

Appendix A SUISUN-SOLANO WATER AUTHORITY WILL SERVE LETTER



SUISUN-SOLANO WATER AUTHORITY

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August 26, 2020

Ron Wu
Director, Development
FPA Multifamily, LLC
2082 Michelson, Fourth Floor
Irvine, CA 92612

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Subject: Water service to APN 037-130-010, Suisun City, CA

Dear Mr. Wu:

The subject parcel, APN 037-130-010, on the southeast corner of Blossom Ave and Railroad Ave is located within the boundary of the Solano Irrigation District (District) and the Suisun-Solano Water Authority (Authority) and is subject to both agencies' assessments, rates, and charges for water service connections and water service, and their Rules and Regulations, which may be revised from time to time.

Per Authority records, said parcel is currently not being served potable water by the Authority but is entitled to water service pursuant to Authority Rules and Regulations. The Authority is aware of plans to develop the parcel into a multi-family apartment complex with a density of 19.8 units per acre which is consistent with the City's General Plan Land Use and the 2012 Water System Design Review. Therefore, this will-serve letter serves as confirmation that the Authority has sufficient potable water supply to serve the aforementioned subject parcel.

Water service provided pursuant to this will-serve remains subject to the District and Authority Rules and Regulations as they may be revised.

This non-transferable will-serve shall expire on December 31, 2022 if service is not provided before that date. If any changes are made to the design, scope, or use of the Property, this contingent will-serve letter is void and a new "will serve" letter must be issued.

Water service provided pursuant to this will-serve remains subject to the District and Authority Rules and Regulations as they may be revised.

Sincerely,

Paul Fuchslin, P.E.
Director of Engineering

Appendix B FAIRFIELD-SUISUN SEWER DISTRICT WILL SERVE LETTER



FAIRFIELD-SUISUN SEWER DISTRICT

1010 Chadbourne Road • Fairfield, California 94534 • (707) 429-8930 • www.fssd.com

Gregory G. Baatrup, General Manager

August 19, 2020

Ron Wu, Director of Development
FPA Multifamily, LLC
2082 Michelson, Fourth Floor
Irvine, CA 92612

RE: Wastewater Service for Blossom Apartments

Dear Mr. Wu:

Thank you for contacting me regarding sewer service for the Blossom Apartments located near Railroad Avenue in Suisun City.

You indicated that these units will be connected within the Suisun City limits, in accordance with the City's General Plan. The District is obligated to provide sewer service to all parcels within the limits of the City of Suisun City, and there is currently adequate capacity in the District's sewer system to accommodate these connections. Note that capacity fees must be paid in order to secure entitlement to sewer capacity.

Please feel free to contact me at mherston@fssd.com or 707-421-9036 if you have further questions.

Sincerely,

Meg Herston
Environmental Compliance Engineer

cc: John Kearns, City of Suisun City

Appendix C AIR QUALITY AND GREENHOUSE GAS MODELING RESULTS

Blossom Avenue Apartments Project

Date: February 9, 2021

Subject: Air Quality and Greenhouse Gas Emissions Summary

This memorandum documents the results of the CalEEMod emission estimates for the Blossom Avenue Apartments Project (proposed project).

Project Location and Description

The Blossom Avenue Apartments Project (proposed project) involves the development of an approximately 9.09-acre infill site near the southeast intersection of Blossom Avenue and Railroad Avenue in the City of Suisun City (City). The proposed project would include the construction of a garden-style apartment complex that consists of nine separate three-story buildings totaling approximately 169,728 net square feet (nsf). The proposed buildings would provide 180 multi-family units total with a mix of one, two, and three-bedroom units. The proposed complex would also include a one-story community building of approximately 3,900 square feet and approximately 16,235 square feet of common open space consisting of internal walkways and sitting areas, a pool and spa, barbeque and picnic areas, a dog park, and a tot-lot play area. Additionally, the proposed project would include the construction of on- and off-site utility infrastructure, covered surface parking, driveways, frontage improvements, and landscaping.

The conceptual site plan is overlaid at the project location in Figure 1.



Figure 1 – Proposed Project Site Plan Overlay

Modeling Parameters and Assumptions

The following modeling parameters and assumptions were used to generate criteria air pollutant and greenhouse gas (GHG) emissions for the Blossom Avenue Apartments Project.

Model Selection

The California Emissions Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, CalEEMod identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

CalEEMod was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions.

CalEEMod is a comprehensive tool for quantifying air quality impacts from land use projects located throughout California. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as preparing CEQA or National Environmental Policy Act documents, conducting pre-project planning, and, verifying compliance with local air quality rules and regulations, etc.

CalEEMod version 2016.3.2 was used to estimate construction and operational impacts of the proposed project.

Air Pollutants and GHGs that were Assessed

Criteria Pollutants Assessed

The following criteria air pollutants were assessed in this analysis: ROG, NO_x, PM₁₀, and PM_{2.5}.

Note that the proposed project would emit ozone precursors ROG and NO_x. However, the proposed project would not directly emit ozone since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

GHGs Assessed

This analysis is restricted to GHGs identified by AB 32, which include CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃. The proposed project would generate a variety of GHGs, including several defined by AB 32 such as CO₂, CH₄, and N₂O.

Certain GHGs defined by AB 32 would not be emitted by the project. HFCs, PFCs, SF₆, and NF₃ are typically used in industrial applications, none of which would be used in an apartment complex project. Therefore, it is not anticipated that the proposed project would emit those GHGs.

GHG emissions associated with the proposed project construction, as well as future operations were estimated using CO₂e emissions as a proxy for all GHG emissions. Construction GHG emissions would be amortized over the lifetime of the project. In order to obtain the CO₂e, an individual GHG is multiplied by its GWP. The GWP designates on a pound for pound basis the potency of the GHG compared to CO₂.

Assumptions

Construction Modeling Assumptions

Schedule

The proposed project would require various tasks including site preparation, grading, building construction, architectural coating, and paving. It is anticipated that project construction would take approximately 18 months to complete, starting approximately in the third quarter of 2021 and ending in the second or third quarter of 2023. The proposed project would be built sequentially with workers moving on to other buildings onsite as they complete each task. However, some tasks may overlap during the grading and building construction activities. It is anticipated that ancillary improvements would occur concurrently with the construction of the facilities. To represent this, emissions from off-site improvements were estimated in a separate CalEEMod run. Table 1 shows the construction schedule assumed for the purposes of estimating emissions. The construction schedule was based on information presented in the project description of the ISMND. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule moved to later years or is phased over multiple years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required per CEQA guidelines. Site specific construction fleet may vary due to specific project needs at the time of construction.

Table 1: Project Construction Schedule

Construction Task	Start Date	End Date	Construction Working Days
Project Site			
Site Preparation	9/6/2021	10/15/2021	30
Grading	10/18/2021	5/25/2022	158
Building Construction	12/13/2021	5/24/2023	378
Paving	9/1/2022	9/30/2022	22
Architectural Coating	9/30/2022	5/24/2023	169
Off-site Improvements			

Construction Task	Start Date	End Date	Construction Working Days
Site Preparation	5/26/2021	5/26/2021	1
Grading	5/27/2021	5/28/2021	2
Paving	5/29/2021	6/4/2021	5
Source: CalEEMod Version 2016.3.2 Blossom Avenue Apartments Project Construction Estimates			

Typically, project construction and grading activities would be consistent with the City's Municipal Code and occur between 7:00 AM to 6:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM, on Saturday. Project construction and grading activities would not occur on Sundays or federal holidays. Some concrete pouring activities may need to occur before 7:00 AM and would require an exception from the City's chief building inspector (Suisun City 2019). Construction materials and equipment would be delivered using trucks during daytime hours (between 7:00 AM and 6:00 PM). The construction worksite would be operated in accordance with applicable public health standards, including those required in response to the Coronavirus (COVID-19). Although construction activities are permissible, the selection of five working days per week provided workday estimates that were closer to the workdays provided in the project description. The start and end dates provided in the project description were retained. For the purpose of estimating emissions, the construction start and end dates were adjusted to match the dates provided in the project description for the following project site construction phases: site preparation, grading, building construction, and paving. The architectural coating phase was extended through the completion of construction to represent the painting activities for the multiple buildings.

Equipment

Construction equipment for each construction activity is shown in Table 2. No pile driving is proposed.

Table 2: Project Construction Equipment

Construction Task	Equipment Type	# of Equipment	Usage (hours/day)	Horsepower	Load Factor
Project Site					
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37

Construction Task	Equipment Type	# of Equipment	Usage (hours/day)	Horsepower	Load Factor
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48
Off-site Improvements					
Site Preparation	Graders	1	8	187	0.41
	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
	Rubber Tired Dozers	1	1	247	0.40
	Tractors/Loaders/Backhoes	2	6	97	0.37
Paving	Cement and Mortar Mixers	4	6	9	0.56
	Pavers	1	7	130	0.42
	Rollers	1	7	80	0.38
	Tractors/Loaders/Backhoes	1	7	97	0.37
Source: CalEEMod Version 2016.3.2 Blossom Avenue Apartments Project Construction Estimates					

Vehicles Trips

Off-site construction emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM₁₀ and PM_{2.5}). Construction will only evaluate exhaust emissions since the Bay Area Air Quality Management District (BAAQMD) thresholds for PM₁₀ and PM_{2.5} are based on engine exhaust. Table 3 provides a summary of the construction-related vehicle trips. CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating). Based on information presented in the project description of the ISMND, the number of temporary construction workers would range from approximately 75 to 85 workers per day. The worker trips were increased compared to the default values to reflect the anticipated number of construction workers for the following project construction phases: site preparation, grading, paving, and architectural coating. The higher default value for worker trips per day was retained for the building construction phase to present a conservative estimate of emissions. As the off-site improvements would occur concurrently with project site construction, the additional worker trips estimated for the off-site improvements presents a conservative estimate.

CalEEMod default values were used to estimate the number of vendor vehicle trips for the following phases: site preparation, grading, building construction, and architectural coating. Four vendor trips per day were added to the paving phases to account for the delivery of materials. The number of vendor trips during the Building Construction phase is derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) as per the CalEEMod defaults. The SMAQMD trip survey during construction counted cement and water trucks as vendor trips (instead of counting them

as off-road vehicle trips) and these trip rates were incorporated into the calculations for the Building Construction phase. The default values for hauling trips are based on the assumption that a truck can haul 20 tons (or 16 cubic yards) of material per load. If one load of material is delivered, CalEEMod assumes that one haul truck importing material will also have a return trip with an empty truck (e.g., 2 one-way trips).

The fleet mix for worker trips is light-duty passenger vehicles to light-duty trucks. The vendor trips fleet mix is composed of a mixture of medium and heavy-duty diesel trucks. The hauling trips are assumed to be 100% heavy-duty diesel truck trips. CalEEMod default trip lengths were used for the worker (10.8 miles), vendor (7.3 miles), and hauling trips (20 miles).

Table 3: Construction Vehicle Trips

Construction Task	Worker Trips per Day ¹	Vendor Trips per Day ²	Total Haul Truck Trips ³
Project Site			
Site Preparation	170	0	14
Grading	170	0	309
Building Construction	271	75	18
Paving	170	4	12
Architectural Coating	170	0	2
Off-site Improvements			
Site Preparation	5	0	4
Grading	10	0	8
Paving	18	4	14
<p>1. Increased worker trips compared to the default values for the following project construction phases: site preparation, grading, paving, and architectural coating. Worker trips were adjusted to reflect up to 85 workers per day (assumes two trips per worker), consistent with the maximum number of construction workers anticipated based on information presented in the project description. As the off-site improvements would occur concurrently with project site construction, the additional worker trips estimated for the off-site improvements presents a conservative estimate.</p> <p>2. Additional vendor trips were added to the paving phases to account for delivery of materials.</p> <p>3. Truck trips during grading were based on import of 3,000 cubic yards of fill. Two additional truck trips per piece of off-road construction equipment were added to each phase for mobilization/demobilization.</p> <p>Source: Stantec Consulting Services Inc, CalEEMod Version 2016.3.2 Construction Estimates</p>			

Operational Modeling Assumptions

Operational emissions are those emissions that occur during operation of the proposed project. The sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the proposed project site. The trip generation rates for the project are shown in Table 4 and Table 5.

Table 4: Blossom Avenue Apartments Estimated Trip Generation Summary from the VMT Analysis

Source	Amount	Units	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
Trip Rates									
Multifamily Housing Mid-Rise (221)	—	DU	0.09	0.27	0.36	0.27	0.17	0.44	5.44
Trip Generation									
Blossom Ave Apartments	180	DU	17	48	65	48	31	79	979
ADT - Average Daily Trips									
DU - Dwelling Unit									
Source: VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California (Stantec Consulting Services Inc., 2021)									
Trip Rate Source Cited in the VMT Impact Analysis: Institute of Transportation Engineers (ITE), 10th Edition, 2017, with ITE code in parentheses									

Table 5: Blossom Avenue Apartments Trip Generation Rates Used to Estimate Emissions

Housing Type	Land Use Type	Size (Dwelling Units)	Weekday Average Daily Trip Rate	Saturday Average Daily Trip Rate	Sunday Average Daily Trip Rate
Residential	Multifamily Housing Mid-Rise	180	5.44	4.91	4.09
As noted in Table 3, use of the ITE 10 th Edition trip generation rates is consistent with the assumptions used in the project-specific VMT analysis prepared by Stantec Consulting Services Inc. Source: Institute of Transportation Engineers (ITE), 10th Edition, 2017.					

