact

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Thermal Community Park

Riverside-Salton Sea County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	130.00	Space	1.17	52,000.00	0
City Park	7.63	Acre	7.63	332,362.80	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	15			**Operational Year**	2024
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	189.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project Site = 9.8 acres. 130 parking spaces in parking lots on 1.17 acre. Approximately 1 acre of pavement for basketball courts, tennis court and walkways. Approx 5,300 sf of building space

Construction Phase -

Trips and VMT - 6 daily vendor truck trips added to Site Preparation and Grading phases to account for water truck emissions

Grading - Grading anticipated to be balanced (no import or export of dirt)

Vehicle Trips - VMT Screening Assessment (Ganddini, 2021) found project would generate 8 daily trips. Daily trip rates set to match VMT Assessment.

Construction Off-road Equipment Mitigation - Exposed Area 3x per day and Replace Ground Cover selected to account for SCAQMD Rule 403 Minimum requirements

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblVehicleTrips	ST_TR	1.96	1.05
tblVehicleTrips	SU_TR	2.19	1.05
tblVehicleTrips	WD_TR	0.78	1.05

2.0 Emissions Summary

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2770	2.2526	2.7313	6.1700e-003	0.3817	0.0972	0.4789	0.1421	0.0912	0.2333	0.0000	553.0347	553.0347	0.0823	0.0201	561.0760
2024	0.1092	0.1083	0.1762	2.9000e-004	4.2000e-003	5.3100e-003	9.5100e-003	1.1100e-003	4.9400e-003	6.0500e-003	0.0000	25.7541	25.7541	6.7100e-003	9.0000e-005	25.9471
Maximum	**0.2770**	**2.2526**	**2.7313**	**6.1700e-003**	**0.3817**	**0.0972**	**0.4789**	**0.1421**	**0.0912**	**0.2333**	**0.0000**	**553.0347**	**553.0347**	**0.0823**	**0.0201**	**561.0760**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.2770	2.2526	2.7313	6.1700e-003	0.2752	0.0972	0.3725	0.0888	0.0912	0.1800	0.0000	553.0343	553.0343	0.0823	0.0201	561.0756
2024	0.1092	0.1083	0.1762	2.9000e-004	4.2000e-003	5.3100e-003	9.5100e-003	1.1100e-003	4.9400e-003	6.0500e-003	0.0000	25.7540	25.7540	6.7100e-003	9.0000e-005	25.9471
Maximum	**0.2770**	**2.2526**	**2.7313**	**6.1700e-003**	**0.2752**	**0.0972**	**0.3725**	**0.0888**	**0.0912**	**0.1800**	**0.0000**	**553.0343**	**553.0343**	**0.0823**	**0.0201**	**561.0756**

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**27.59**	**0.00**	**21.80**	**37.24**	**0.00**	**22.29**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2023**	**3-31-2023**	0.6617	0.6617
2	**4-1-2023**	**6-30-2023**	0.6143	0.6143
3	**7-1-2023**	**9-30-2023**	0.6210	0.6210
4	**10-1-2023**	**12-31-2023**	0.6101	0.6101
5	**1-1-2024**	**3-31-2024**	0.2175	0.2175
		Highest	0.6617	0.6617

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0395	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5684	1.5684	2.7000e-004	3.0000e-005	1.5850
Mobile	3.0900e-003	4.1000e-003	0.0262	6.0000e-005	5.7800e-003	5.0000e-005	5.8200e-003	1.5400e-003	4.0000e-005	1.5900e-003	0.0000	5.2131	5.2131	3.3000e-004	2.9000e-004	5.3067
Waste						0.0000	0.0000		0.0000	0.0000	0.1340	0.0000	0.1340	7.9200e-003	0.0000	0.3319
Water						0.0000	0.0000		0.0000	0.0000	0.0000	8.7036	8.7036	1.5100e-003	1.8000e-004	8.7960
Total	**0.0426**	**4.1100e-003**	**0.0274**	**6.0000e-005**	**5.7800e-003**	**5.0000e-005**	**5.8200e-003**	**1.5400e-003**	**4.0000e-005**	**1.5900e-003**	**0.1340**	**15.4875**	**15.6215**	**0.0100**	**5.0000e-004**	**16.0223**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0395	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5684	1.5684	2.7000e-004	3.0000e-005	1.5850
Mobile	3.0900e-003	4.1000e-003	0.0262	6.0000e-005	5.7800e-003	5.0000e-005	5.8200e-003	1.5400e-003	4.0000e-005	1.5900e-003	0.0000	5.2131	5.2131	3.3000e-004	2.9000e-004	5.3067
Waste						0.0000	0.0000		0.0000	0.0000	0.1340	0.0000	0.1340	7.9200e-003	0.0000	0.3319
Water						0.0000	0.0000		0.0000	0.0000	0.0000	8.7036	8.7036	1.5100e-003	1.8000e-004	8.7960
Total	**0.0426**	**4.1100e-003**	**0.0274**	**6.0000e-005**	**5.7800e-003**	**5.0000e-005**	**5.8200e-003**	**1.5400e-003**	**4.0000e-005**	**1.5900e-003**	**0.1340**	**15.4875**	**15.6215**	**0.0100**	**5.0000e-004**	**16.0223**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	1/13/2023	5	10	
2	Grading	Grading	1/14/2023	2/10/2023	5	20	
3	Building Construction	Building Construction	2/11/2023	12/29/2023	5	230	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Paving	Paving	1/2/2024	1/29/2024	5	20	
5	Architectural Coating	Architectural Coating	1/30/2024	2/26/2024	5	20	