Trip Lengths

The trip length that was used for was taken from the Vehicle Miles Traveled (VMT) Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California. The project-specific VMT Impact Analysis determined that the residential home-based VMT per capita would be 23.4 VMT per capita. Based on this average household size the proposed project would result in 558 residents. As there would be 180 dwelling units, this represents 3.1 persons per dwelling unit. Taking the 23.4 VMT and dividing it by 3.1 results in 7.55 VMT per dwelling unit. To represent this in CalEEMod, all operational trip lengths were adjusted to 7.55 miles per trip. Additionally, trips were assumed to be 100% primary trips in order to avoid double-counting reductions already to the VMT already accounted for in the VMT Impact Analysis.

Vehicle Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the proposed project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The CalEEMod default vehicle fleet

mix for the San Francisco Bay Area Air Basin portion of Solano County was used in the analysis for each operational year analyzed.

Area Sources

Consumer Products

Consumer products are various solvents used in non-industrial applications that emit ROG/VOC¹ during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries. CalEEMod includes default consumer product use rates based on building square footage. The default emission factors developed for CalEEMod were used for consumer products associated with parking uses. The general consumer product category was updated based on 2017 ARB VOC inventory data and 2017 population estimates based on the State of California's Department of Finance demographic projections were used to estimate a Statewide VOC emission factor for 2017. The default general consumer product emission factor is based on 2008 ARB VOC inventory data using the same methodology applied to calculate the updated VOC emission factor for general consumer products.

Architectural Coatings (Painting)

Paints release VOC emissions. The buildings would be repainted on occasion. CalEEMod defaults were used for this purpose.

Landscaping Emissions

CalEEMod estimated a total of 180 days for which landscaping equipment would be used to estimate potential emissions for the proposed project.

Indirect Emissions

For GHG emissions, CalEEMod contains calculations to estimate indirect GHG emissions. Indirect emissions are emissions where the location of consumption or activity is different from where actual emissions are generated. For example, electricity would be consumed at the proposed project site; however, emissions associated with producing that electricity are generated off-site at a power plant. Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

The Renewables Portfolio Standard (RPS) is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020. Pacific Gas and Electric (PG&E) would provide electricity and natural gas services to the project site. PG&E provides emission factors for the electricity it provides to customers for its energy portfolio that is used to estimate project emissions. The utilities will be required to increase the use of renewable energy sources to 60 percent by 2030. The latest information available in PG&E's 2020 Sustainability Report was used to adjust the project CO₂ intensity factor for the 2030 scenario.

¹ Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.

Energy Use

The emissions associated with the building electricity and natural gas usage (non-hearth) are estimated based on the land use type and size. The electricity energy use is in units of kilowatt hours per size metric for each land use type. Natural gas use is in units of a thousand British Thermal Units per size metric for each land use type.

Water and Wastewater Use

Supplying and treating water for apartment complexes generates GHG emissions. Depending on the specific water supply and/or treatment method used these numbers can vary widely. Supplying water is bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water is bringing the water from the treatment plant to the end users. The electricity intensity factors are multiplied by the utility GHG emissions intensity factors for the GHGs and are classified as indirect emissions.

It is estimated the proposed apartment complex and community building would require approximately 150 gallons per day (gpd) per dwelling unit, totaling approximately 27,150 gpd or 9,909,750 gallons per year (gpy). Inputs for the water consumption for the buildings were adjusted to match the provided project-specific information by adjusting indoor water category consumption values for proposed buildings. CalEEMod default values were retained for the outdoor water category and for any land uses where project-specific information was not provided in the project description.

Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic or lagoons) used, and therefore the wastewater treatment type percentages are variables.

Solid Waste

GHG emissions are associated with the disposal of solid waste generated by the vehicle trips to transport solid waste from the proposed project into landfills. Project generated construction waste would need to be handled in coordination with diversion requirements of the City.

Thresholds

The BAAQMD adopted significance thresholds for construction-related and operational ROG, NO_x, PM, CO, and CO₂e, these thresholds are included in Table 6.

Table 6: BAAQMD Proposed Project-Level Air Quality CEQA Thresholds of Significance

Criteria Pollutants	Construction-Related	Operational-Related	
Criteria Air Pollutants and Precursors (regional)	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tpy)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15

Criteria Pollutants	Construction-Related	Operational-Related	
PM _{2.5}	54 (exhaust)	54	10
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
GHGs (projects other than stationary sources)	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 MTCO ₂ e/yr OR 4.6 MTCO ₂ e/SP/yr (residents + employees)	

Notes:

CO = carbon monoxide

GHG = greenhouse gas

lbs/day= pounds per day

MTCO₂e/yr= metric tons of carbon dioxide equivalent per year

MTCO₂e/SP/yr= metric tons of carbon dioxide equivalent per service population per year

NO_x = nitrogen oxide

PM_{2.5} = particulate matter 2.5 microns in diameter or less

PM₁₀ = particulate matter 10 microns in diameter or less

ppm = parts per million

ROG = reactive organic gas

tpy= trips per year

Source: BAAQMD 2017

Criteria Pollutant CalEEMod Results

Construction

Annual and daily average emissions for the entire construction duration are shown in Table 7 for the unmitigated scenario. Annual and daily average emissions for the entire construction duration are shown in Table 8 for the scenario with Tier 4 mitigated equipment, in compliance with applicable mitigation measures presented in the General Plan EIR.

Table 7: Construction Annual and Daily Average Emissions (Unmitigated Average Daily Rate)

Parameter	Air Pollutants			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
2021 Construction Year (tons/year) ¹	2.14	7.00	0.28	0.26
2022 Construction Year (tons/year)	1.04	4.35	0.17	0.16
2023 Construction Year (tons/year)	0.94	1.14	0.04	0.04

<i>Total Emissions (tons/year)</i>	<i>2.14</i>	<i>7.00</i>	<i>0.28</i>	<i>0.26</i>
Total Emissions (pounds/year)	4,295	14,067	561	524
Average Daily Emissions (pounds/day)²	9.59	31.40	1.25	1.17
Significance Threshold (pounds/day)	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No

Notes:

¹ Includes emissions from off-site improvements.

² Calculated by dividing the total number of pounds by the total 448 working days of construction for the entire construction period.

Calculations use unrounded numbers.

lbs = pounds

NO_x = oxides of nitrogen

PM₁₀ = particulate matter 10 microns in diameter

PM_{2.5} = particulate matter 2.5 microns in diameter

ROG = reactive organic gases

Source of thresholds: BAAQMD 2017

Source of emissions: CalEEMod Output (see Attachment A).

Table 8: Construction Annual and Daily Average Emissions (With Incorporation of Tier 4 Equipment)

Parameter	Air Pollutants			
	ROG	NO _x	PM ₁₀ (Exhaust)	PM _{2.5} (Exhaust)
2021 Construction Year (tons/year) ¹	0.06	0.20	0.00	0.00
2022 Construction Year (tons/year)	0.79	1.53	0.02	0.02
2023 Construction Year (tons/year)	0.88	0.47	0.01	0.01
<i>Total Emissions (tons/year)</i>	<i>1.72</i>	<i>2.20</i>	<i>0.03</i>	<i>0.03</i>
Total Emissions (pounds/year)	3,448	4,394	63	62
Average Daily Emissions (pounds/day)²	7.70	9.81	0.14	0.14
Significance Threshold (pounds/day)	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No

Notes:

¹ Includes emissions from off-site improvements.

² Calculated by dividing the total number of pounds by the total 448 working days of construction for the entire construction period.

Calculations use unrounded numbers.

lbs = pounds

NO_x = oxides of nitrogen

PM₁₀ = particulate matter 10 microns in diameter

PM_{2.5} = particulate matter 2.5 microns in diameter

ROG = reactive organic gases

Source of thresholds: BAAQMD 2017

Source of emissions: CalEEMod Output (see Attachment A).

Operations

Full buildout of the project is anticipated to occur in 2023, immediately following the completion of construction. Emissions were assessed for full buildout operations in the 2023 operational year.

Table 9: Operational Annual Emissions for Full Buildout (Unmitigated)

Emissions Source	Tons per Year			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Area	0.70	0.02	0.01	0.01
Energy	0.01	0.08	0.01	0.01
Mobile (Motor Vehicles)	0.26	1.35	0.99	0.27
Total Project Annual Emissions	0.96	1.45	1.00	0.29
Thresholds of Significance	10	10	15	10
Exceeds Significance Threshold?	No	No	No	No

Notes:

NO_x = oxides of nitrogen

PM_{2.5} = particulate matter 2.5 microns or less in diameter

PM₁₀ = particulate matter 10 microns or less in diameter

ROG = reactive organic gases

Source: CalEEMod output (see Attachment A).

Table 10: Operational Average Daily Emissions (Unmitigated)

Emissions Source	Tons per Year			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Total Project Annual Emissions ¹ (tons/year)	0.96	1.45	1.00	0.29
Total Project Annual Emissions ² (lbs/year)	1,925	2,890	2,010	570
Average Daily Emissions³ (lbs/day)	5.27	7.92	5.51	1.56
BAAQMD Average Daily Emission Thresholds (lbs/day)	54	54	82	54
Exceeds Significance Threshold?	No	No	No	No

Notes:

¹ Tons per year are shown in Table 9.

² Pounds per year were calculated using the unrounded annual project operational emissions.

³ The average daily construction emissions were estimated based on the total annual emissions divided by the number of days in 2023 (365 days).

NO_x = oxides of nitrogen

PM_{2.5} = particulate matter 2.5 microns or less in diameter

PM₁₀ = particulate matter 10 microns or less in diameter

ROG = reactive organic gases

Source: CalEEMod output (see Attachment A).

Greenhouse Gas Emissions

This GHG emissions generation analysis is restricted to emissions of the GHGs identified as those of California concern by AB 32, which include CO₂, methane, nitrous oxide, HFC, PFC, and SF₆. GHG emissions discussed are presented in CO₂e emissions.

Thresholds

The BAAQMD's project-level significance threshold for operational GHG generation included in the 2017 BAAQMD CEQA Guidelines are as follows:

- Compliance with a qualified GHG Reduction Strategy, or
- 1,100 MT CO₂e per year, or
- 4.6 MT CO₂e per service population (employees plus residents) per year.

It should be noted that the BAAQMD's thresholds of significance were established based on meeting the 2020 GHG targets presented in the AB 32 Scoping Plan. Although BAAQMD does not have an adopted threshold for 2030, BAAQMD is currently recommending evaluation of GHG significance based on 2030 GHG targets established in SB 32. For developments that would occur beyond 2020, the quantitative

thresholds can be adjusted to determine a “substantial progress” threshold based on the SB 32 2030 GHG reduction goals.

Construction

Construction of the project would emit GHG emissions during construction from the construction equipment usage, worker vehicles travel, and hauling trips. Total GHG emissions generated during all construction activities were quantified and are presented in Table 11. In order to assess the construction emissions, the total emissions generated during construction were amortized based on the life of the development (30 years) and added to the operational emissions.

Table 11: Annual Operational Emissions (Unmitigated)

Construction Year	Construction Emissions (MTCO ₂ e/year)
Project Site	
2021 Construction	225
2022 Construction	1,085
2023 Construction	381
Off-site Improvements	
2021 Construction	5
Total Project Construction	
Total Construction Emissions	1,696
Construction Emissions Amortized Over 30 Years	57
Totals may not appear to sum exactly due to rounding. Source: CalEEMod Output (see Attachment A).	

Operations

Operational GHG emissions by source are shown in Table 12. As previously indicated, the analysis includes construction emissions amortized over the life of the project. Full buildout of the project is anticipated to occur in 2023. Emissions were assessed for full buildout operations in years 2023 and 2030. The 2030 scenario summarized in Table 12 was prepared to assess the project's consistency with the SB 32 2030 target.

Table 12: Unmitigated Project Operational GHG Emissions (Full Buildout Scenarios)

Emission Source	Year 2023 Total Emissions (MTCO ₂ e per year)	Year 2030 Total Emissions (MTCO ₂ e per year)	Year 2035 Total Emissions (MTCO ₂ e per year)
Area	6	6	6
Energy	176	170	170
Mobile (Motor Vehicles)	1,106	929	880
Waste	56	56	56
Water	18	17	17
Amortized Construction Emissions	57	57	57
Total Annual Project Emissions	1,362	1,178	1,129
Service Population (Employees + Residents)¹	564	564	564

Emission Source	Year 2023 Total Emissions (MTCO₂e per year)	Year 2030 Total Emissions (MTCO₂e per year)	Year 2035 Total Emissions (MTCO₂e per year)
<i>Annual Per Service Population Emissions</i>	2.51	2.19	2.10
Applicable Thresholds of Significance (MT CO₂e/service population/year)	4.6	2.6²	2.4³
Exceeds Significance Threshold?	No	No	No
MT CO ₂ e = metric tons of carbon dioxide equivalent. Rounded results used to calculate totals. ¹ The proposed project would result in 558 residents and six employees, resulting in a service population of 564. ² Adjusted threshold to account for 2017 Scoping Plan Update 40 percent reduction goal by 2030. ³ Adjusted threshold to account for City's 2035 "fair-share" target Totals may not appear to sum exactly due to rounding. Source: CalEEMod Output (see Attachment A).			