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 2.17

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 7,950; Non-Residential Outdoor: 2,650; Striped Parking Area: 5,734 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	6.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	180.00	70.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	36.00	0.00	0.00	11.00	5.40	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	8.9000e-004	3.9000e-004	0.0000	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4059	0.4059	0.0000	6.0000e-005	0.4240
Worker	2.5000e-004	1.7000e-004	2.2300e-003	1.0000e-005	7.4000e-004	0.0000	7.4000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5739	0.5739	2.0000e-005	2.0000e-005	0.5792
Total	**2.8000e-004**	**1.0600e-003**	**2.6200e-003**	**1.0000e-005**	**8.9000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9799**	**0.9799**	**2.0000e-005**	**8.0000e-005**	**1.0031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0364	0.0000	0.0364	0.0187	0.0000	0.0187	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0364**	**6.3300e-003**	**0.0427**	**0.0187**	**5.8200e-003**	**0.0245**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	8.9000e-004	3.9000e-004	0.0000	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.4059	0.4059	0.0000	6.0000e-005	0.4240
Worker	2.5000e-004	1.7000e-004	2.2300e-003	1.0000e-005	7.4000e-004	0.0000	7.4000e-004	2.0000e-004	0.0000	2.0000e-004	0.0000	0.5739	0.5739	2.0000e-005	2.0000e-005	0.5792
Total	**2.8000e-004**	**1.0600e-003**	**2.6200e-003**	**1.0000e-005**	**8.9000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9799**	**0.9799**	**2.0000e-005**	**8.0000e-005**	**1.0031**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	**0.0171**	**0.1794**	**0.1475**	**3.0000e-004**	**0.0708**	**7.7500e-003**	**0.0786**	**0.0343**	**7.1300e-003**	**0.0414**	**0.0000**	**26.0606**	**26.0606**	**8.4300e-003**	**0.0000**	**26.2713**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7800e-003	7.8000e-004	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8119	0.8119	1.0000e-005	1.2000e-004	0.8479
Worker	4.1000e-004	2.9000e-004	3.7100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9565	0.9565	3.0000e-005	3.0000e-005	0.9653
Total	**4.7000e-004**	**2.0700e-003**	**4.4900e-003**	**2.0000e-005**	**1.5300e-003**	**2.0000e-005**	**1.5500e-003**	**4.2000e-004**	**2.0000e-005**	**4.3000e-004**	**0.0000**	**1.7684**	**1.7684**	**4.0000e-005**	**1.5000e-004**	**1.8132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0127	0.0000	0.0127	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1794	0.1475	3.0000e-004		7.7500e-003	7.7500e-003		7.1300e-003	7.1300e-003	0.0000	26.0606	26.0606	8.4300e-003	0.0000	26.2713
Total	**0.0171**	**0.1794**	**0.1475**	**3.0000e-004**	**0.0262**	**7.7500e-003**	**0.0340**	**0.0127**	**7.1300e-003**	**0.0198**	**0.0000**	**26.0606**	**26.0606**	**8.4300e-003**	**0.0000**	**26.2713**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7800e-003	7.8000e-004	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8119	0.8119	1.0000e-005	1.2000e-004	0.8479
Worker	4.1000e-004	2.9000e-004	3.7100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9565	0.9565	3.0000e-005	3.0000e-005	0.9653
Total	**4.7000e-004**	**2.0700e-003**	**4.4900e-003**	**2.0000e-005**	**1.5300e-003**	**2.0000e-005**	**1.5500e-003**	**4.2000e-004**	**2.0000e-005**	**4.3000e-004**	**0.0000**	**1.7684**	**1.7684**	**4.0000e-005**	**1.5000e-004**	**1.8132**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1809	1.6543	1.8681	3.1000e-003		0.0805	0.0805		0.0757	0.0757	0.0000	266.5755	266.5755	0.0634	0.0000	268.1608
Total	**0.1809**	**1.6543**	**1.8681**	**3.1000e-003**		**0.0805**	**0.0805**		**0.0757**	**0.0757**	**0.0000**	**266.5755**	**266.5755**	**0.0634**	**0.0000**	**268.1608**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0900e-003	0.2385	0.1049	1.1300e-003	0.0399	1.8100e-003	0.0417	0.0115	1.7300e-003	0.0132	0.0000	108.9236	108.9236	1.1400e-003	0.0161	113.7611
Worker	0.0569	0.0397	0.5125	1.4200e-003	0.1703	8.4000e-004	0.1711	0.0452	7.7000e-004	0.0460	0.0000	132.0014	132.0014	3.8100e-003	3.7200e-003	133.2059
Total	**0.0650**	**0.2782**	**0.6174**	**2.5500e-003**	**0.2102**	**2.6500e-003**	**0.2128**	**0.0567**	**2.5000e-003**	**0.0592**	**0.0000**	**240.9250**	**240.9250**	**4.9500e-003**	**0.0199**	**246.9670**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1809	1.6543	1.8681	3.1000e-003		0.0805	0.0805		0.0757	0.0757	0.0000	266.5751	266.5751	0.0634	0.0000	268.1605
Total	**0.1809**	**1.6543**	**1.8681**	**3.1000e-003**		**0.0805**	**0.0805**		**0.0757**	**0.0757**	**0.0000**	**266.5751**	**266.5751**	**0.0634**	**0.0000**	**268.1605**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0900e-003	0.2385	0.1049	1.1300e-003	0.0399	1.8100e-003	0.0417	0.0115	1.7300e-003	0.0132	0.0000	108.9236	108.9236	1.1400e-003	0.0161	113.7611
Worker	0.0569	0.0397	0.5125	1.4200e-003	0.1703	8.4000e-004	0.1711	0.0452	7.7000e-004	0.0460	0.0000	132.0014	132.0014	3.8100e-003	3.7200e-003	133.2059
Total	**0.0650**	**0.2782**	**0.6174**	**2.5500e-003**	**0.2102**	**2.6500e-003**	**0.2128**	**0.0567**	**2.5000e-003**	**0.0592**	**0.0000**	**240.9250**	**240.9250**	**4.9500e-003**	**0.0199**	**246.9670**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1885
Paving	1.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1885**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	3.4800e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9336	0.9336	3.0000e-005	3.0000e-005	0.9417
Total	**3.8000e-004**	**2.6000e-004**	**3.4800e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9336**	**0.9336**	**3.0000e-005**	**3.0000e-005**	**0.9417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.8800e-003	0.0953	0.1463	2.3000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	20.0265	20.0265	6.4800e-003	0.0000	20.1884
Paving	1.5300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.0953**	**0.1463**	**2.3000e-004**		**4.6900e-003**	**4.6900e-003**		**4.3100e-003**	**4.3100e-003**	**0.0000**	**20.0265**	**20.0265**	**6.4800e-003**	**0.0000**	**20.1884**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.6000e-004	3.4800e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	0.9336	0.9336	3.0000e-005	3.0000e-005	0.9417
Total	**3.8000e-004**	**2.6000e-004**	**3.4800e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9336**	**0.9336**	**3.0000e-005**	**3.0000e-005**	**0.9417**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0946					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5569
Total	**0.0965**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5569**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.2000e-004	8.3600e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.2407	2.2407	6.0000e-005	6.0000e-005	2.2601
Total	**9.2000e-004**	**6.2000e-004**	**8.3600e-003**	**2.0000e-005**	**2.9600e-003**	**1.0000e-005**	**2.9800e-003**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**0.0000**	**2.2407**	**2.2407**	**6.0000e-005**	**6.0000e-005**	**2.2601**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0946					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0122	0.0181	3.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	2.5533	2.5533	1.4000e-004	0.0000	2.5568
Total	**0.0965**	**0.0122**	**0.0181**	**3.0000e-005**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.4000e-004**	**0.0000**	**2.5568**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.2000e-004	8.3600e-003	2.0000e-005	2.9600e-003	1.0000e-005	2.9800e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	2.2407	2.2407	6.0000e-005	6.0000e-005	2.2601
Total	**9.2000e-004**	**6.2000e-004**	**8.3600e-003**	**2.0000e-005**	**2.9600e-003**	**1.0000e-005**	**2.9800e-003**	**7.9000e-004**	**1.0000e-005**	**8.0000e-004**	**0.0000**	**2.2407**	**2.2407**	**6.0000e-005**	**6.0000e-005**	**2.2601**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.0900e-003	4.1000e-003	0.0262	6.0000e-005	5.7800e-003	5.0000e-005	5.8200e-003	1.5400e-003	4.0000e-005	1.5900e-003	0.0000	5.2131	5.2131	3.3000e-004	2.9000e-004	5.3067
Unmitigated	3.0900e-003	4.1000e-003	0.0262	6.0000e-005	5.7800e-003	5.0000e-005	5.8200e-003	1.5400e-003	4.0000e-005	1.5900e-003	0.0000	5.2131	5.2131	3.3000e-004	2.9000e-004	5.3067

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	8.01	8.01	8.01	15,275	15,275
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	8.01	8.01	8.01	15,275	15,275

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	12.50	4.20	5.40	33.00	48.00	19.00	66	28	6
Other Non-Asphalt Surfaces	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0
Parking Lot	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.5684	1.5684	2.7000e-004	3.0000e-005	1.5850
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.5684	1.5684	2.7000e-004	3.0000e-005	1.5850
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	18200	1.5684	2.7000e-004	3.0000e-005	1.5850
Total		**1.5684**	**2.7000e-004**	**3.0000e-005**	**1.5850**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	18200	1.5684	2.7000e-004	3.0000e-005	1.5850
Total		**1.5684**	**2.7000e-004**	**3.0000e-005**	**1.5850**

6.0 Area Detail

6.1 Mitigation Measures Area

Thermal Community Park - Riverside-Salton Sea County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0395	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Unmitigated	0.0395	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	**0.0395**	**1.0000e-005**	**1.2700e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.4800e-003**	**2.4800e-003**	**1.0000e-005**	**0.0000**	**2.6400e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	9.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	**0.0395**	**1.0000e-005**	**1.2700e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.4800e-003**	**2.4800e-003**	**1.0000e-005**	**0.0000**	**2.6400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7036	1.5100e-003	1.8000e-004	8.7960
Unmitigated	8.7036	1.5100e-003	1.8000e-004	8.7960

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.091	8.7036	1.5100e-003	1.8000e-004	8.7960
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.7036**	**1.5100e-003**	**1.8000e-004**	**8.7960**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 9.091	8.7036	1.5100e-003	1.8000e-004	8.7960
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**8.7036**	**1.5100e-003**	**1.8000e-004**	**8.7960**

8.0 Waste Detail

8.1 Mitigation Measures Waste

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.1340	7.9200e-003	0.0000	0.3319
Unmitigated	0.1340	7.9200e-003	0.0000	0.3319

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.66	0.1340	7.9200e-003	0.0000	0.3319
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.1340**	**7.9200e-003**	**0.0000**	**0.3319**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.66	0.1340	7.9200e-003	0.0000	0.3319
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.1340**	**7.9200e-003**	**0.0000**	**0.3319**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

11.0 Vegetation

Appendix G

Noise Impact Study

Noise Measurement Site 1 - looking north


Noise Measurement Site 1 - looking northeast


Noise Measurement Site 1 - looking east


Noise Measurement Site 1 - looking southeast


Noise Measurement Site 1 - looking south


Noise Measurement Site 1 - looking southwest


Noise Measurement Site 1 - looking west

Noise Measurement Site 1 - looking northwest

Noise Measurement Site 2 - looking north

Noise Measurement Site 2 - looking northeast

Noise Measurement Site 2 - looking east

Noise Measurement Site 2 - looking southeast

Noise Measurement Site 2 - looking south

Noise Measurement Site 2 - looking southwest

Noise Measurement Site 2 - looking west

Noise Measurement Site 2 - looking northwest

Noise Measurement Site 3 - looking north

Noise Measurement Site 3 - looking northeast

Noise Measurement Site 3 - looking east

Noise Measurement Site 3 - looking southeast

Noise Measurement Site 3 - looking south

Noise Measurement Site 3 - looking southwest

Noise Measurement Site 3 - looking west

Noise Measurement Site 3 - looking northwest

General Information

Serial Number	02509
Model	831
Firmware Version	2.403
Filename	831_Data.001
User	GT
Job Description	Thermal Community Park
Location	On West Side, across from Parking Lot for La Familia HS
Measurement Description	
Start Time	Tuesday, 2022 July 05 17:15:58
Stop Time	Tuesday, 2022 July 05 17:30:58
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	Tuesday, 2022 July 05 17:12:35
Post Calibration	None
Calibration Deviation	---

Note

Noise from School Buses and cars on Olive St and AC units on buildings to west
101 F, 29.80 in Hg, 26% Hu, 2 mph wind clear sky

Overall Data

LAeq		49.2	dB
LASmax	2022 Jul 05 17:16:28	68.2	dB
LZpeak (max)	2022 Jul 05 17:15:58	104.8	dB
LASmin	2022 Jul 05 17:18:47	39.8	dB
LCeq		61.2	dB
LAeq		49.2	dB
LCeq - LAeq		12.0	dB
LAIeq		50.9	dB
LAeq		49.2	dB
LAIeq - LAeq		1.7	dB
Ldn		49.2	dB
LDay 07:00-22:00		49.2	dB
LNight 22:00-07:00		---	dB
Lden		49.2	dB
LDay 07:00-19:00		49.2	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		78.7	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	50.0	dBA
LAS10.00	45.4	dBA
LAS33.30	43.0	dBA
LAS50.00	42.5	dBA
LAS66.60	41.9	dBA
LAS90.00	41.1	dBA

LAS > 65.0 dB (Exceedence Counts / Duration)	2 / 8.6	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	C Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.8	dB
Under Range Peak	79.5	dB
Noise Floor	17.7	dB
Overload	145.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LCeq	39.3	49.1	56.0	55.0	54.0	52.9	46.8	43.0	38.4	31.3	20.8	8.7
LCSmax	64.5	64.4	65.0	66.3	71.1	74.6	67.4	60.7	57.4	50.5	41.7	25.9
LCSmin	25.1	42.5	48.9	48.9	46.9	33.6	35.7	32.7	27.0	19.8	10.8	6.2

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LCeq	34.1	36.2	36.0	39.6	43.8	46.9	47.8	51.9	52.7	50.0	50.9	49.9
LCSmax	58.1	60.8	58.0	59.2	57.9	63.3	61.5	62.0	61.2	63.6	63.0	64.5
LCSmin	12.6	16.6	21.5	30.0	36.9	39.4	41.1	44.9	40.4	36.4	45.7	41.8

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LCeq	48.4	50.0	49.3	50.5	47.3	45.1	43.3	42.0	40.0	39.5	38.0	36.8
LCSmax	63.9	66.0	68.6	72.4	70.0	66.6	64.5	62.8	59.5	58.2	56.0	54.2
LCSmin	42.2	41.1	39.0	36.8	31.8	32.7	32.0	30.2	21.4	28.4	27.5	26.3

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LCeq	35.3	33.9	30.4	29.1	26.0	21.7	19.0	15.0	9.8	5.7	4.1	-0.2
LCSmax	54.7	52.9	48.9	48.5	45.2	40.6	40.1	36.1	29.1	22.1	23.8	11.3
LCSmin	23.9	21.6	19.1	16.9	14.4	9.8	7.5	5.5	4.1	2.6	1.5	-1.2

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	05 Jul 2022 17:12:35	-27.5
PRM831	05 May 2022 10:41:39	-28.3
PRM831	04 May 2022 07:15:39	-27.7
PRM831	04 May 2022 07:06:45	-27.6
PRM831	04 May 2022 07:04:39	-26.0
PRM831	03 May 2022 17:46:32	-27.6
PRM831	03 May 2022 15:49:53	-26.0
PRM831	06 Apr 2022 08:40:52	-27.6
PRM831	26 Mar 2022 10:22:02	-27.8
PRM831	07 Mar 2022 12:13:34	-27.4
PRM831	21 Dec 2021 11:00:50	-27.9

General Information

Serial Number	02509
Model	831
Firmware Version	2.403
Filename	831_Data.002
User	GT
Job Description	Thermal Community Park
Location	Northwest Corner of Park Site
Measurement Description	
Start Time	Tuesday, 2022 July 05 17:33:06
Stop Time	Tuesday, 2022 July 05 17:48:06
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	Tuesday, 2022 July 05 17:12:35
Post Calibration	None
Calibration Deviation	---

Note

Noise from vehicles on Church St and Olive St and train pass by on RR aprox 1,200 to NE
101 F, 29.79 in Hg, 27% Hu, 3 mph wind, clear sky

Overall Data

LAeq		52.9	dB
LASmax	2022 Jul 05 17:35:23	65.7	dB
LZpeak (max)	2022 Jul 05 17:33:06	97.2	dB
LASmin	2022 Jul 05 17:33:56	42.8	dB
LCeq		64.3	dB
LAeq		52.9	dB
LCeq - LAeq		11.3	dB
LAIeq		54.6	dB
LAeq		52.9	dB
LAIeq - LAeq		1.6	dB
Ldn		52.9	dB
LDay 07:00-22:00		52.9	dB
LNight 22:00-07:00		---	dB
Lden		52.9	dB
LDay 07:00-19:00		52.9	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		82.5	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	59.8	dBA
LAS10.00	55.9	dBA
LAS33.30	48.9	dBA
LAS50.00	46.7	dBA
LAS66.60	45.9	dBA
LAS90.00	44.6	dBA

LAS > 65.0 dB (Exceedence Counts / Duration)	5 / 11.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	C Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.8	dB
Under Range Peak	79.5	dB
Noise Floor	17.7	dB
Overload	145.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LCeq	39.7	50.5	55.1	60.8	58.0	53.2	49.6	48.4	43.9	37.0	28.2	15.7
LCSmax	58.6	60.8	65.8	74.9	72.5	67.8	64.7	61.2	58.1	51.9	44.1	35.8
LCSmin	29.5	43.6	45.3	51.1	50.2	44.1	38.8	36.3	30.7	24.1	13.2	6.2

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LCeq	33.6	35.9	36.7	41.1	45.3	48.3	49.7	50.3	51.0	55.8	55.9	56.6
LCSmax	51.8	56.3	55.4	57.5	58.8	57.8	60.7	61.4	63.1	70.9	68.2	74.6
LCSmin	15.8	20.5	25.8	30.6	36.6	40.8	42.3	40.8	42.7	39.5	46.1	43.7

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LCeq	53.4	54.7	50.1	49.3	48.8	46.7	46.1	44.5	43.6	44.0	43.9	43.0
LCSmax	69.6	71.6	65.1	64.9	62.9	62.6	62.1	60.2	57.0	57.5	56.8	57.3
LCSmin	42.6	48.0	35.7	39.7	39.3	35.9	34.8	33.4	32.5	31.8	31.9	30.5