As shown in Table 12, the project's total GHG annual emissions would not exceed applicable thresholds of significance in any scenario analyzed.

ATTACHMENT A

CalEEMod Results

CalEEMod Output

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Other Non-Asphalt Surfaces	27.70	1000sqft	0.64	27,705.00	0
Parking Lot	137.00	Space	1.23	54,800.00	0
Unenclosed Parking Structure	183.00	Space	1.65	73,200.00	0
City Park	2.07	Acre	2.07	89,951.92	0
Health Club	3.90	1000sqft	0.09	3,900.00	0
Recreational Swimming Pool	1.13	1000sqft	0.03	1,130.00	0
Apartments Mid Rise	180.00	Dwelling Unit	1.38	169,728.00	515

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's 2020 Corporate Responsibility and Sustainability Report.

Construction start date and buildout year based on information provided in the Project Description.

Land Use - Based on project description.

9.09-acre site

Apartment complex with multiple 3-story residential buildings totaling approximately 169,728 net square feet, a community building, common open space, landscaping, and parking.

Construction Phase - Project-specific based on construction schedule provided in the project description of the ISMND.

No demolition.

Off-road Equipment - Architectural coating equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Building construction equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Grading equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Paving equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Site preparation equipment matches proposed construction equipment provided in the project description.

Trips and VMT - Maximum of 85 workers per day based on the project description. Default worker trips for the building construction phase were retained. Haul trips added to for transport of equipment and vendor trips added for delivery of materials.

Grading - The proposed project would aim to balance cut/fill on the site; however, approximately 3,000 cubic yards of imported soil may be required.

Input: 3,000 cubic yards of material would be imported during the grading phase

Vehicle Trips - ITE 10th Ed Trip Generation Rates, consistent with the Project VMT Impact Analysis prepared by Stantec. Other land uses used to represent on-site amenities for residents. Adjusted trip length: 558 residents, 180 households = 7.5484 VMT per DU.

Woodstoves - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices.

Consumer Products - Updated based on 2017 ARB VOC inventory data and 2017 population estimates based on the State of California's Department of Finance demographic projections were used to estimate a statewide VOC EF for 2017.

Energy Use -

Water And Wastewater - It is estimated the proposed apartment complex and community building would require approximately 150 gallons per day (gpd) per dwelling unit, totaling approximately 27,150 gpd or 9,909,750 gallons per year (gpy).

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures for all Proposed Projects.

Area Mitigation - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices.

Energy Mitigation - The roof of the covered parking spaces would be designed to allow for installation of photovoltaic panels.

Project design feature noted for information purposes only - no reduction for on-site renewable energy applied in the modeling.

Water Mitigation - Compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance.

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	20.00	158.00
tblConstructionPhase	NumDays	230.00	378.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	169.00
tblConsumerProducts	ROG_EF	2.14E-05	1.62E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	30.60	0.00
tblGrading	MaterialImported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	27,700.00	27,705.00
tblLandUse	LandUseSquareFeet	90,169.20	89,951.92
tblLandUse	LandUseSquareFeet	180,000.00	169,728.00
tblLandUse	LotAcreage	4.74	1.38
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	297.00	309.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	170.00
tblTripsAndVMT	WorkerTripNumber	15.00	170.00
tblTripsAndVMT	WorkerTripNumber	15.00	170.00
tblTripsAndVMT	WorkerTripNumber	54.00	170.00
tblVehicleTrips	DV_TP	11.00	0.00

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tblVehicleTrips	HO_TL	5.70	7.55
tblVehicleTrips	HS_TL	4.80	7.55
tblVehicleTrips	HW_TL	10.80	7.55
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.86	5.09
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	IndoorWaterUseRate	11,727,724.61	9,909,750.00
tblWater	IndoorWaterUseRate	230,658.26	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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					
2021	0.1693	1.5129	1.1083	2.5100e-003	0.5581	0.0704	0.6286	0.2658	0.0650	0.3307	0.0000	223.4965	223.4965	0.0460	0.0000	224.6473
2022	1.0351	4.3518	4.4700	0.0120	0.8279	0.1675	0.9954	0.3031	0.1566	0.4596	0.0000	1,081.6322	1,081.6322	0.1437	0.0000	1,085.2255
2023	0.9387	1.1362	1.4520	4.2200e-003	0.2060	0.0412	0.2471	0.0554	0.0389	0.0943	0.0000	380.1454	380.1454	0.0358	0.0000	381.0392
Maximum	1.0351	4.3518	4.4700	0.0120	0.8279	0.1675	0.9954	0.3031	0.1566	0.4596	0.0000	1,081.6322	1,081.6322	0.1437	0.0000	1,085.2255

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					
2021	0.1693	1.5129	1.1083	2.5100e-003	0.2950	0.0704	0.3654	0.1313	0.0650	0.1962	0.0000	223.4963	223.4963	0.0460	0.0000	224.6471
2022	1.0351	4.3518	4.4700	0.0120	0.6343	0.1675	0.8018	0.2068	0.1566	0.3634	0.0000	1,081.6316	1,081.6316	0.1437	0.0000	1,085.2249
2023	0.9387	1.1362	1.4520	4.2200e-003	0.2060	0.0412	0.2471	0.0554	0.0389	0.0943	0.0000	380.1452	380.1452	0.0358	0.0000	381.0390
Maximum	1.0351	4.3518	4.4700	0.0120	0.6343	0.1675	0.8018	0.2068	0.1566	0.3634	0.0000	1,081.6316	1,081.6316	0.1437	0.0000	1,085.2249

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

	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
Percent Reduction	0.00	0.00	0.00	0.00	28.69	0.00	24.41	36.97	0.00	26.08	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	9-6-2021	12-5-2021	1.1506	1.1506
2	12-6-2021	3-5-2022	1.6197	1.6197
3	3-6-2022	6-5-2022	1.5610	1.5610
4	6-6-2022	9-5-2022	0.8846	0.8846
5	9-6-2022	12-5-2022	1.4010	1.4010
6	12-6-2022	3-5-2023	1.3339	1.3339
7	3-6-2023	6-5-2023	1.1522	1.1522
		Highest	1.6197	1.6197

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	174.6838	174.6838	0.0138	4.1300e-003	176.2612
Mobile	0.2561	1.3501	2.8556	0.0120	0.9824	8.6200e-003	0.9910	0.2632	8.0400e-003	0.2713	0.0000	1,105.0360	1,105.0360	0.0411	0.0000	1,106.0624
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	3.1651	8.3284	11.4935	0.3263	7.9200e-003	22.0098
Total	0.9624	1.4452	4.2316	0.0126	0.9824	0.0225	1.0048	0.2632	0.0219	0.2851	25.8291	1,293.6085	1,319.4375	1.7227	0.0121	1,366.1154

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	174.6838	174.6838	0.0138	4.1300e-003	176.2612
Mobile	0.2561	1.3501	2.8556	0.0120	0.9824	8.6200e-003	0.9910	0.2632	8.0400e-003	0.2713	0.0000	1,105.0360	1,105.0360	0.0411	0.0000	1,106.0624
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	2.5321	6.6627	9.1948	0.2610	6.3300e-003	17.6078
Total	0.9624	1.4452	4.2316	0.0126	0.9824	0.0225	1.0048	0.2632	0.0219	0.2851	25.1960	1,291.9428	1,317.1388	1.6575	0.0105	1,361.7135

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.13	0.17	3.79	13.13	0.32

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/6/2021	10/15/2021	5	30	09/06/2021-10/15/2021
2	Grading	Grading	10/18/2021	5/25/2022	5	158	10/18/2021-05/25/2021
3	Building Construction	Building Construction	12/13/2021	5/24/2023	5	378	12/13/2021-05/24/2023
4	Paving	Paving	9/1/2022	9/30/2022	5	22	09/01/2022-09/30/2022
5	Architectural Coating	Architectural Coating	9/30/2022	5/24/2023	5	169	Start 09/30/2022 and extend through completion of construction

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 79

Acres of Paving: 5.52

Residential Indoor: 343,699; Residential Outdoor: 114,566; Non-Residential Indoor: 5,880; Non-Residential Outdoor: 1,960; Striped Parking Area: 14,570 (Architectural Coating – sqft)

OffRoad Equipment

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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

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	170.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	170.00	0.00	309.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	271.00	75.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	170.00	4.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	170.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021**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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	0.0583	0.6075	0.3173	5.7000e-004	0.2710	0.0307	0.3017	0.1490	0.0282	0.1772	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591

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3.2 Site Preparation - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
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	8.5800e-003	5.8200e-003	0.0584	2.0000e-004	0.0203	1.4000e-004	0.0204	5.3800e-003	1.3000e-004	5.5100e-003	0.0000	17.7686	17.7686	4.1000e-004	0.0000	17.7789
Total	8.6300e-003	7.6000e-003	0.0587	2.1000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.2990	18.2990	4.3000e-004	0.0000	18.3099

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					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	0.0583	0.6075	0.3173	5.7000e-004	0.1220	0.0307	0.1526	0.0670	0.0282	0.0952	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590

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3.2 Site Preparation - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
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	8.5800e-003	5.8200e-003	0.0584	2.0000e-004	0.0203	1.4000e-004	0.0204	5.3800e-003	1.3000e-004	5.5100e-003	0.0000	17.7686	17.7686	4.1000e-004	0.0000	17.7789
Total	8.6300e-003	7.6000e-003	0.0587	2.1000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.2990	18.2990	4.3000e-004	0.0000	18.3099

3.3 Grading - 2021**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					0.2075	0.0000	0.2075	0.0956	0.0000	0.0956	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0630	0.6803	0.4361	8.2000e-004		0.0319	0.0319		0.0294	0.0294	0.0000	71.6477	71.6477	0.0232	0.0000	72.2270
Total	0.0630	0.6803	0.4361	8.2000e-004	0.2075	0.0319	0.2394	0.0956	0.0294	0.1249	0.0000	71.6477	71.6477	0.0232	0.0000	72.2270

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3.3 Grading - 2021**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	4.2000e-004	0.0137	2.4600e-003	4.0000e-005	2.2000e-003	5.0000e-005	2.2400e-003	5.7000e-004	4.0000e-005	6.1000e-004	0.0000	4.0752	4.0752	1.6000e-004	0.0000	4.0791
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	0.0157	0.0107	0.1070	3.6000e-004	0.0371	2.5000e-004	0.0374	9.8700e-003	2.3000e-004	0.0101	0.0000	32.5758	32.5758	7.6000e-004	0.0000	32.5947
Total	0.0162	0.0244	0.1095	4.0000e-004	0.0393	3.0000e-004	0.0396	0.0104	2.7000e-004	0.0107	0.0000	36.6510	36.6510	9.2000e-004	0.0000	36.6738

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					0.0934	0.0000	0.0934	0.0430	0.0000	0.0430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0630	0.6803	0.4361	8.2000e-004		0.0319	0.0319		0.0294	0.0294	0.0000	71.6476	71.6476	0.0232	0.0000	72.2269
Total	0.0630	0.6803	0.4361	8.2000e-004	0.0934	0.0319	0.1253	0.0430	0.0294	0.0724	0.0000	71.6476	71.6476	0.0232	0.0000	72.2269

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3.3 Grading - 2021**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	4.2000e-004	0.0137	2.4600e-003	4.0000e-005	2.2000e-003	5.0000e-005	2.2400e-003	5.7000e-004	4.0000e-005	6.1000e-004	0.0000	4.0752	4.0752	1.6000e-004	0.0000	4.0791
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	0.0157	0.0107	0.1070	3.6000e-004	0.0371	2.5000e-004	0.0374	9.8700e-003	2.3000e-004	0.0101	0.0000	32.5758	32.5758	7.6000e-004	0.0000	32.5947
Total	0.0162	0.0244	0.1095	4.0000e-004	0.0393	3.0000e-004	0.0396	0.0104	2.7000e-004	0.0107	0.0000	36.6510	36.6510	9.2000e-004	0.0000	36.6738

3.3 Grading - 2022**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					0.3520	0.0000	0.3520	0.1750	0.0000	0.1750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	1.0740	0.7865	1.5300e-003		0.0485	0.0485		0.0446	0.0446	0.0000	134.1821	134.1821	0.0434	0.0000	135.2670
Total	0.1004	1.0740	0.7865	1.5300e-003	0.3520	0.0485	0.4005	0.1750	0.0446	0.2196	0.0000	134.1821	134.1821	0.0434	0.0000	135.2670

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3.3 Grading - 2022**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	7.3000e-004	0.0234	4.4500e-003	8.0000e-005	2.4000e-003	7.0000e-005	2.4700e-003	6.4000e-004	7.0000e-005	7.1000e-004	0.0000	7.5346	7.5346	2.8000e-004	0.0000	7.5416
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	0.0274	0.0179	0.1833	6.5000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	58.7508	58.7508	1.2700e-003	0.0000	58.7825
Total	0.0281	0.0413	0.1878	7.3000e-004	0.0719	5.3000e-004	0.0725	0.0191	4.9000e-004	0.0196	0.0000	66.2854	66.2854	1.5500e-003	0.0000	66.3241

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					0.1584	0.0000	0.1584	0.0788	0.0000	0.0788	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	1.0740	0.7865	1.5300e-003		0.0485	0.0485		0.0446	0.0446	0.0000	134.1819	134.1819	0.0434	0.0000	135.2668
Total	0.1004	1.0740	0.7865	1.5300e-003	0.1584	0.0485	0.2069	0.0788	0.0446	0.1233	0.0000	134.1819	134.1819	0.0434	0.0000	135.2668