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LCeq	40.8	39.0	36.6	34.5	31.8	28.5	26.1	22.5	18.6	14.0	9.2	3.0
LCSmax	55.3	53.1	51.0	49.2	46.9	43.8	42.0	38.9	36.2	34.4	29.3	22.3
LCSmin	26.8	25.6	22.8	21.4	18.4	14.7	10.7	7.3	4.8	2.9	1.4	-1.1

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	05 Jul 2022 17:12:35	-27.5
PRM831	05 May 2022 10:41:39	-28.3
PRM831	04 May 2022 07:15:39	-27.7
PRM831	04 May 2022 07:06:45	-27.6
PRM831	04 May 2022 07:04:39	-26.0
PRM831	03 May 2022 17:46:32	-27.6
PRM831	03 May 2022 15:49:53	-26.0
PRM831	06 Apr 2022 08:40:52	-27.6
PRM831	26 Mar 2022 10:22:02	-27.8
PRM831	07 Mar 2022 12:13:34	-27.4
PRM831	21 Dec 2021 11:00:50	-27.9

General Information

Serial Number	02509
Model	831
Firmware Version	2.403
Filename	831_Data.003
User	GT
Job Description	Thermal Community Park
Location	At Northeast Corner of Park Site
Measurement Description	
Start Time	Tuesday, 2022 July 05 17:51:01
Stop Time	Tuesday, 2022 July 05 18:06:01
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	Tuesday, 2022 July 05 17:12:35
Post Calibration	None
Calibration Deviation	---

Note

Noise from vehicles on Church St and Date St
101 F, 29.78 in Hg, 25% Hiu, 3 mph wind, clear sky

Overall Data

LAeq		56.7	dB
LASmax	2022 Jul 05 17:56:56	79.4	dB
LZpeak (max)	2022 Jul 05 17:56:55	106.4	dB
LASmin	2022 Jul 05 17:51:36	40.6	dB
LCeq		69.1	dB
LAeq		56.7	dB
LCeq - LAeq		12.4	dB
LAIeq		59.5	dB
LAeq		56.7	dB
LAIeq - LAeq		2.8	dB
Ldn		56.7	dB
LDay 07:00-22:00		56.7	dB
LNight 22:00-07:00		---	dB
Lden		56.7	dB
LDay 07:00-19:00		56.7	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		86.3	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	60.4	dBA
LAS10.00	53.2	dBA
LAS33.30	46.3	dBA
LAS50.00	44.8	dBA
LAS66.60	43.9	dBA
LAS90.00	42.6	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	8 / 33.1	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	C Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.8	dB
Under Range Peak	79.5	dB
Noise Floor	17.7	dB
Overload	145.0	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LCeq	46.6	51.7	56.0	64.3	65.7	58.4	54.0	51.9	44.4	35.5	25.3	24.2
LCSmax	63.1	64.6	74.3	89.8	91.0	83.1	77.2	72.3	64.0	56.4	48.3	50.8
LCSmin	28.6	41.3	47.8	48.8	46.8	40.5	36.9	34.8	29.0	22.5	11.2	6.1

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LCeq	39.6	41.8	43.5	45.1	46.7	48.5	49.7	51.1	52.7	53.6	63.0	56.5
LCSmax	56.7	57.8	59.7	59.1	58.7	62.4	65.2	70.4	72.1	74.5	89.2	81.0
LCSmin	14.5	20.0	25.1	30.1	35.7	38.4	39.0	44.0	40.8	42.3	44.2	40.3

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LCeq	64.4	57.6	56.1	53.9	55.3	50.3	50.8	48.0	48.7	48.9	47.0	44.6
LCSmax	90.9	79.5	78.0	78.7	80.7	72.7	75.6	69.5	69.6	70.9	65.2	63.0
LCSmin	38.9	38.0	33.8	35.5	34.5	31.3	31.2	33.2	31.0	30.0	30.0	26.7

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LCeq	41.9	38.5	36.5	33.1	30.0	27.0	23.8	18.7	14.1	9.4	21.0	21.3
LCSmax	60.4	58.4	58.9	53.3	51.2	49.7	47.1	41.2	35.4	30.2	47.0	48.6
LCSmin	25.3	23.1	20.5	20.3	16.4	11.3	7.8	5.8	4.4	2.9	1.1	-1.1

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	05 Jul 2022 17:12:35	-27.5
PRM831	05 May 2022 10:41:39	-28.3
PRM831	04 May 2022 07:15:39	-27.7
PRM831	04 May 2022 07:06:45	-27.6
PRM831	04 May 2022 07:04:39	-26.0
PRM831	03 May 2022 17:46:32	-27.6
PRM831	03 May 2022 15:49:53	-26.0
PRM831	06 Apr 2022 08:40:52	-27.6
PRM831	26 Mar 2022 10:22:02	-27.8
PRM831	07 Mar 2022 12:13:34	-27.4
PRM831	21 Dec 2021 11:00:50	-27.9

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
School Uses to West	Commercial	49.2	49.2	49.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	285	0
Dozer	No	40		81.7	285	0
Dozer	No	40		81.7	285	0
Tractor	No	40	84		285	0
Front End Loader	No	40		79.1	285	0
Backhoe	No	40		77.6	285	0
Tractor	No	40	84		285	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Dozer		66.6	62.6	N/A	N/A	N/A	N/A
Dozer		66.6	62.6	N/A	N/A	N/A	N/A
Dozer		66.6	62.6	N/A	N/A	N/A	N/A
Tractor		68.9	64.9	N/A	N/A	N/A	N/A
Front End Loader		64.0	60.0	N/A	N/A	N/A	N/A
Backhoe		62.4	58.5	N/A	N/A	N/A	N/A
Tractor		68.9	64.9	N/A	N/A	N/A	N/A
	Total	**69**	**71**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Site Preparation

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Home to North	Residential	52.9	52.9	52.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	320	0
Dozer	No	40		81.7	320	0
Dozer	No	40		81.7	320	0
Tractor	No	40	84		320	0
Front End Loader	No	40		79.1	320	0
Backhoe	No	40		77.6	320	0
Tractor	No	40	84		320	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Day Leq	Evening Lmax	Evening Leq
Dozer	65.5	61.6	N/A	N/A	N/A	N/A
Dozer	65.5	61.6	N/A	N/A	N/A	N/A
Dozer	65.5	61.6	N/A	N/A	N/A	N/A
Tractor	67.9	63.9	N/A	N/A	N/A	N/A
Front End Loader	63.0	59.0	N/A	N/A	N/A	N/A
Backhoe	61.4	57.5	N/A	N/A	N/A	N/A
Tractor	67.9	63.9	N/A	N/A	N/A	N/A
Total	**68**	**70**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
School Uses to West	Commercial	49.2	49.2	49.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	285	0
Grader	No	40	85		285	0
Dozer	No	40		81.7	285	0
Tractor	No	40	84		285	0
Front End Loader	No	40		79.1	285	0
Backhoe	No	40		77.6	285	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Excavator		65.6	61.6	N/A	N/A	N/A	N/A
Grader		69.9	65.9	N/A	N/A	N/A	N/A
Dozer		66.6	62.6	N/A	N/A	N/A	N/A
Tractor		68.9	64.9	N/A	N/A	N/A	N/A
Front End Loader		64.0	60.0	N/A	N/A	N/A	N/A
Backhoe		62.4	58.5	N/A	N/A	N/A	N/A
	Total	**70**	**71**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Grading

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Home to North	Residential	52.9	52.9	52.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	320	0
Grader	No	40	85		320	0
Dozer	No	40		81.7	320	0
Tractor	No	40	84		320	0
Front End Loader	No	40		79.1	320	0
Backhoe	No	40		77.6	320	0

	Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment	***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Excavator	64.6	60.6	N/A	N/A	N/A	N/A
Grader	68.9	64.9	N/A	N/A	N/A	N/A
Dozer	65.5	61.6	N/A	N/A	N/A	N/A
Tractor	67.9	63.9	N/A	N/A	N/A	N/A
Front End Loader	63.0	59.0	N/A	N/A	N/A	N/A
Backhoe	61.4	57.5	N/A	N/A	N/A	N/A
Total	**69**	**70**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
School Uses to West	Commercial	49.2	49.2	49.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	285	0
Gradall	No	40		83.4	285	0
Gradall	No	40		83.4	285	0
Gradall	No	40		83.4	285	0
Generator	No	50		80.6	285	0
Welder / Torch	No	40		74	285	0
Tractor	No	40	84		285	0
Front End Loader	No	40		79.1	285	0
Backhoe	No	40		77.6	285	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq
Crane	65.4	57.5	N/A	N/A	N/A	N/A
Gradall	68.3	64.3	N/A	N/A	N/A	N/A
Gradall	68.3	64.3	N/A	N/A	N/A	N/A
Gradall	68.3	64.3	N/A	N/A	N/A	N/A
Generator	65.5	62.5	N/A	N/A	N/A	N/A
Welder / Torch	58.9	54.9	N/A	N/A	N/A	N/A
Tractor	68.9	64.9	N/A	N/A	N/A	N/A
Front End Loader	64.0	60.0	N/A	N/A	N/A	N/A
Backhoe	62.4	58.5	N/A	N/A	N/A	N/A
Total	**69**	**72**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Building Construction

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Home to North	Residential	52.9	52.9	52.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	320	0
Gradall	No	40		83.4	320	0
Gradall	No	40		83.4	320	0
Gradall	No	40		83.4	320	0
Generator	No	50		80.6	320	0
Welder / Torch	No	40		74	320	0
Tractor	No	40	84		320	0
Front End Loader	No	40		79.1	320	0
Backhoe	No	40		77.6	320	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Crane		64.4	56.5	N/A	N/A	N/A	N/A
Gradall		67.3	63.3	N/A	N/A	N/A	N/A
Gradall		67.3	63.3	N/A	N/A	N/A	N/A
Gradall		67.3	63.3	N/A	N/A	N/A	N/A
Generator		64.5	61.5	N/A	N/A	N/A	N/A
Welder / Torch		57.9	53.9	N/A	N/A	N/A	N/A
Tractor		67.9	63.9	N/A	N/A	N/A	N/A
Front End Loader		63.0	59.0	N/A	N/A	N/A	N/A
Backhoe		61.4	57.5	N/A	N/A	N/A	N/A
	Total	**68**	**71**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
School Uses to West	Commercial	49.2	49.2	49.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	285	0
Paver	No	50		77.2	285	0
Paver	No	50		77.2	285	0
Paver	No	50		77.2	285	0
Roller	No	20		80.0	285	0
Roller	No	20		80.0	285	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Paver		62.1	59.1	N/A	N/A	N/A	N/A
Paver		62.1	59.1	N/A	N/A	N/A	N/A
Paver		62.1	59.1	N/A	N/A	N/A	N/A
Paver		62.1	59.1	N/A	N/A	N/A	N/A
Roller		64.9	57.9	N/A	N/A	N/A	N/A
Roller		64.9	57.9	N/A	N/A	N/A	N/A
	Total	**65**	**67**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Paving

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Home to North	Residential	52.9	52.9	52.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	320	0
Paver	No	50		77.2	320	0
Paver	No	50		77.2	320	0
Paver	No	50		77.2	320	0
Roller	No	20		80.0	320	0
Roller	No	20		80.0	320	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Paver		61.1	58.1	N/A	N/A	N/A	N/A
Paver		61.1	58.1	N/A	N/A	N/A	N/A
Paver		61.1	58.1	N/A	N/A	N/A	N/A
Paver		61.1	58.1	N/A	N/A	N/A	N/A
Roller		63.9	56.9	N/A	N/A	N/A	N/A
Roller		63.9	56.9	N/A	N/A	N/A	N/A
	Total	**64**	**66**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/2/2022
Case Description: Thermal Community Park - Painting

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
School Uses to West	Commercial	49.2	49.2	49.2

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	285	0

		Results Calculated (dBA)		Day	Noise Limits (dBA)	Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		62.6	58.6	N/A	N/A	N/A	N/A
	Total	**63**	**59**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Home to North	Residential	52.9	52.9	52.9

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	320	0

		Results Calculated (dBA)		Day	Noise Limits (dBA)	Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		61.5	57.6	N/A	N/A	N/A	N/A
	Total	**62**	**58**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

General Information

Serial Number	02509
Model	831
Firmware Version	2.112
Filename	831_Data.002
User	GT
Job Description	Northwest Fresno Walmart Relocation
Location	Northwest Fresno Walmart
Measurement Description	
Start Time	Saturday, 2013 July 27 15:49:15
Stop Time	Saturday, 2013 July 27 16:09:15
Duration	00:20:00.6
Run Time	00:20:00.6
Pause	00:00:00.0
Pre Calibration	Saturday, 2013 July 27 13:36:08
Post Calibration	None
Calibration Deviation	---

Note

Located at the eastern portion of the southern parking lot and approx 140 feet south of the front door
96 F, 35% Humidity, 29.48 in Hg, 3 mph wind, partly cloudy

Overall Data

LAeq		63.1	dB
LASmax	2013 Jul 27 15:59:44	79.2	dB
LApeak (max)	2013 Jul 27 16:06:25	102.2	dB
LASmin	2013 Jul 27 15:50:20	49.6	dB
LCeq		74.0	dB
LAeq		63.1	dB
LCeq - LAeq		10.9	dB
LAIeq		67.4	dB
LAeq		63.1	dB
LAIeq - LAeq		4.3	dB
Ldn		63.1	dB
LDay 07:00-23:00		63.1	dB
LNight 23:00-07:00		---	dB
Lden		63.1	dB
LDay 07:00-19:00		63.1	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		93.9	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	66.7	dBA
LAS10.00	66.3	dBA
LAS33.30	62.8	dBA
LAS50.00	61.7	dBA
LAS66.60	57.7	dBA
LAS90.00	52.8	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	17 / 347.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.1	dB
Under Range Peak	75.6	dB
Noise Floor	17.0	dB
Overload	143.1	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	66.7	66.1	71.1	71.6	64.9	59.5	59.6	58.3	56.2	51.8	46.8	44.6
LZSmax	82.6	84.9	82.2	89.3	77.1	67.1	72.4	76.6	76.6	69.0	67.7	63.1
LZSmin	46.5	55.4	53.6	59.0	55.2	49.9	45.5	43.6	40.9	37.7	39.6	42.8

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	63.6	61.5	59.8	58.7	60.7	63.4	67.2	66.6	65.3	65.7	67.5	67.2
LZSmax	80.9	76.9	73.6	75.5	79.8	83.7	80.9	76.8	78.9	83.8	87.4	88.8
LZSmin	37.3	40.3	43.7	45.3	48.2	51.5	55.9	60.4	54.9	53.2	57.5	47.0

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	61.7	61.0	54.9	52.9	57.0	53.2	57.3	54.1	52.1	54.5	53.3	52.7
LZSmax	76.0	71.0	69.8	65.8	64.6	65.6	67.0	71.0	67.1	65.9	72.9	73.0
LZSmin	52.1	48.8	46.7	42.4	46.2	44.6	43.2	38.5	38.6	39.0	39.4	38.2

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	52.5	50.9	50.7	49.0	46.4	44.5	43.0	41.7	41.1	40.0	39.6	40.0
LZSmax	75.9	69.6	63.7	63.8	64.4	64.7	63.3	62.7	62.7	60.8	57.9	52.5
LZSmin	37.2	35.4	34.6	33.1	32.6	32.8	33.6	34.7	35.9	36.7	37.7	39.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	27 Jul 2013 13:36:08	-25.6
PRM831	28 Apr 2013 15:34:24	-25.9
PRM831	23 Apr 2013 10:17:33	-25.0
PRM831	27 Feb 2013 19:15:30	-25.7
PRM831	24 Jan 2013 12:00:16	-25.6
PRM831	15 Jan 2013 07:50:44	-26.2
PRM831	04 Jan 2013 13:47:46	-26.5

Site 1 - On Tree Near Lunch Shelters

September 21, 2019 9:40:02 AM
Sampling Time = 1 sec Freq Weighting=A
Record Num = 39597
Leq = 58.7
Min = 48.4 Min Leq hr at 10:11 AM 53.2
Max = 89.5 Max Leq hr at 6:46 PM 61.7