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3.3 Grading - 2022**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	7.3000e-004	0.0234	4.4500e-003	8.0000e-005	2.4000e-003	7.0000e-005	2.4700e-003	6.4000e-004	7.0000e-005	7.1000e-004	0.0000	7.5346	7.5346	2.8000e-004	0.0000	7.5416
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	0.0274	0.0179	0.1833	6.5000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	58.7508	58.7508	1.2700e-003	0.0000	58.7825
Total	0.0281	0.0413	0.1878	7.3000e-004	0.0719	5.3000e-004	0.0725	0.0191	4.9000e-004	0.0196	0.0000	66.2854	66.2854	1.5500e-003	0.0000	66.3241

3.4 Building Construction - 2021**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	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776
Total	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776

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3.4 Building Construction - 2021**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	9.0000e-005	2.0000e-005	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0271	0.0271	0.0000	0.0000	0.0271
Vendor	2.0800e-003	0.0577	0.0158	1.6000e-004	3.7100e-003	1.4000e-004	3.8500e-003	1.0700e-003	1.4000e-004	1.2100e-003	0.0000	15.1827	15.1827	7.7000e-004	0.0000	15.2020
Worker	6.8400e-003	4.6400e-003	0.0465	1.6000e-004	0.0161	1.1000e-004	0.0163	4.2900e-003	1.0000e-004	4.3900e-003	0.0000	14.1627	14.1627	3.3000e-004	0.0000	14.1709
Total	8.9200e-003	0.0625	0.0624	3.2000e-004	0.0200	2.5000e-004	0.0202	5.3900e-003	2.4000e-004	5.6300e-003	0.0000	29.3724	29.3724	1.1000e-003	0.0000	29.4000

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	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776
Total	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776

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3.4 Building Construction - 2021**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	9.0000e-005	2.0000e-005	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0271	0.0271	0.0000	0.0000	0.0271
Vendor	2.0800e-003	0.0577	0.0158	1.6000e-004	3.7100e-003	1.4000e-004	3.8500e-003	1.0700e-003	1.4000e-004	1.2100e-003	0.0000	15.1827	15.1827	7.7000e-004	0.0000	15.2020
Worker	6.8400e-003	4.6400e-003	0.0465	1.6000e-004	0.0161	1.1000e-004	0.0163	4.2900e-003	1.0000e-004	4.3900e-003	0.0000	14.1627	14.1627	3.3000e-004	0.0000	14.1709
Total	8.9200e-003	0.0625	0.0624	3.2000e-004	0.0200	2.5000e-004	0.0202	5.3900e-003	2.4000e-004	5.6300e-003	0.0000	29.3724	29.3724	1.1000e-003	0.0000	29.4000

3.4 Building Construction - 2022**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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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3.4 Building Construction - 2022**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	4.0000e-005	1.4400e-003	2.7000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.4631	0.4631	2.0000e-005	0.0000	0.4635
Vendor	0.0334	0.9431	0.2522	2.7500e-003	0.0643	2.1200e-003	0.0664	0.0186	2.0300e-003	0.0206	0.0000	260.7407	260.7407	0.0127	0.0000	261.0575
Worker	0.1103	0.0720	0.7377	2.6100e-003	0.2798	1.8500e-003	0.2816	0.0744	1.7000e-003	0.0761	0.0000	236.4125	236.4125	5.1000e-003	0.0000	236.5399
Total	0.1437	1.0165	0.9901	5.3600e-003	0.3442	3.9700e-003	0.3482	0.0930	3.7300e-003	0.0968	0.0000	497.6162	497.6162	0.0178	0.0000	498.0609

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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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3.4 Building Construction - 2022**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	4.0000e-005	1.4400e-003	2.7000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.4631	0.4631	2.0000e-005	0.0000	0.4635
Vendor	0.0334	0.9431	0.2522	2.7500e-003	0.0643	2.1200e-003	0.0664	0.0186	2.0300e-003	0.0206	0.0000	260.7407	260.7407	0.0127	0.0000	261.0575
Worker	0.1103	0.0720	0.7377	2.6100e-003	0.2798	1.8500e-003	0.2816	0.0744	1.7000e-003	0.0761	0.0000	236.4125	236.4125	5.1000e-003	0.0000	236.5399
Total	0.1437	1.0165	0.9901	5.3600e-003	0.3442	3.9700e-003	0.3482	0.0930	3.7300e-003	0.0968	0.0000	497.6162	497.6162	0.0178	0.0000	498.0609

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	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3794	119.3794	0.0284	0.0000	120.0894
Total	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3794	119.3794	0.0284	0.0000	120.0894

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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	1.0000e-005	3.9000e-004	9.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1776	0.1776	1.0000e-005	0.0000	0.1778
Vendor	9.9600e-003	0.2862	0.0865	1.0600e-003	0.0255	3.1000e-004	0.0258	7.3600e-003	3.0000e-004	7.6600e-003	0.0000	100.8658	100.8658	3.6200e-003	0.0000	100.9563
Worker	0.0408	0.0256	0.2677	9.9000e-004	0.1108	7.1000e-004	0.1115	0.0295	6.6000e-004	0.0301	0.0000	90.0440	90.0440	1.8100e-003	0.0000	90.0892
Total	0.0507	0.3122	0.3542	2.0500e-003	0.1364	1.0200e-003	0.1375	0.0369	9.6000e-004	0.0378	0.0000	191.0874	191.0874	5.4400e-003	0.0000	191.2232

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	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3793	119.3793	0.0284	0.0000	120.0893
Total	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3793	119.3793	0.0284	0.0000	120.0893

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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	1.0000e-005	3.9000e-004	9.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1776	0.1776	1.0000e-005	0.0000	0.1778
Vendor	9.9600e-003	0.2862	0.0865	1.0600e-003	0.0255	3.1000e-004	0.0258	7.3600e-003	3.0000e-004	7.6600e-003	0.0000	100.8658	100.8658	3.6200e-003	0.0000	100.9563
Worker	0.0408	0.0256	0.2677	9.9000e-004	0.1108	7.1000e-004	0.1115	0.0295	6.6000e-004	0.0301	0.0000	90.0440	90.0440	1.8100e-003	0.0000	90.0892
Total	0.0507	0.3122	0.3542	2.0500e-003	0.1364	1.0200e-003	0.1375	0.0369	9.6000e-004	0.0378	0.0000	191.0874	191.0874	5.4400e-003	0.0000	191.2232

3.5 Paving - 2022**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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	4.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0164	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084

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3.5 Paving - 2022**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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4489	0.4489	2.0000e-005	0.0000	0.4493
Vendor	1.5000e-004	4.2600e-003	1.1400e-003	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1767	1.1767	6.0000e-005	0.0000	1.1781
Worker	5.8500e-003	3.8200e-003	0.0392	1.4000e-004	0.0149	1.0000e-004	0.0150	3.9500e-003	9.0000e-005	4.0400e-003	0.0000	12.5487	12.5487	2.7000e-004	0.0000	12.5555
Total	6.0400e-003	9.4800e-003	0.0406	1.5000e-004	0.0152	1.1000e-004	0.0154	4.0600e-003	1.0000e-004	4.1600e-003	0.0000	14.1743	14.1743	3.5000e-004	0.0000	14.1829

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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	4.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0164	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084

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3.5 Paving - 2022**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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4489	0.4489	2.0000e-005	0.0000	0.4493
Vendor	1.5000e-004	4.2600e-003	1.1400e-003	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1767	1.1767	6.0000e-005	0.0000	1.1781
Worker	5.8500e-003	3.8200e-003	0.0392	1.4000e-004	0.0149	1.0000e-004	0.0150	3.9500e-003	9.0000e-005	4.0400e-003	0.0000	12.5487	12.5487	2.7000e-004	0.0000	12.5555
Total	6.0400e-003	9.4800e-003	0.0406	1.5000e-004	0.0152	1.1000e-004	0.0154	4.0600e-003	1.0000e-004	4.1600e-003	0.0000	14.1743	14.1743	3.5000e-004	0.0000	14.1829

3.6 Architectural Coating - 2022**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	0.4944					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4395
Total	0.5011	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4395

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3.6 Architectural Coating - 2022**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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0292	0.0292	0.0000	0.0000	0.0292
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	0.0176	0.0115	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0448	0.0119	2.7000e-004	0.0121	0.0000	37.6462	37.6462	8.1000e-004	0.0000	37.6664
Total	0.0176	0.0116	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	37.6754	37.6754	8.1000e-004	0.0000	37.6957

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	0.4944					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4394
Total	0.5011	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4394

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3.6 Architectural Coating - 2022**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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0292	0.0292	0.0000	0.0000	0.0292
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	0.0176	0.0115	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0448	0.0119	2.7000e-004	0.0121	0.0000	37.6462	37.6462	8.1000e-004	0.0000	37.6664
Total	0.0176	0.0116	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	37.6754	37.6754	8.1000e-004	0.0000	37.6957

3.6 Architectural Coating - 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					
Archit. Coating	0.7715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8700e-003	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1493	13.1493	7.9000e-004	0.0000	13.1689
Total	0.7814	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1493	13.1493	7.9000e-004	0.0000	13.1689

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3.6 Architectural Coating - 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	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0442	0.0442	0.0000	0.0000	0.0442
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	0.0256	0.0161	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.4851	56.4851	1.1300e-003	0.0000	56.5135
Total	0.0256	0.0162	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.5293	56.5293	1.1300e-003	0.0000	56.5577

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	0.7715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8700e-003	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1492	13.1492	7.9000e-004	0.0000	13.1689
Total	0.7814	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1492	13.1492	7.9000e-004	0.0000	13.1689

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3.6 Architectural Coating - 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	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0442	0.0442	0.0000	0.0000	0.0442
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	0.0256	0.0161	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.4851	56.4851	1.1300e-003	0.0000	56.5135
Total	0.0256	0.0162	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.5293	56.5293	1.1300e-003	0.0000	56.5577

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	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	0.2561	1.3501	2.8556	0.0120	0.9824	8.6200e-003	0.9910	0.2632	8.0400e-003	0.2713	0.0000	1,105.0360	1,105.0360	0.0411	0.0000	1,106.0624
Unmitigated	0.2561	1.3501	2.8556	0.0120	0.9824	8.6200e-003	0.9910	0.2632	8.0400e-003	0.2713	0.0000	1,105.0360	1,105.0360	0.0411	0.0000	1,106.0624

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	979.20	883.80	916.20	2,628,292	2,628,292
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	979.20	883.80	916.20	2,628,292	2,628,292

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Mid Rise	7.55	7.55	7.55	31.00	15.00	54.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Unenclosed Parking Structure	9.50	7.30	7.30	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
Apartments Mid Rise	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
City Park	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Health Club	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Non-Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Parking Lot	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Recreational Swimming Pool	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Unenclosed Parking Structure	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	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	86.2075	86.2075	0.0121	2.5100e-003	87.2591
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	86.2075	86.2075	0.0121	2.5100e-003	87.2591
NaturalGas Mitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021
NaturalGas Unmitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

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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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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
Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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
Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	69.4356	9.7700e-003	2.0200e-003	70.2826
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	3.0101	4.2000e-004	9.0000e-005	3.0468
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.7922	2.5000e-004	5.0000e-005	1.8140
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.9697	1.6900e-003	3.5000e-004	12.1157
Total		86.2075	0.0121	2.5100e-003	87.2591

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	69.4356	9.7700e-003	2.0200e-003	70.2826
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	3.0101	4.2000e-004	9.0000e-005	3.0468
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.7922	2.5000e-004	5.0000e-005	1.8140
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.9697	1.6900e-003	3.5000e-004	12.1157
Total		86.2075	0.0121	2.5100e-003	87.2591

6.0 Area Detail**6.1 Mitigation Measures Area**

Use only Natural Gas Hearths

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

	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	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
Unmitigated	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0406	0.0154	1.3401	7.0000e-005		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	2.1896	2.1896	2.1200e-003	0.0000	2.2425
Total	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0406	0.0154	1.3401	7.0000e-005		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	2.1896	2.1896	2.1200e-003	0.0000	2.2425
Total	0.6974	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.1948	0.2610	6.3300e-003	17.6078
Unmitigated	11.4935	0.3263	7.9200e-003	22.0098

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	9.90975 / 7.39357	10.5723	0.3240	7.8400e-003	21.0078
City Park	0 / 2.46637	0.8066	1.1000e-004	2.0000e-005	0.8164
Health Club	0 / 0.141371	0.0462	1.0000e-005	0.0000	0.0468
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0668317 / 0.0409614	0.0684	2.1800e-003	5.0000e-005	0.1387
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		11.4935	0.3263	7.9100e-003	22.0098

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.9278 / 5.91485	8.4579	0.2592	6.2700e-003	16.8062
City Park	0 / 1.97309	0.6453	9.0000e-005	2.0000e-005	0.6532
Health Club	0 / 0.113097	0.0370	1.0000e-005	0.0000	0.0374
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0534654 / 0.0327691	0.0547	1.7500e-003	4.0000e-005	0.1110
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		9.1948	0.2610	6.3300e-003	17.6078

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.6639	1.3394	0.0000	56.1490
Unmitigated	22.6639	1.3394	0.0000	56.1490

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

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

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

Equipment Type	Number
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11.0 Vegetation

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Off-site Improvements – Unmitigated Construction

Solano-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.74	Acre	0.74	32,234.40	0
Other Non-Asphalt Surfaces	7.50	1000sqft	0.17	7,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Off-site Improvements - Unmitigated Construction

Land Use - The onsite and off-site project improvements would disturb approximately 10 acres. $10 - 9.09 = 0.91$ acres.
The proposed project would result in approximately 7,500 square feet of off-site impervious surface for frontage improvements.