Site 1 - On Tree Near Lunch Shelters

SPL	Time	Leq (1 hour Avg.)
50.3	9:40:02	
49.5	9:40:03	
53.8	9:40:04	
61.4	9:40:05	
65.5	9:40:06	
62.4	9:40:07	
64.6	9:40:08	
60.7	9:40:09	
66.5	9:40:10	
62.5	9:40:11	
58.8	9:40:12	
55.2	9:40:13	
52.2	9:40:14	
57.8	9:40:15	
60.1	9:40:16	
61.9	9:40:17	
65.6	9:40:18	
66.2	9:40:19	
68.3	9:40:20	
64.5	9:40:21	
64.1	9:40:22	
64.6	9:40:23	
63.8	9:40:24	
66.9	9:40:25	
64.4	9:40:26	
60.8	9:40:27	
57.9	9:40:28	
56.9	9:40:29	
57.0	9:40:30	
56.8	9:40:31	
55.5	9:40:32	
56.8	9:40:33	
62.5	9:40:34	
67.4	9:40:35	
64.8	9:40:36	
62.3	9:40:37	
65.3	9:40:38	
65.9	9:40:39	
62.4	9:40:40	
60.7	9:40:41	
59.0	9:40:42	
56.1	9:40:43	
53.2	9:40:44	
51.2	9:40:45	
57.5	9:40:46	
63.4	9:40:47	
59.6	9:40:48	
56.0	9:40:49	
58.5	9:40:50	
58.9	9:40:51	
58.3	9:40:52	
62.7	9:40:53	
69.4	9:40:54	
66.3	9:40:55	
63.8	9:40:56	
61.0	9:40:57	
57.8	9:40:58	
56.2	9:40:59	
59.9	9:41:00	
60.9	9:41:01	
59.2	9:41:02	
55.7	9:41:03	
53.8	9:41:04	
52.9	9:41:05	
56.4	9:41:06	
63.9	9:41:07	
63.1	9:41:08	
67.0	9:41:09	
70.9	9:41:10	
70.5	9:41:11	
66.9	9:41:12	
65.7	9:41:13	
62.8	9:41:14	
60.0	9:41:15	
58.4	9:41:16	
64.0	9:41:17	
66.5	9:41:18	
62.4	9:41:19	
59.2	9:41:20	
57.2	9:41:21	
56.3	9:41:22	
55.5	9:41:23	
54.2	9:41:24	
53.3	9:41:25	
53.7	9:41:26	
53.6	9:41:27	
56.3	9:41:28	
58.9	9:41:29	
67.4	9:41:30	
66.4	9:41:31	
62.3	9:41:32	
58.6	9:41:33	
55.4	9:41:34	
53.4	9:41:35	
51.9	9:41:36	
51.7	9:41:37	
51.7	9:41:38	
51.4	9:41:39	
50.8	9:41:40	
50.3	9:41:41	
50.3	9:41:42	
49.9	9:41:43	
50.0	9:41:44	
50.4	9:41:45	
50.0	9:41:46	
49.9	9:41:47	
50.0	9:41:48	
50.0	9:41:49	
49.8	9:41:50	
49.6	9:41:51	
49.4	9:41:52	
49.3	9:41:53	
49.4	9:41:54	
49.4	9:41:55	
49.5	9:41:56	
49.4	9:41:57	
50.6	9:41:58	
50.3	9:41:59	
49.3	9:42:00	
49.0	9:42:01	
49.4	9:42:02	
49.6	9:42:03	
50.1	9:42:04	
50.8	9:42:05	
51.2	9:42:06	
51.6	9:42:07	
51.4	9:42:08	
51.5	9:42:09	
51.6	9:42:10	
52.5	9:42:11	
52.6	9:42:12	
52.3	9:42:13	
53.3	9:42:14	
51.6	9:42:15	
50.2	9:42:16	
49.7	9:42:17	
49.5	9:42:18	
49.5	9:42:19	
49.3	9:42:20	
49.2	9:42:21	
49.7	9:42:22	
49.7	9:42:23	
50.1	9:42:24	
50.1	9:42:25	
49.9	9:42:26	
49.6	9:42:27	
49.6	9:42:28	
49.7	9:42:29	
50.0	9:42:30	
50.3	9:42:31	
50.1	9:42:32	
51.2	9:42:33	
51.0	9:42:34	
50.2	9:42:35	
49.9	9:42:36	
50.1	9:42:37	
50.3	9:42:38	
50.4	9:42:39	
50.9	9:42:40	
51.0	9:42:41	
51.8	9:42:42	
51.5	9:42:43	
51.5	9:42:44	
51.5	9:42:45	
51.2	9:42:46	
50.7	9:42:47	
50.6	9:42:48	
50.1	9:42:49	
49.6	9:42:50	
49.3	9:42:51	

Site 2 - On Fence for Basketball Courts

September 21, 2019 9:46:51 AM
Sampling Time = 1 sec Freq Weighting=A
Record Num = 39512
Leq = 58.6
Min = 44.1 Min Leq hr at 2:09 PM 55.5
Max = 85.2 Max Leq hr at 7:42 PM 62.7

Site 2 - On Fence for Basketball Courts

SPL	Time	Leq (1 hour Avg.)
58.4	9:46:51	
55.4	9:46:52	
54.2	9:46:53	
55.1	9:46:54	
63.4	9:46:55	
62.2	9:46:56	
68.6	9:46:57	
62.0	9:46:58	
59.7	9:46:59	
55.7	9:47:00	
61.7	9:47:01	
58.7	9:47:02	
58.5	9:47:03	
56.4	9:47:04	
64.3	9:47:05	
60.4	9:47:06	
56.9	9:47:07	
54.1	9:47:08	
56.7	9:47:09	
58.1	9:47:10	
58.3	9:47:11	
55.4	9:47:12	
53.7	9:47:13	
54.4	9:47:14	
58.5	9:47:15	
59.0	9:47:16	
57.3	9:47:17	
56.2	9:47:18	
55.1	9:47:19	
54.5	9:47:20	
56.1	9:47:21	
55.6	9:47:22	
56.1	9:47:23	
57.2	9:47:24	
58.0	9:47:25	
57.6	9:47:26	
63.8	9:47:27	
61.3	9:47:28	
58.1	9:47:29	
55.0	9:47:30	
52.2	9:47:31	
50.3	9:47:32	
49.0	9:47:33	
48.6	9:47:34	
48.4	9:47:35	
49.4	9:47:36	
50.7	9:47:37	
53.0	9:47:38	
56.6	9:47:39	
57.4	9:47:40	
57.3	9:47:41	
57.2	9:47:42	
57.9	9:47:43	
56.7	9:47:44	
55.2	9:47:45	
54.0	9:47:46	
53.0	9:47:47	
52.9	9:47:48	
54.2	9:47:49	
55.6	9:47:50	
57.9	9:47:51	
60.3	9:47:52	
60.1	9:47:53	
56.0	9:47:54	
55.6	9:47:55	
55.9	9:47:56	
61.8	9:47:57	
57.9	9:47:58	
64.4	9:47:59	
61.5	9:48:00	
59.2	9:48:01	
57.2	9:48:02	
55.4	9:48:03	
54.1	9:48:04	
52.6	9:48:05	
52.6	9:48:06	
63.4	9:48:07	
60.4	9:48:08	
66.2	9:48:09	
65.7	9:48:10	
62.0	9:48:11	
68.1	9:48:12	
64.0	9:48:13	
63.1	9:48:14	
62.3	9:48:15	
59.7	9:48:16	
56.6	9:48:17	
56.4	9:48:18	
62.8	9:48:19	
65.4	9:48:20	
63.0	9:48:21	
58.8	9:48:22	
58.8	9:48:23	
57.1	9:48:24	
63.1	9:48:25	
57.0	9:48:26	
58.1	9:48:27	
57.0	9:48:28	
52.8	9:48:29	
58.5	9:48:30	
64.3	9:48:31	
60.0	9:48:32	
65.8	9:48:33	
61.6	9:48:34	
57.5	9:48:35	
53.5	9:48:36	
50.0	9:48:37	
47.4	9:48:38	
46.3	9:48:39	
45.6	9:48:40	
45.5	9:48:41	
46.3	9:48:42	
48.6	9:48:43	
48.1	9:48:44	
48.8	9:48:45	
53.4	9:48:46	
54.3	9:48:47	
55.4	9:48:48	
57.6	9:48:49	
58.2	9:48:50	
69.4	9:48:51	
70.9	9:48:52	
68.4	9:48:53	
66.1	9:48:54	
71.8	9:48:55	
71.5	9:48:56	
70.1	9:48:57	
66.4	9:48:58	
62.8	9:48:59	
60.0	9:49:00	
58.4	9:49:01	
60.0	9:49:02	
59.7	9:49:03	
59.7	9:49:04	
60.4	9:49:05	
59.5	9:49:06	
58.3	9:49:07	
57.6	9:49:08	
57.9	9:49:09	
57.7	9:49:10	
72.5	9:49:11	
76.3	9:49:12	
73.2	9:49:13	
69.7	9:49:14	
67.8	9:49:15	
66.0	9:49:16	
63.1	9:49:17	
59.7	9:49:18	
56.2	9:49:19	
53.1	9:49:20	
51.7	9:49:21	
51.6	9:49:22	
50.4	9:49:23	
51.2	9:49:24	
53.9	9:49:25	
55.6	9:49:26	
56.9	9:49:27	
57.8	9:49:28	
58.7	9:49:29	
58.5	9:49:30	
58.2	9:49:31	
57.7	9:49:32	
57.5	9:49:33	
57.3	9:49:34	
56.7	9:49:35	
56.9	9:49:36	
57.4	9:49:37	
57.2	9:49:38	
57.2	9:49:39	
57.6	9:49:40	