Construction Phase -

Trips and VMT - Haul trips added to for transport of equipment and vendor trips added for delivery of materials.

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust; recommended measures from BAAQMD's Basic Construction Mitigation Measures Recommended for All Proposed Projects.

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

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					
2021	4.2200e-003	0.0324	0.0295	6.0000e-005	1.7600e-003	1.4600e-003	3.2200e-003	6.4000e-004	1.3600e-003	2.0100e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992
Maximum	4.2200e-003	0.0324	0.0295	6.0000e-005	1.7600e-003	1.4600e-003	3.2200e-003	6.4000e-004	1.3600e-003	2.0100e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992

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					
2021	4.2200e-003	0.0324	0.0295	6.0000e-005	1.2000e-003	1.4600e-003	2.6600e-003	4.0000e-004	1.3600e-003	1.7600e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992
Maximum	4.2200e-003	0.0324	0.0295	6.0000e-005	1.2000e-003	1.4600e-003	2.6600e-003	4.0000e-004	1.3600e-003	1.7600e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992

	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
Percent Reduction	0.00	0.00	0.00	0.00	31.82	0.00	17.39	37.50	0.00	12.44	0.00	0.00	0.00	0.00	0.00	0.00

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-26-2021	8-25-2021	0.0326	0.0326
		Highest	0.0326	0.0326

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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4000e-003	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4000e-003	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

	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
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	5/26/2021	5/26/2021	5	1	
2	Grading	Grading	5/27/2021	5/28/2021	5	2	
3	Paving	Paving	5/29/2021	6/4/2021	5	5	

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Acres of Grading (Site Preparation Phase): 0.5**Acres of Grading (Grading Phase): 0****Acres of Paving: 0.91****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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	2	5.00	0.00	4.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	4.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021**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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	3.2000e-004	3.9100e-003	2.0100e-003	0.0000	2.7000e-004	1.5000e-004	4.2000e-004	3.0000e-005	1.4000e-004	1.7000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.2 Site Preparation - 2021**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	2.0000e-005	5.1000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1516	0.1516	1.0000e-005	0.0000	0.1517
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	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0174	0.0174	0.0000	0.0000	0.0174
Total	3.0000e-005	5.2000e-004	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1690	0.1690	1.0000e-005	0.0000	0.1691

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					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	3.2000e-004	3.9100e-003	2.0100e-003	0.0000	1.2000e-004	1.5000e-004	2.7000e-004	1.0000e-005	1.4000e-004	1.5000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.2 Site Preparation - 2021**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	2.0000e-005	5.1000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1516	0.1516	1.0000e-005	0.0000	0.1517
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	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0174	0.0174	0.0000	0.0000	0.0174
Total	3.0000e-005	5.2000e-004	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1690	0.1690	1.0000e-005	0.0000	0.1691

3.3 Grading - 2021**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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005	7.5000e-004	4.1000e-004	1.1600e-003	4.1000e-004	3.9000e-004	8.0000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.3 Grading - 2021**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	3.0000e-005	1.0200e-003	1.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3031	0.3031	1.0000e-005	0.0000	0.3034
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	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0697	0.0697	0.0000	0.0000	0.0697
Total	6.0000e-005	1.0400e-003	4.1000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3728	0.3728	1.0000e-005	0.0000	0.3731

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					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005	3.4000e-004	4.1000e-004	7.5000e-004	1.9000e-004	3.9000e-004	5.8000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.3 Grading - 2021**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	3.0000e-005	1.0200e-003	1.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3031	0.3031	1.0000e-005	0.0000	0.3034
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	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0697	0.0697	0.0000	0.0000	0.0697
Total	6.0000e-005	1.0400e-003	4.1000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3728	0.3728	1.0000e-005	0.0000	0.3731

3.4 Paving - 2021**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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	9.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.7700e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.4 Paving - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
Vendor	4.0000e-005	1.0300e-003	2.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2699	0.2699	1.0000e-005	0.0000	0.2703
Worker	1.5000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3136	0.3136	1.0000e-005	0.0000	0.3138
Total	2.4000e-004	2.9100e-003	1.6300e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.5000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.1139	1.1139	4.0000e-005	0.0000	1.1149

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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	9.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.7700e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

3.4 Paving - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
Vendor	4.0000e-005	1.0300e-003	2.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2699	0.2699	1.0000e-005	0.0000	0.2703
Worker	1.5000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3136	0.3136	1.0000e-005	0.0000	0.3138
Total	2.4000e-004	2.9100e-003	1.6300e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.5000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.1139	1.1139	4.0000e-005	0.0000	1.1149

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

	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	0.0000	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
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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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
Other Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Non-Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

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					
Other 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
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
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

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					
Other 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
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
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

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

	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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Unmitigated	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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	8.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	3.4100e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

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	8.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	3.4100e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

7.0 Water Detail**7.1 Mitigation Measures Water**

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

Blossom Avenue Apartments Project - Tier IV Project Construction

Solano-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Other Non-Asphalt Surfaces	27.70	1000sqft	0.64	27,705.00	0
Parking Lot	137.00	Space	1.23	54,800.00	0
Unenclosed Parking Structure	183.00	Space	1.65	73,200.00	0
City Park	2.07	Acre	2.07	89,951.92	0
Health Club	3.90	1000sqft	0.09	3,900.00	0
Recreational Swimming Pool	1.13	1000sqft	0.03	1,130.00	0
Apartments Mid Rise	180.00	Dwelling Unit	1.38	169,728.00	515

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

Project Characteristics - Tier IV Construction

Construction start date and buildout year based on information provided in the Project Description.

Land Use - Based on project description.

9.09-acre site

Apartment complex with multiple 3-story residential buildings totaling approximately 169,728 net square feet, a community building, common open space, landscaping, and parking.

Construction Phase - Project-specific based on construction schedule provided in the project description of the ISMND.

No demolition.

Off-road Equipment - Architectural coating equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Building construction equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Grading equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Paving equipment matches proposed construction equipment provided in the project description.

Off-road Equipment - Site preparation equipment matches proposed construction equipment provided in the project description.

Trips and VMT - Maximum of 85 workers per day based on the project description. Default worker trips for the building construction phase were retained. Haul trips added to for transport of equipment and vendor trips added for delivery of materials.

Grading - The proposed project would aim to balance cut/fill on the site; however, approximately 3,000 cubic yards of imported soil may be required.

Input: 3,000 cubic yards of material would be imported during the grading phase

Vehicle Trips - Construction run only - zeroed out operational only parameters

Woodstoves - Construction run only

Consumer Products - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust.

Tier IV Construction, in compliance with applicable mitigation measures in the General Plan EIR.

Tier IV Final mitigation applied for construction equipment >50 HP

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Solid Waste - Construction run only

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	20.00	158.00
tblConstructionPhase	NumDays	230.00	378.00
tblConstructionPhase	NumDays	20.00	22.00
tblConstructionPhase	NumDays	20.00	169.00

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tblConsumerProducts	ROG_EF	2.14E-05	1E-22
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-14
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-16
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	1.75	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	332.81	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24NG	5,484.45	0.00
tblEnergyUse	T24NG	19.71	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	30.60	0.00
tblGrading	MaterialImported	0.00	3,000.00
tblLandUse	LandUseSquareFeet	27,700.00	27,705.00
tblLandUse	LandUseSquareFeet	90,169.20	89,951.92
tblLandUse	LandUseSquareFeet	180,000.00	169,728.00
tblLandUse	LotAcreage	4.74	1.38
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblSolidWaste	SolidWasteGenerationRate	82.80	0.00
tblSolidWaste	SolidWasteGenerationRate	0.18	0.00
tblSolidWaste	SolidWasteGenerationRate	22.23	0.00
tblSolidWaste	SolidWasteGenerationRate	6.44	0.00

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tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	HaulingTripNumber	297.00	309.00
tblTripsAndVMT	HaulingTripNumber	0.00	18.00
tblTripsAndVMT	HaulingTripNumber	0.00	12.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	18.00	170.00
tblTripsAndVMT	WorkerTripNumber	15.00	170.00
tblTripsAndVMT	WorkerTripNumber	15.00	170.00
tblTripsAndVMT	WorkerTripNumber	54.00	170.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	IndoorWaterUseRate	11,727,724.61	0.00
tblWater	IndoorWaterUseRate	230,658.26	0.00
tblWater	IndoorWaterUseRate	66,831.75	0.00
tblWater	OutdoorWaterUseRate	7,393,565.52	0.00
tblWater	OutdoorWaterUseRate	2,466,366.39	0.00

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tblWater	OutdoorWaterUseRate	141,371.19	0.00
tblWater	OutdoorWaterUseRate	40,961.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

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					
2021	0.1693	1.5129	1.1083	2.5100e-003	0.5581	0.0704	0.6286	0.2658	0.0650	0.3307	0.0000	223.4965	223.4965	0.0460	0.0000	224.6473
2022	1.0351	4.3518	4.4700	0.0120	0.8279	0.1675	0.9954	0.3031	0.1566	0.4596	0.0000	1,081.632 2	1,081.632 2	0.1437	0.0000	1,085.225 5
2023	0.9387	1.1362	1.4520	4.2200e-003	0.2060	0.0412	0.2471	0.0554	0.0389	0.0943	0.0000	380.1454	380.1454	0.0358	0.0000	381.0392
Maximum	1.0351	4.3518	4.4700	0.0120	0.8279	0.1675	0.9954	0.3031	0.1566	0.4596	0.0000	1,081.632 2	1,081.632 2	0.1437	0.0000	1,085.225 5

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					
2021	0.0551	0.1885	1.1644	2.5100e-003	0.2950	3.7900e-003	0.2988	0.1313	3.7500e-003	0.1350	0.0000	223.4963	223.4963	0.0460	0.0000	224.6471
2022	0.7897	1.5277	4.7966	0.0120	0.6343	0.0212	0.6555	0.2068	0.0209	0.2277	0.0000	1,081.631 6	1,081.631 6	0.1437	0.0000	1,085.224 9
2023	0.8771	0.4715	1.5251	4.2200e-003	0.2060	6.4700e-003	0.2124	0.0554	6.3600e-003	0.0617	0.0000	380.1452	380.1452	0.0358	0.0000	381.0390
Maximum	0.8771	1.5277	4.7966	0.0120	0.6343	0.0212	0.6555	0.2068	0.0209	0.2277	0.0000	1,081.631 6	1,081.631 6	0.1437	0.0000	1,085.224 9

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	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
Percent Reduction	19.65	68.75	-6.48	0.00	28.69	88.74	37.65	36.97	88.11	52.02	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	9-6-2021	12-5-2021	1.1506	0.1129
2	12-6-2021	3-5-2022	1.6197	0.4796
3	3-6-2022	6-5-2022	1.5610	0.4952
4	6-6-2022	9-5-2022	0.8846	0.4032
5	9-6-2022	12-5-2022	1.4010	0.8132
6	12-6-2022	3-5-2023	1.3339	0.8674
7	3-6-2023	6-5-2023	1.1522	0.7492
		Highest	1.6197	0.8674

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

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	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1675	0.0184	1.3413	9.0000e-005	0.0000	7.6500e-003	7.6500e-003	0.0000	7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

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	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1675	0.0184	1.3413	9.0000e-005	0.0000	7.6500e-003	7.6500e-003	0.0000	7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

	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
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**

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/6/2021	10/15/2021	5	30	09/06/2021-10/15/2021
2	Grading	Grading	10/18/2021	5/25/2022	5	158	10/18/2021-05/25/2021
3	Building Construction	Building Construction	12/13/2021	5/24/2023	5	378	12/13/2021-05/24/2023
4	Paving	Paving	9/1/2022	9/30/2022	5	22	09/01/2022-09/30/2022
5	Architectural Coating	Architectural Coating	9/30/2022	5/24/2023	5	169	Start 09/30/2022 and extend through completion of construction

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 79

Acres of Paving: 5.52

Residential Indoor: 343,699; Residential Outdoor: 114,566; Non-Residential Indoor: 5,880; Non-Residential Outdoor: 1,960; Striped Parking Area: 14,570 (Architectural Coating – sqft)

OffRoad Equipment

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

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

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	170.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	170.00	0.00	309.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	271.00	75.00	18.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	170.00	4.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	170.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Blossom Avenue Apartments Project - Tier IV Project Construction - Solano-San Francisco County, Annual

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021**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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	0.0583	0.6075	0.3173	5.7000e-004	0.2710	0.0307	0.3017	0.1490	0.0282	0.1772	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591

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3.2 Site Preparation - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
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	8.5800e-003	5.8200e-003	0.0584	2.0000e-004	0.0203	1.4000e-004	0.0204	5.3800e-003	1.3000e-004	5.5100e-003	0.0000	17.7686	17.7686	4.1000e-004	0.0000	17.7789
Total	8.6300e-003	7.6000e-003	0.0587	2.1000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.2990	18.2990	4.3000e-004	0.0000	18.3099