Site 3 - On Light Post for Football Field

September 21, 2019 10:08:08 AM
Sampling Time = 1 sec Freq Weighting=A
Record Num = 38144
Leq = 53.6
Min = 42.0 Min Leq hr at 10:45 AM 50.2
Max = 76.5 Max Leq hr at 5:36 PM 56.6

Site 3 - On Light Post for Football Field

SPL	Time	Leq (1 hour Avg.)
65.5	10:08:09	
61.5	10:08:10	
60.4	10:08:11	
60.9	10:08:12	
60.5	10:08:13	
55.0	10:08:14	
57.7	10:08:15	
59.8	10:08:16	
62.3	10:08:17	
58.1	10:08:18	
64.0	10:08:19	
60.3	10:08:20	
56.5	10:08:21	
53.0	10:08:22	
56.7	10:08:23	
54.8	10:08:24	
51.9	10:08:25	
50.0	10:08:26	
52.7	10:08:27	
60.0	10:08:28	
59.6	10:08:29	
57.3	10:08:30	
54.9	10:08:31	
54.3	10:08:32	
56.0	10:08:33	
54.0	10:08:34	
54.0	10:08:35	
54.7	10:08:36	
53.4	10:08:37	
55.6	10:08:38	
63.0	10:08:39	
60.3	10:08:40	
58.1	10:08:41	
56.1	10:08:42	
54.9	10:08:43	
55.4	10:08:44	
55.2	10:08:45	
53.5	10:08:46	
53.9	10:08:47	
58.9	10:08:48	
56.5	10:08:49	
54.9	10:08:50	
60.4	10:08:51	
61.4	10:08:52	
57.5	10:08:53	
64.2	10:08:54	
60.3	10:08:55	
57.0	10:08:56	
54.8	10:08:57	
54.9	10:08:58	
55.1	10:08:59	
53.6	10:09:00	
54.6	10:09:01	
55.2	10:09:02	
56.9	10:09:03	
56.8	10:09:04	
59.8	10:09:05	
63.7	10:09:06	
64.0	10:09:07	
60.2	10:09:08	
66.9	10:09:09	
61.1	10:09:10	
62.5	10:09:11	
68.3	10:09:12	
64.1	10:09:13	
60.1	10:09:14	
65.4	10:09:15	
64.6	10:09:16	
62.0	10:09:17	
65.5	10:09:18	
63.0	10:09:19	
69.6	10:09:20	
65.3	10:09:21	
64.8	10:09:22	
60.8	10:09:23	
66.6	10:09:24	
63.0	10:09:25	
58.9	10:09:26	
56.6	10:09:27	
55.8	10:09:28	
61.0	10:09:29	
60.1	10:09:30	
56.3	10:09:31	
53.4	10:09:32	
62.1	10:09:33	
62.8	10:09:34	
60.5	10:09:35	
56.5	10:09:36	
53.1	10:09:37	
50.6	10:09:38	
48.5	10:09:39	
46.9	10:09:40	
45.3	10:09:41	
44.5	10:09:42	
45.3	10:09:43	
45.3	10:09:44	
44.4	10:09:45	
44.2	10:09:46	
44.4	10:09:47	
44.3	10:09:48	
43.6	10:09:49	
43.4	10:09:50	
44.0	10:09:51	
44.0	10:09:52	
43.8	10:09:53	
44.3	10:09:54	
43.8	10:09:55	
43.3	10:09:56	
44.6	10:09:57	
44.9	10:09:58	
44.7	10:09:59	
44.5	10:10:00	
44.5	10:10:01	
44.7	10:10:02	
44.8	10:10:03	
44.7	10:10:04	
45.3	10:10:05	
46.0	10:10:06	
46.8	10:10:07	
47.2	10:10:08	
49.1	10:10:09	
50.2	10:10:10	
49.2	10:10:11	
48.8	10:10:12	
48.5	10:10:13	
48.6	10:10:14	
49.2	10:10:15	
49.4	10:10:16	
50.0	10:10:17	
50.3	10:10:18	
50.4	10:10:19	
49.9	10:10:20	
49.3	10:10:21	
49.8	10:10:22	
49.4	10:10:23	
49.3	10:10:24	
49.6	10:10:25	
49.3	10:10:26	
48.8	10:10:27	
48.6	10:10:28	
48.3	10:10:29	
48.4	10:10:30	
48.3	10:10:31	
48.6	10:10:32	
49.4	10:10:33	
49.4	10:10:34	
49.6	10:10:35	
49.8	10:10:36	
50.7	10:10:37	
52.3	10:10:38	
52.2	10:10:39	
52.3	10:10:40	
53.2	10:10:41	
53.4	10:10:42	
53.4	10:10:43	
52.7	10:10:44	
51.7	10:10:45	
51.0	10:10:46	
50.2	10:10:47	
49.5	10:10:48	
49.0	10:10:49	
48.6	10:10:50	
48.6	10:10:51	
48.4	10:10:52	
48.2	10:10:53	
47.8	10:10:54	
47.3	10:10:55	
47.1	10:10:56	
46.9	10:10:57	
46.7	10:10:58	

General Information

Serial Number	02509
Model	831
Firmware Version	2.314
Filename	831_Data.001
User	GT
Job Description	Laguna Beach Riddle Field during AAA Little League Game
Location	Approx 25 ft North of Clubhouse 5 feet East of Parking Lot 15 ft from Baseball Field
Measurement Description	
Start Time	Sunday, 2019 October 06 13:08:15
Stop Time	Sunday, 2019 October 06 13:18:15
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	Sunday, 2019 October 06 13:07:01
Post Calibration	None
Calibration Deviation	---

Note

Noise from baseball game and from cars in parking lot.
76 F, 29.81 in Hg, 55% Hu, 2 mph wind, clear sky

Overall Data

LAeq		60.9	dB
LASmax	2019 Oct 06 13:11:27	78.9	dB
LZpeak (max)	2019 Oct 06 13:13:15	106.6	dB
LASmin	2019 Oct 06 13:16:17	42.2	dB
LCeq		65.3	dB
LAeq		60.9	dB
LCeq - LAeq		4.4	dB
LAIeq		66.2	dB
LAeq		60.9	dB
LAIeq - LAeq		5.3	dB
Ldn		60.9	dB
LDay 07:00-22:00		60.9	dB
LNight 22:00-07:00		---	dB
Lden		60.9	dB
LDay 07:00-19:00		60.9	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		88.7	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	65.2	dBA
LAS10.00	60.3	dBA
LAS33.30	53.8	dBA
LAS50.00	51.6	dBA
LAS66.60	49.8	dBA
LAS90.00	46.4	dBA