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					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9800e-003	0.0303	0.3130	5.7000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	6.9800e-003	0.0303	0.3130	5.7000e-004	0.1220	9.3000e-004	0.1229	0.0670	9.3000e-004	0.0680	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590

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3.2 Site Preparation - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
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	8.5800e-003	5.8200e-003	0.0584	2.0000e-004	0.0203	1.4000e-004	0.0204	5.3800e-003	1.3000e-004	5.5100e-003	0.0000	17.7686	17.7686	4.1000e-004	0.0000	17.7789
Total	8.6300e-003	7.6000e-003	0.0587	2.1000e-004	0.0204	1.5000e-004	0.0205	5.4100e-003	1.4000e-004	5.5500e-003	0.0000	18.2990	18.2990	4.3000e-004	0.0000	18.3099

3.3 Grading - 2021**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					0.2075	0.0000	0.2075	0.0956	0.0000	0.0956	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0630	0.6803	0.4361	8.2000e-004		0.0319	0.0319		0.0294	0.0294	0.0000	71.6477	71.6477	0.0232	0.0000	72.2270
Total	0.0630	0.6803	0.4361	8.2000e-004	0.2075	0.0319	0.2394	0.0956	0.0294	0.1249	0.0000	71.6477	71.6477	0.0232	0.0000	72.2270

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3.3 Grading - 2021**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	4.2000e-004	0.0137	2.4600e-003	4.0000e-005	2.2000e-003	5.0000e-005	2.2400e-003	5.7000e-004	4.0000e-005	6.1000e-004	0.0000	4.0752	4.0752	1.6000e-004	0.0000	4.0791
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	0.0157	0.0107	0.1070	3.6000e-004	0.0371	2.5000e-004	0.0374	9.8700e-003	2.3000e-004	0.0101	0.0000	32.5758	32.5758	7.6000e-004	0.0000	32.5947
Total	0.0162	0.0244	0.1095	4.0000e-004	0.0393	3.0000e-004	0.0396	0.0104	2.7000e-004	0.0107	0.0000	36.6510	36.6510	9.2000e-004	0.0000	36.6738

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					0.0934	0.0000	0.0934	0.0430	0.0000	0.0430	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9900e-003	0.0433	0.4882	8.2000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	71.6476	71.6476	0.0232	0.0000	72.2269
Total	9.9900e-003	0.0433	0.4882	8.2000e-004	0.0934	1.3300e-003	0.0947	0.0430	1.3300e-003	0.0443	0.0000	71.6476	71.6476	0.0232	0.0000	72.2269

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3.3 Grading - 2021**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	4.2000e-004	0.0137	2.4600e-003	4.0000e-005	2.2000e-003	5.0000e-005	2.2400e-003	5.7000e-004	4.0000e-005	6.1000e-004	0.0000	4.0752	4.0752	1.6000e-004	0.0000	4.0791
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	0.0157	0.0107	0.1070	3.6000e-004	0.0371	2.5000e-004	0.0374	9.8700e-003	2.3000e-004	0.0101	0.0000	32.5758	32.5758	7.6000e-004	0.0000	32.5947
Total	0.0162	0.0244	0.1095	4.0000e-004	0.0393	3.0000e-004	0.0396	0.0104	2.7000e-004	0.0107	0.0000	36.6510	36.6510	9.2000e-004	0.0000	36.6738

3.3 Grading - 2022**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					0.3520	0.0000	0.3520	0.1750	0.0000	0.1750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	1.0740	0.7865	1.5300e-003		0.0485	0.0485		0.0446	0.0446	0.0000	134.1821	134.1821	0.0434	0.0000	135.2670
Total	0.1004	1.0740	0.7865	1.5300e-003	0.3520	0.0485	0.4005	0.1750	0.0446	0.2196	0.0000	134.1821	134.1821	0.0434	0.0000	135.2670

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3.3 Grading - 2022**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	7.3000e-004	0.0234	4.4500e-003	8.0000e-005	2.4000e-003	7.0000e-005	2.4700e-003	6.4000e-004	7.0000e-005	7.1000e-004	0.0000	7.5346	7.5346	2.8000e-004	0.0000	7.5416
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	0.0274	0.0179	0.1833	6.5000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	58.7508	58.7508	1.2700e-003	0.0000	58.7825
Total	0.0281	0.0413	0.1878	7.3000e-004	0.0719	5.3000e-004	0.0725	0.0191	4.9000e-004	0.0196	0.0000	66.2854	66.2854	1.5500e-003	0.0000	66.3241

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					0.1584	0.0000	0.1584	0.0788	0.0000	0.0788	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0187	0.0811	0.9143	1.5300e-003		2.4900e-003	2.4900e-003		2.4900e-003	2.4900e-003	0.0000	134.1819	134.1819	0.0434	0.0000	135.2668
Total	0.0187	0.0811	0.9143	1.5300e-003	0.1584	2.4900e-003	0.1609	0.0788	2.4900e-003	0.0812	0.0000	134.1819	134.1819	0.0434	0.0000	135.2668

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3.3 Grading - 2022**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	7.3000e-004	0.0234	4.4500e-003	8.0000e-005	2.4000e-003	7.0000e-005	2.4700e-003	6.4000e-004	7.0000e-005	7.1000e-004	0.0000	7.5346	7.5346	2.8000e-004	0.0000	7.5416
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	0.0274	0.0179	0.1833	6.5000e-004	0.0695	4.6000e-004	0.0700	0.0185	4.2000e-004	0.0189	0.0000	58.7508	58.7508	1.2700e-003	0.0000	58.7825
Total	0.0281	0.0413	0.1878	7.3000e-004	0.0719	5.3000e-004	0.0725	0.0191	4.9000e-004	0.0196	0.0000	66.2854	66.2854	1.5500e-003	0.0000	66.3241

3.4 Building Construction - 2021**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	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776
Total	0.0143	0.1307	0.1243	2.0000e-004		7.1900e-003	7.1900e-003		6.7600e-003	6.7600e-003	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776

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3.4 Building Construction - 2021**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	9.0000e-005	2.0000e-005	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0271	0.0271	0.0000	0.0000	0.0271
Vendor	2.0800e-003	0.0577	0.0158	1.6000e-004	3.7100e-003	1.4000e-004	3.8500e-003	1.0700e-003	1.4000e-004	1.2100e-003	0.0000	15.1827	15.1827	7.7000e-004	0.0000	15.2020
Worker	6.8400e-003	4.6400e-003	0.0465	1.6000e-004	0.0161	1.1000e-004	0.0163	4.2900e-003	1.0000e-004	4.3900e-003	0.0000	14.1627	14.1627	3.3000e-004	0.0000	14.1709
Total	8.9200e-003	0.0625	0.0624	3.2000e-004	0.0200	2.5000e-004	0.0202	5.3900e-003	2.4000e-004	5.6300e-003	0.0000	29.3724	29.3724	1.1000e-003	0.0000	29.4000

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	4.4000e-003	0.0206	0.1326	2.0000e-004		8.4000e-004	8.4000e-004		8.4000e-004	8.4000e-004	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776
Total	4.4000e-003	0.0206	0.1326	2.0000e-004		8.4000e-004	8.4000e-004		8.4000e-004	8.4000e-004	0.0000	17.3728	17.3728	4.1900e-003	0.0000	17.4776

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3.4 Building Construction - 2021**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	9.0000e-005	2.0000e-005	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0271	0.0271	0.0000	0.0000	0.0271
Vendor	2.0800e-003	0.0577	0.0158	1.6000e-004	3.7100e-003	1.4000e-004	3.8500e-003	1.0700e-003	1.4000e-004	1.2100e-003	0.0000	15.1827	15.1827	7.7000e-004	0.0000	15.2020
Worker	6.8400e-003	4.6400e-003	0.0465	1.6000e-004	0.0161	1.1000e-004	0.0163	4.2900e-003	1.0000e-004	4.3900e-003	0.0000	14.1627	14.1627	3.3000e-004	0.0000	14.1709
Total	8.9200e-003	0.0625	0.0624	3.2000e-004	0.0200	2.5000e-004	0.0202	5.3900e-003	2.4000e-004	5.6300e-003	0.0000	29.3724	29.3724	1.1000e-003	0.0000	29.4000

3.4 Building Construction - 2022**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	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471

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3.4 Building Construction - 2022**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	4.0000e-005	1.4400e-003	2.7000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.4631	0.4631	2.0000e-005	0.0000	0.4635
Vendor	0.0334	0.9431	0.2522	2.7500e-003	0.0643	2.1200e-003	0.0664	0.0186	2.0300e-003	0.0206	0.0000	260.7407	260.7407	0.0127	0.0000	261.0575
Worker	0.1103	0.0720	0.7377	2.6100e-003	0.2798	1.8500e-003	0.2816	0.0744	1.7000e-003	0.0761	0.0000	236.4125	236.4125	5.1000e-003	0.0000	236.5399
Total	0.1437	1.0165	0.9901	5.3600e-003	0.3442	3.9700e-003	0.3482	0.0930	3.7300e-003	0.0968	0.0000	497.6162	497.6162	0.0178	0.0000	498.0609

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	0.0729	0.3502	2.2957	3.5000e-003		0.0132	0.0132		0.0132	0.0132	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	0.0729	0.3502	2.2957	3.5000e-003		0.0132	0.0132		0.0132	0.0132	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467

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3.4 Building Construction - 2022**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	4.0000e-005	1.4400e-003	2.7000e-004	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.4631	0.4631	2.0000e-005	0.0000	0.4635
Vendor	0.0334	0.9431	0.2522	2.7500e-003	0.0643	2.1200e-003	0.0664	0.0186	2.0300e-003	0.0206	0.0000	260.7407	260.7407	0.0127	0.0000	261.0575
Worker	0.1103	0.0720	0.7377	2.6100e-003	0.2798	1.8500e-003	0.2816	0.0744	1.7000e-003	0.0761	0.0000	236.4125	236.4125	5.1000e-003	0.0000	236.5399
Total	0.1437	1.0165	0.9901	5.3600e-003	0.3442	3.9700e-003	0.3482	0.0930	3.7300e-003	0.0968	0.0000	497.6162	497.6162	0.0178	0.0000	498.0609

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	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3794	119.3794	0.0284	0.0000	120.0894
Total	0.0810	0.7408	0.8366	1.3900e-003		0.0360	0.0360		0.0339	0.0339	0.0000	119.3794	119.3794	0.0284	0.0000	120.0894

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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	1.0000e-005	3.9000e-004	9.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1776	0.1776	1.0000e-005	0.0000	0.1778
Vendor	9.9600e-003	0.2862	0.0865	1.0600e-003	0.0255	3.1000e-004	0.0258	7.3600e-003	3.0000e-004	7.6600e-003	0.0000	100.8658	100.8658	3.6200e-003	0.0000	100.9563
Worker	0.0408	0.0256	0.2677	9.9000e-004	0.1108	7.1000e-004	0.1115	0.0295	6.6000e-004	0.0301	0.0000	90.0440	90.0440	1.8100e-003	0.0000	90.0892
Total	0.0507	0.3122	0.3542	2.0500e-003	0.1364	1.0200e-003	0.1375	0.0369	9.6000e-004	0.0378	0.0000	191.0874	191.0874	5.4400e-003	0.0000	191.2232

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	0.0277	0.1365	0.9085	1.3900e-003		4.7900e-003	4.7900e-003		4.7900e-003	4.7900e-003	0.0000	119.3793	119.3793	0.0284	0.0000	120.0893
Total	0.0277	0.1365	0.9085	1.3900e-003		4.7900e-003	4.7900e-003		4.7900e-003	4.7900e-003	0.0000	119.3793	119.3793	0.0284	0.0000	120.0893

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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	1.0000e-005	3.9000e-004	9.0000e-005	0.0000	1.2000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1776	0.1776	1.0000e-005	0.0000	0.1778
Vendor	9.9600e-003	0.2862	0.0865	1.0600e-003	0.0255	3.1000e-004	0.0258	7.3600e-003	3.0000e-004	7.6600e-003	0.0000	100.8658	100.8658	3.6200e-003	0.0000	100.9563
Worker	0.0408	0.0256	0.2677	9.9000e-004	0.1108	7.1000e-004	0.1115	0.0295	6.6000e-004	0.0301	0.0000	90.0440	90.0440	1.8100e-003	0.0000	90.0892
Total	0.0507	0.3122	0.3542	2.0500e-003	0.1364	1.0200e-003	0.1375	0.0369	9.6000e-004	0.0378	0.0000	191.0874	191.0874	5.4400e-003	0.0000	191.2232

3.5 Paving - 2022**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	0.0121	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	4.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0164	0.1224	0.1604	2.5000e-004		6.2500e-003	6.2500e-003		5.7500e-003	5.7500e-003	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084

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3.5 Paving - 2022**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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4489	0.4489	2.0000e-005	0.0000	0.4493
Vendor	1.5000e-004	4.2600e-003	1.1400e-003	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1767	1.1767	6.0000e-005	0.0000	1.1781
Worker	5.8500e-003	3.8200e-003	0.0392	1.4000e-004	0.0149	1.0000e-004	0.0150	3.9500e-003	9.0000e-005	4.0400e-003	0.0000	12.5487	12.5487	2.7000e-004	0.0000	12.5555
Total	6.0400e-003	9.4800e-003	0.0406	1.5000e-004	0.0152	1.1000e-004	0.0154	4.0600e-003	1.0000e-004	4.1600e-003	0.0000	14.1743	14.1743	3.5000e-004	0.0000	14.1829

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	3.0900e-003	0.0134	0.1903	2.5000e-004		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084
Paving	4.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	7.3200e-003	0.0134	0.1903	2.5000e-004		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	22.0303	22.0303	7.1300e-003	0.0000	22.2084

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3.5 Paving - 2022**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	4.0000e-005	1.4000e-003	2.7000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4489	0.4489	2.0000e-005	0.0000	0.4493
Vendor	1.5000e-004	4.2600e-003	1.1400e-003	1.0000e-005	2.9000e-004	1.0000e-005	3.0000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1767	1.1767	6.0000e-005	0.0000	1.1781
Worker	5.8500e-003	3.8200e-003	0.0392	1.4000e-004	0.0149	1.0000e-004	0.0150	3.9500e-003	9.0000e-005	4.0400e-003	0.0000	12.5487	12.5487	2.7000e-004	0.0000	12.5555
Total	6.0400e-003	9.4800e-003	0.0406	1.5000e-004	0.0152	1.1000e-004	0.0154	4.0600e-003	1.0000e-004	4.1600e-003	0.0000	14.1743	14.1743	3.5000e-004	0.0000	14.1829

3.6 Architectural Coating - 2022**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	0.4944					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4395
Total	0.5011	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4395

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3.6 Architectural Coating - 2022**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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0292	0.0292	0.0000	0.0000	0.0292
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	0.0176	0.0115	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0448	0.0119	2.7000e-004	0.0121	0.0000	37.6462	37.6462	8.1000e-004	0.0000	37.6664
Total	0.0176	0.0116	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	37.6754	37.6754	8.1000e-004	0.0000	37.6957

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	0.4944					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8000e-004	4.2500e-003	0.0605	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4394
Total	0.4953	4.2500e-003	0.0605	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4394

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3.6 Architectural Coating - 2022**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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0292	0.0292	0.0000	0.0000	0.0292
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	0.0176	0.0115	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0448	0.0119	2.7000e-004	0.0121	0.0000	37.6462	37.6462	8.1000e-004	0.0000	37.6664
Total	0.0176	0.0116	0.1175	4.2000e-004	0.0446	2.9000e-004	0.0449	0.0119	2.7000e-004	0.0121	0.0000	37.6754	37.6754	8.1000e-004	0.0000	37.6957

3.6 Architectural Coating - 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					
Archit. Coating	0.7715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8700e-003	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1493	13.1493	7.9000e-004	0.0000	13.1689
Total	0.7814	0.0671	0.0933	1.5000e-004		3.6500e-003	3.6500e-003		3.6500e-003	3.6500e-003	0.0000	13.1493	13.1493	7.9000e-004	0.0000	13.1689

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3.6 Architectural Coating - 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	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0442	0.0442	0.0000	0.0000	0.0442
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	0.0256	0.0161	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.4851	56.4851	1.1300e-003	0.0000	56.5135
Total	0.0256	0.0162	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.5293	56.5293	1.1300e-003	0.0000	56.5577

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	0.7715					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5300e-003	6.6300e-003	0.0944	1.5000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	13.1492	13.1492	7.9000e-004	0.0000	13.1689
Total	0.7730	6.6300e-003	0.0944	1.5000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	13.1492	13.1492	7.9000e-004	0.0000	13.1689

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3.6 Architectural Coating - 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	1.0000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0442	0.0442	0.0000	0.0000	0.0442
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	0.0256	0.0161	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.4851	56.4851	1.1300e-003	0.0000	56.5135
Total	0.0256	0.0162	0.1679	6.2000e-004	0.0695	4.5000e-004	0.0700	0.0185	4.1000e-004	0.0189	0.0000	56.5293	56.5293	1.1300e-003	0.0000	56.5577

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	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	0.0000	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
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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Unenclosed Parking Structure	9.50	7.30	7.30	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
Apartments Mid Rise	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
City Park	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Health Club	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Non-Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Parking Lot	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Recreational Swimming Pool	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Unenclosed Parking Structure	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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

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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					
Apartments Mid Rise	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
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
Health Club	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 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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

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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					
Apartments Mid Rise	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
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
Health Club	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 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

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	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	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332
Unmitigated	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0406	0.0154	1.3401	7.0000e-005		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	2.1896	2.1896	2.1200e-003	0.0000	2.2425
Total	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

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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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0406	0.0154	1.3401	7.0000e-005		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	2.1896	2.1896	2.1200e-003	0.0000	2.2425
Total	0.1675	0.0184	1.3413	9.0000e-005		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	5.5602	5.5602	2.1800e-003	6.0000e-005	5.6332

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

Off-site Improvements – Tier IV Construction

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.74	Acre	0.74	32,234.40	0
Other Non-Asphalt Surfaces	7.50	1000sqft	0.17	7,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Off-site Improvements - Tier IV Construction

Land Use - The onsite and off-site project improvements would disturb approximately 10 acres. $10 - 9.09 = 0.91$ acres.
The proposed project would result in approximately 7,500 square feet of off-site impervious surface for frontage improvements.

Construction Phase -

Trips and VMT - Haul trips added to for transport of equipment and vendor trips added for delivery of materials.

Energy Use -

Construction Off-road Equipment Mitigation - Compliance with BAAQMD best management practices threshold for fugitive dust.
Tier IV Construction, in compliance with applicable mitigation measures in the General Plan EIR.
Tier IV Final mitigation applied for construction equipment >50 HP

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	HaulingTripNumber	0.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00

2.0 Emissions Summary

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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					
2021	4.2200e-003	0.0324	0.0295	6.0000e-005	1.7600e-003	1.4600e-003	3.2200e-003	6.4000e-004	1.3600e-003	2.0100e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992
Maximum	4.2200e-003	0.0324	0.0295	6.0000e-005	1.7600e-003	1.4600e-003	3.2200e-003	6.4000e-004	1.3600e-003	2.0100e-003	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992

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					
2021	2.2100e-003	9.2700e-003	0.0323	6.0000e-005	1.2000e-003	1.9000e-004	1.3900e-003	4.0000e-004	1.9000e-004	5.9000e-004	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992
Maximum	2.2100e-003	9.2700e-003	0.0323	6.0000e-005	1.2000e-003	1.9000e-004	1.3900e-003	4.0000e-004	1.9000e-004	5.9000e-004	0.0000	5.4722	5.4722	1.0800e-003	0.0000	5.4992

	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
Percent Reduction	47.63	71.41	-9.39	0.00	31.82	86.99	56.83	37.50	86.03	70.65	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-26-2021	8-25-2021	0.0326	0.0106
		Highest	0.0326	0.0106

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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4000e-003	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
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	0.0000
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.4000e-003	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

	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
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	5/26/2021	5/26/2021	5	1	
2	Grading	Grading	5/27/2021	5/28/2021	5	2	
3	Paving	Paving	5/29/2021	6/4/2021	5	5	

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Acres of Grading (Site Preparation Phase): 0.5**Acres of Grading (Grading Phase): 0****Acres of Paving: 0.91****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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	2	5.00	0.00	4.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	8.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	4.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021**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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	3.2000e-004	3.9100e-003	2.0100e-003	0.0000	2.7000e-004	1.5000e-004	4.2000e-004	3.0000e-005	1.4000e-004	1.7000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

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3.2 Site Preparation - 2021**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	2.0000e-005	5.1000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1516	0.1516	1.0000e-005	0.0000	0.1517
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	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0174	0.0174	0.0000	0.0000	0.0174
Total	3.0000e-005	5.2000e-004	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1690	0.1690	1.0000e-005	0.0000	0.1691

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					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0000e-005	2.6000e-004	2.6600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	6.0000e-005	2.6000e-004	2.6600e-003	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

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3.2 Site Preparation - 2021**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	2.0000e-005	5.1000e-004	9.0000e-005	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1516	0.1516	1.0000e-005	0.0000	0.1517
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	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0174	0.0174	0.0000	0.0000	0.0174
Total	3.0000e-005	5.2000e-004	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1690	0.1690	1.0000e-005	0.0000	0.1691

3.3 Grading - 2021**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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005	7.5000e-004	4.1000e-004	1.1600e-003	4.1000e-004	3.9000e-004	8.0000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458

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3.3 Grading - 2021**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	3.0000e-005	1.0200e-003	1.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3031	0.3031	1.0000e-005	0.0000	0.3034
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	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0697	0.0697	0.0000	0.0000	0.0697
Total	6.0000e-005	1.0400e-003	4.1000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3728	0.3728	1.0000e-005	0.0000	0.3731

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					3.4000e-004	0.0000	3.4000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-004	5.7000e-004	7.8500e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	1.3000e-004	5.7000e-004	7.8500e-003	1.0000e-005	3.4000e-004	2.0000e-005	3.6000e-004	1.9000e-004	2.0000e-005	2.1000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458

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3.3 Grading - 2021**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	3.0000e-005	1.0200e-003	1.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3031	0.3031	1.0000e-005	0.0000	0.3034
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	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0697	0.0697	0.0000	0.0000	0.0697
Total	6.0000e-005	1.0400e-003	4.1000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3728	0.3728	1.0000e-005	0.0000	0.3731

3.4 Paving - 2021**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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	9.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.7700e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

3.4 Paving - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
Vendor	4.0000e-005	1.0300e-003	2.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2699	0.2699	1.0000e-005	0.0000	0.2703
Worker	1.5000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3136	0.3136	1.0000e-005	0.0000	0.3138
Total	2.4000e-004	2.9100e-003	1.6300e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.5000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.1139	1.1139	4.0000e-005	0.0000	1.1149

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	7.2000e-004	3.9700e-003	0.0196	3.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	9.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.6900e-003	3.9700e-003	0.0196	3.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

3.4 Paving - 2021**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	5.0000e-005	1.7800e-003	3.2000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5304	0.5304	2.0000e-005	0.0000	0.5309
Vendor	4.0000e-005	1.0300e-003	2.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2699	0.2699	1.0000e-005	0.0000	0.2703
Worker	1.5000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3136	0.3136	1.0000e-005	0.0000	0.3138
Total	2.4000e-004	2.9100e-003	1.6300e-003	1.0000e-005	5.5000e-004	1.0000e-005	5.5000e-004	1.5000e-004	1.0000e-005	1.6000e-004	0.0000	1.1139	1.1139	4.0000e-005	0.0000	1.1149

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

	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	0.0000	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
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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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
Other Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935
Other Non-Asphalt Surfaces	0.592363	0.035341	0.174580	0.107742	0.017073	0.005230	0.009387	0.045083	0.003280	0.002110	0.006266	0.000612	0.000935

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

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					
Other 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
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
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

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					
Other 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
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
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

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

	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	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Unmitigated	3.4000e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

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	8.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	3.4100e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

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	8.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.5700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004
Total	3.4100e-003	0.0000	8.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	0.0000	1.6000e-004

7.0 Water Detail**7.1 Mitigation Measures Water**

Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Off-site Improvements – Tier IV Construction - Solano-San Francisco County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

Blossom Avenue Apartments Project - 2030 Project Operations

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Other Non-Asphalt Surfaces	27.70	1000sqft	0.64	27,705.00	0
Parking Lot	137.00	Space	1.23	54,800.00	0
Unenclosed Parking Structure	183.00	Space	1.65	73,200.00	0
City Park	2.07	Acre	2.07	89,951.92	0
Health Club	3.90	1000sqft	0.09	3,900.00	0
Recreational Swimming Pool	1.13	1000sqft	0.03	1,130.00	0
Apartments Mid Rise	180.00	Dwelling Unit	1.38	169,728.00	515

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	191	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Project operations in the 2030 operational year.

CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's 2020 Corporate Responsibility and Sustainability Report (see supporting documentation for calculated 2030 CO2 intensity factor).

Land Use - Based on project description.

9.09-acre site

Apartment complex with multiple 3-story residential buildings totaling approximately 169,728 net square feet, a community building, common open space, landscaping, and parking.

Construction Phase - Operational run only - zeroed out construction parameters.

Off-road Equipment - Operational run only - zeroed out construction parameters.

Off-road Equipment -

Trips and VMT - Operational run only - zeroed out construction parameters.

Grading -

Architectural Coating - Operational run only - zeroed out construction parameters.

Vehicle Trips - ITE 10th Ed Trip Generation Rates, consistent with the Project VMT Impact Analysis prepared by Stantec. Other land uses used to represent on-site amenities for residents. Adjusted trip length: 558 residents, 180 households = 7.548387 VMT per DU.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices.

Consumer Products - Updated based on 2017 ARB VOC inventory data and 2017 population estimates based on the State of California's Department of Finance demographic projections were used to estimate a statewide VOC EF for 2017.

Energy Use -

Water And Wastewater - It is estimated the proposed apartment complex and community building would require approximately 150 gallons per day (gpd) per dwelling unit, totaling approximately 27,150 gpd or 9,909,750 gallons per year (gpy).

Construction Off-road Equipment Mitigation -

Area Mitigation - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3 Wood-burning devices.

Energy Mitigation - The roof of the covered parking spaces would be designed to allow for installation of photovoltaic panels.

Project design feature noted for information purposes only - no reduction for on-site renewable energy applied in the modeling.

Water Mitigation - Compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance.