LAS > 65.0 dB (Exceedence Counts / Duration)	7 / 39.7	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LZpeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Low	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.5	dB
Under Range Peak	78.6	dB
Noise Floor	17.3	dB
Overload	144.2	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	63.4	64.0	61.8	58.8	53.2	48.8	53.1	59.1	53.7	45.4	36.9	28.1
LZSmax	84.7	85.0	83.0	76.9	73.1	66.9	70.3	78.1	70.7	64.3	50.8	47.8
LZSmin	43.5	50.7	49.4	47.0	38.4	37.3	38.9	36.1	34.1	30.5	22.6	14.8

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	59.6	59.3	56.6	54.3	58.1	62.0	58.7	54.9	55.7	56.1	54.9	50.3
LZSmax	76.3	82.0	77.8	71.8	78.7	83.4	79.3	76.2	76.0	76.5	72.5	69.3
LZSmin	36.3	38.2	35.8	38.8	41.8	45.6	41.0	41.5	43.7	44.0	39.8	36.0

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	48.4	50.2	43.8	43.2	44.9	43.6	45.0	47.4	50.9	56.3	54.5	50.2
LZSmax	68.7	69.9	63.2	61.4	63.4	60.0	61.0	60.6	70.2	77.1	76.3	67.2
LZSmin	34.1	32.3	30.8	30.5	32.1	30.6	31.4	33.3	33.0	32.0	30.4	29.2

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	50.8	48.6	46.6	43.5	38.9	37.2	34.4	31.6	28.0	24.9	24.4	16.7
LZSmax	69.3	67.8	68.5	64.1	52.6	56.7	50.7	45.8	44.4	41.3	47.5	31.0
LZSmin	28.7	29.0	28.3	26.7	23.9	22.7	19.4	16.6	12.7	10.4	10.2	9.6

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	06 Oct 2019 13:06:55	-26.7
PRM831	18 Sep 2019 13:58:16	-26.8
PRM831	18 Sep 2019 11:09:07	-26.6
PRM831	07 Aug 2019 12:27:09	-27.3
PRM831	07 Aug 2019 05:49:21	-27.0
PRM831	06 Aug 2019 15:11:44	-26.3
PRM831	06 Aug 2019 12:24:00	-26.0
PRM831	22 Jul 2019 10:48:48	-26.3
PRM831	12 Jul 2019 20:18:07	-26.0
PRM831	29 May 2019 13:46:43	-25.9
PRM831	07 May 2019 12:46:08	-24.7

Appendix H

AB-52 Letters and Responses

DESERT
RECREATION DISTRICT

August 10, 2022

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive
Palm Springs, CA, 92264

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Grubbe,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Agua Caliente Band of Cahuilla Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
P.O. Box 846
Coachella, CA, 92236

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Ms. Vance,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Augustine Band of Cahuilla Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway
Indio, CA, 92203

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Welmas,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Cabazon Band of Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Cahuilla Band of Indians
ATTN: Daniel Salgado, Chairperson
52701 U.S. Highway 371
Anza, CA. 92539
chairman@cahuillla.net

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Salgado,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Cahuilla Band of Indians**, upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Campo Band of Mission Indians
ATTN: Ralph Goff, Chairperson
36190 Church Road, Suite 1
Campo, CA. 91906
rgoff@campo-nsn.gov

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Goff,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Campo Band of Mission Indians**, upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Ewiiaapaayp Tribal Office
Michael Garcia, Vice Chairperson
4054 Willows Road
Alpine, CA, 91901

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Garcia,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Ewiiaapaayp Tribal Office**, upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612
Jamul, CA, 91935

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Ms. Pinto,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Jamul Indian Village,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

La Posta Band of Mission Indians
ATTN: Javaughn Miller, Tribal Administrator
8 Crestwood Road
Boulevard, CA. 91905
jmiller@lptribe.net

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Miller,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **La Posta Band of Mission Indians**, upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road
Boulevard, CA, 91905

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Ms. Parada,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **La Posta Band of Mission Indians**, upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Los Coyotes Band of Mission Indians
ATTN: Shane Chapparosa, Chairperson
P.O. Box 189
Warner Springs, CA. 92086-0189
Chapparosa@msn.com

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Chapparosa,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Los Coyotes Band of Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302
Boulevard, CA, 91905

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Ms. Santos,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Manzanita Band of Kumeyaay Nation,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Rroad
Banning, CA, 92220

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Martin,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Morongo Band of Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Ramona Band of Cahuilla Mission Indians
ATTN: Joseph Hamilton, Chairperson
P.O. Box 391670
Anza, CA. 92539
admin@ramonatribe.com

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Hamilton,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Ramona Band of Cahuilla Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

San Pasqual Band of Mission Indians
ATTN: Allen E. Lawson, Chairperson
P.O. Box 365
Valley Center, CA. 92082
allenl@sanpasqualtribe.org

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Lawson,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **San Pasqual Band of Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Santa Rosa Band of Mission Indians
Steven Estrada, Chairperson
P.O. Box 391820
Anza, CA, 92539

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Estrada,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Santa Rosa Band of Mission Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Soboba Band of Luiseno Indians
ATTN: Rosemary Morillo, Chairperson
P.O. Box 487
San Jacinto, CA. 92583
rmorillo@soboba-nsn.gov

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Ms. Morillo,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Soboba Band of Luiseno Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Sycuan Band of the Kumeyaay Nation
Cody J. Martinez, Chairperson
1 Kwaaypaay Court
El Cajon, CA, 92019

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Martinez,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Sycuan Band of the Kumeyaay Nation,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Torres-Martinez Desert Cahuilla Indians
ATTN: Mary Resvaloso, Chairperson
P.O. Box 1160
Thermal, CA. 92274
Tmchair@rresmartinez.org

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

MS. Resvaloso,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Torres-Martinez Desert Cahuilla Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.

DESERT
RECREATION DISTRICT

August 10, 2022

Viejas Band of Kumeyaay Indians
Robert Welch, Chairperson
1 Viejas Grade Road
Alpine, CA, 91901

Subject: Formal Notification of Proposed Project Pursuant to Assembly Bill 52 and Sections 21080.3.1 and 21080.3.2 of the California Environmental Quality Act (CEQA)

Project: Proposed Thermal Community Park

Mr. Welch,

Pursuant to Assembly Bill (AB) 52 and CEQA Sections 21080.3.1 and 21080.3.2, and in response to your corresponding request, the Desert Recreation District is hereby providing formal notification of the proposed project referenced above. Enclosed please find a brief description of the proposed project and its location.

If you wish to begin consultation on this project pursuant to AB 52 and CEQA Sections 21080.3.1 and 21080.3.2, please commence such consultation as soon as possible, but no later 30 days from the date of this letter. The contact person at the District (lead agency) for this project is:

Troy Strange, Director of Planning & Public Works
45-305 Oasis St.
Indio, CA. 92201
(760) 347-3484 ext. 107
tstrange@drd.us.com

Your comments and concerns are important to the District. We welcome the opportunity to consult with the **Viejas Band of Kumeyaay Indians,** upon your request. If you have any questions regarding the project, please do not hesitate to contact me.

Sincerely,

Troy Strange
Director of Planning & Public Works

Enclosure: Description of the Proposed Project and Aerial Image Showing its location.

Riverside County, CA - Community: Property Search
Property ID Number (PIN/APN): 757062002

The design of this park is a balance between sports and gathering spaces, with dedicated spaces for recreation, leisure, and exercise for Thermal residents of all ages. A day at the park could include little league practice, shooting hoops, and playing soccer, while families enjoy the garden, the kids play area, and learn about Thermal's history through unique art and signage. A network of prominent walking paths allow for leisurely strolls around the entirety of the park, visiting the snack bar for refreshments, relaxing in the garden space's shade and a stop at the fields to watch neighbors play sports. Outdoor exercise equipment in the park allows for a range of activities to boost health and wellness for the community. Open space at the picnic areas are opportune for large gatherings while the sports fields can be transformed into a space for larger community events. The park will be on approximately 9.38 acres.