Fleet Mix -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	150.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	20.00	1.00
tblConsumerProducts	ROG_EF	2.14E-05	1.62E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	30.60	0.00
tblLandUse	LandUseSquareFeet	27,700.00	27,705.00
tblLandUse	LandUseSquareFeet	90,169.20	89,951.92
tblLandUse	LandUseSquareFeet	180,000.00	169,728.00
tblLandUse	LotAcreage	4.74	1.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	191
tblTripsAndVMT	WorkerTripNumber	54.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	7.55
tblVehicleTrips	HS_TL	4.80	7.55
tblVehicleTrips	HW_TL	10.80	7.55
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00

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tblVehicleTrips	SU_TR	5.86	5.09
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	IndoorWaterUseRate	11,727,724.61	9,909,750.00
tblWater	IndoorWaterUseRate	230,658.26	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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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					
2021	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
Maximum	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

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					
2021	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
Maximum	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

	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
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

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	168.4065	168.4065	0.0138	4.1300e-003	169.9840
Mobile	0.1778	1.1156	1.9242	0.0101	0.9815	5.9600e-003	0.9875	0.2628	5.5500e-003	0.2683	0.0000	928.1726	928.1726	0.0305	0.0000	928.9356
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	3.1651	7.7220	10.8871	0.3263	7.9200e-003	21.4033
Total	0.8838	1.2106	3.2964	0.0106	0.9815	0.0198	1.0013	0.2628	0.0194	0.2822	25.8291	1,109.861 3	1,135.690 4	1.7122	0.0121	1,182.104 5

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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	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	168.4065	168.4065	0.0138	4.1300e-003	169.9840
Mobile	0.1778	1.1156	1.9242	0.0101	0.9815	5.9600e-003	0.9875	0.2628	5.5500e-003	0.2683	0.0000	928.1726	928.1726	0.0305	0.0000	928.9356
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	2.5321	6.1776	8.7097	0.2610	6.3300e-003	17.1227
Total	0.8838	1.2106	3.2964	0.0106	0.9815	0.0198	1.0013	0.2628	0.0194	0.2822	25.1960	1,108.3169	1,133.5130	1.6469	0.0105	1,177.8238

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.14	0.19	3.81	13.13	0.36

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/6/2021	9/6/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0**Acres of Paving: 5.52****Residential Indoor: 343,699; Residential Outdoor: 114,566; Non-Residential Indoor: 5,880; Non-Residential Outdoor: 1,960; Striped Parking Area: 14,570 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	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
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Architectural Coating - 2021**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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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

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	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
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	0.0000	0.0000

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3.2 Architectural Coating - 2021**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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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

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	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
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	0.0000	0.0000

4.0 Operational Detail - Mobile

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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	tons/yr										MT/yr					
Mitigated	0.1778	1.1156	1.9242	0.0101	0.9815	5.9600e-003	0.9875	0.2628	5.5500e-003	0.2683	0.0000	928.1726	928.1726	0.0305	0.0000	928.9356
Unmitigated	0.1778	1.1156	1.9242	0.0101	0.9815	5.9600e-003	0.9875	0.2628	5.5500e-003	0.2683	0.0000	928.1726	928.1726	0.0305	0.0000	928.9356

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	979.20	883.80	916.20	2,628,850	2,628,850
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	979.20	883.80	916.20	2,628,850	2,628,850

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Mid Rise	7.55	7.55	7.55	31.00	15.00	54.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Unenclosed Parking Structure	9.50	7.30	7.30	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
Apartments Mid Rise	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
City Park	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Health Club	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Other Asphalt Surfaces	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Other Non-Asphalt Surfaces	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Parking Lot	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Recreational Swimming Pool	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687
Unenclosed Parking Structure	0.607682	0.033070	0.175504	0.098232	0.012332	0.004722	0.009182	0.047298	0.003255	0.001718	0.005702	0.000617	0.000687

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

	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	79.9303	79.9303	0.0121	2.5100e-003	80.9819
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	79.9303	79.9303	0.0121	2.5100e-003	80.9819
NaturalGas Mitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021
NaturalGas Unmitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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
Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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
Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	64.3796	9.7700e-003	2.0200e-003	65.2266
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	2.7909	4.2000e-004	9.0000e-005	2.8276
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.6617	2.5000e-004	5.0000e-005	1.6835
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.0981	1.6900e-003	3.5000e-004	11.2441
Total		79.9303	0.0121	2.5100e-003	80.9819

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	64.3796	9.7700e-003	2.0200e-003	65.2266
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	2.7909	4.2000e-004	9.0000e-005	2.8276
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.6617	2.5000e-004	5.0000e-005	1.6835
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.0981	1.6900e-003	3.5000e-004	11.2441
Total		79.9303	0.0121	2.5100e-003	80.9819

6.0 Area Detail**6.1 Mitigation Measures Area**

Use only Natural Gas Hearths

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

	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	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327
Unmitigated	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0402	0.0154	1.3363	7.0000e-005		7.4200e-003	7.4200e-003		7.4200e-003	7.4200e-003	0.0000	2.1896	2.1896	2.1000e-003	0.0000	2.2420
Total	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327

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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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0402	0.0154	1.3363	7.0000e-005		7.4200e-003	7.4200e-003		7.4200e-003	7.4200e-003	0.0000	2.1896	2.1896	2.1000e-003	0.0000	2.2420
Total	0.6970	0.0183	1.3375	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6327

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7097	0.2610	6.3300e-003	17.1227
Unmitigated	10.8871	0.3263	7.9200e-003	21.4033

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	9.90975 / 7.39357	10.0314	0.3240	7.8400e-003	20.4669
City Park	0 / 2.46637	0.7479	1.1000e-004	2.0000e-005	0.7577
Health Club	0 / 0.141371	0.0429	1.0000e-005	0.0000	0.0434
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0668317 / 0.0409614	0.0650	2.1800e-003	5.0000e-005	0.1353
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		10.8871	0.3263	7.9100e-003	21.4033

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.9278 / 5.91485	8.0251	0.2592	6.2700e-003	16.3735
City Park	0 / 1.97309	0.5983	9.0000e-005	2.0000e-005	0.6062
Health Club	0 / 0.113097	0.0343	1.0000e-005	0.0000	0.0348
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0534654 / 0.0327691	0.0520	1.7500e-003	4.0000e-005	0.1082
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		8.7097	0.2610	6.3300e-003	17.1227

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.6639	1.3394	0.0000	56.1490
Unmitigated	22.6639	1.3394	0.0000	56.1490

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Blossom Avenue Apartments Project - 2030 Project Operations - Solano-San Francisco County, Annual

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

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

Equipment Type	Number
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11.0 Vegetation

Blossom Avenue Apartments Project - 2035 Project Operations - Solano-San Francisco County, Annual

Blossom Avenue Apartments Project - 2035 Project Operations

Solano-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.00	Acre	2.00	87,120.00	0
Other Non-Asphalt Surfaces	27.70	1000sqft	0.64	27,705.00	0
Parking Lot	137.00	Space	1.23	54,800.00	0
Unenclosed Parking Structure	183.00	Space	1.65	73,200.00	0
City Park	2.07	Acre	2.07	89,951.92	0
Health Club	3.90	1000sqft	0.09	3,900.00	0
Recreational Swimming Pool	1.13	1000sqft	0.03	1,130.00	0
Apartments Mid Rise	180.00	Dwelling Unit	1.38	169,728.00	515

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	191	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project operations in the 2035 operational year.

CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's 2020 Corporate Responsibility and Sustainability Report (see supporting Land Use - Based on project description.

0.00 acre site

Construction Phase - Operational run only - zeroed out construction parameters.

Off-road Equipment - Operational run only - zeroed out construction parameters.

Off-road Equipment -

Trips and VMT - Operational run only - zeroed out construction parameters.

Grading -

Architectural Coating - Operational run only - zeroed out construction parameters.

Vehicle Trips - ITE 10th Ed Trip Generation Rates, consistent with the Project VMT Impact Analysis prepared by Stantec. Other land uses used to

Vehicle Emission Factors -
~~represent on-site generation for residents. Adjusted trip length: 550 residents, 400 households = 7,540,007 VMT per DU.~~

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3

~~Wood burning devices.~~
Consumer Products - Updated based on 2017 ARB VOC inventory data and 2017 population estimates based on the State of California's Department of
Finance demographic projections were used to estimate a statewide VOC EF for 2017.
Energy Use -

Water And Wastewater - It is estimated the proposed apartment complex and community building would require approximately 150 gallons per day (gpd)

~~per dwelling unit, totaling approximately 27,450 and/or 2,000,750 gallons per year (gpy).~~
Construction Off-road Equipment Mitigation -

Area Mitigation - No woodburning fireplaces or woodstoves in compliance with BAAQMD Regulation 6 Particulate Matter and visible emissions, Rule 3

~~Wood burning devices.~~
Energy Mitigation - The roof of the covered parking spaces would be designed to allow for installation of photovoltaic panels.

~~Distinct design feature noted for information purposes only. no reduction for on-site renewable energy applied in the modeling.~~
Water Mitigation - Compliance with the Green Building Code Standards and the Water Efficient Land Use Ordinance.

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	150.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	20.00	1.00
tblConsumerProducts	ROG_EF	2.14E-05	1.62E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	30.60	0.00
tblLandUse	LandUseSquareFeet	27,700.00	27,705.00

tblLandUse	LandUseSquareFeet	90,169.20	89,951.92
tblLandUse	LandUseSquareFeet	180,000.00	169,728.00
tblLandUse	LotAcreage	4.74	1.38
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	191
tblTripsAndVMT	WorkerTripNumber	54.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	7.55
tblVehicleTrips	HS_TL	4.80	7.55
tblVehicleTrips	HW_TL	10.80	7.55
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	6.39	4.91
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	5.86	5.09
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	IndoorWaterUseRate	11,727,724.61	9,909,750.00
tblWater	IndoorWaterUseRate	230,658.26	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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					
2021	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
Maximum	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

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					
2021	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
Maximum	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

	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
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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6326
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	168.4065	168.4065	0.0138	4.1300e-003	169.9840
Mobile	0.1460	1.0597	1.6077	9.5000e-003	0.9814	4.4600e-003	0.9858	0.2627	4.1600e-003	0.2669	0.0000	879.2871	879.2871	0.0273	0.0000	879.9703
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	3.1651	7.7220	10.8871	0.3263	7.9200e-003	21.4033
Total	0.8519	1.1547	2.9787	0.0101	0.9814	0.0183	0.9997	0.2627	0.0180	0.2807	25.8291	1,060.9758	1,086.8049	1.7090	0.0121	1,133.1391

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	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6326
Energy	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	168.4065	168.4065	0.0138	4.1300e-003	169.9840
Mobile	0.1460	1.0597	1.6077	9.5000e-003	0.9814	4.4600e-003	0.9858	0.2627	4.1600e-003	0.2669	0.0000	879.2871	879.2871	0.0273	0.0000	879.9703
Waste						0.0000	0.0000		0.0000	0.0000	22.6639	0.0000	22.6639	1.3394	0.0000	56.1490
Water						0.0000	0.0000		0.0000	0.0000	2.5321	6.1776	8.7097	0.2610	6.3300e-003	17.1227
Total	0.8519	1.1547	2.9787	0.0101	0.9814	0.0183	0.9997	0.2627	0.0180	0.2807	25.1960	1,059.4314	1,084.6274	1.6437	0.0105	1,128.8585

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45	0.15	0.20	3.82	13.13	0.38

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/6/2021	9/6/2021	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.52

Residential Indoor: 343,699; Residential Outdoor: 114,566; Non-Residential Indoor: 5,880; Non-Residential Outdoor: 1,960; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	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
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2021

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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

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	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
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	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	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

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	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
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	0.0000	0.0000

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	tons/yr										MT/yr					
Mitigated	0.1460	1.0597	1.6077	9.5000e-003	0.9814	4.4600e-003	0.9858	0.2627	4.1600e-003	0.2669	0.0000	879.2871	879.2871	0.0273	0.0000	879.9703
Unmitigated	0.1460	1.0597	1.6077	9.5000e-003	0.9814	4.4600e-003	0.9858	0.2627	4.1600e-003	0.2669	0.0000	879.2871	879.2871	0.0273	0.0000	879.9703

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	979.20	883.80	916.20	2,628,850	2,628,850
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	979.20	883.80	916.20	2,628,850	2,628,850

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments Mid Rise	7.55	7.55	7.55	31.00	15.00	54.00	100	0	0
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Unenclosed Parking Structure	9.50	7.30	7.30	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
Apartments Mid Rise	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
City Park	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
Health Club	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
Other Asphalt Surfaces	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
Other Non-Asphalt Surfaces	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
Parking Lot	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617

Recreational Swimming Pool	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617
Unenclosed Parking Structure	0.610429	0.032555	0.175494	0.096381	0.010894	0.004616	0.009284	0.048678	0.003266	0.001610	0.005559	0.000618	0.000617

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	79.9303	79.9303	0.0121	2.5100e-003	80.9819
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	79.9303	79.9303	0.0121	2.5100e-003	80.9819
NaturalGas Mitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021
NaturalGas Unmitigated	8.9400e-003	0.0767	0.0347	4.9000e-004		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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

Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

Mitigated

	Natural Gas 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					
Apartments Mid Rise	1.5551e+006	8.3900e-003	0.0717	0.0305	4.6000e-004		5.7900e-003	5.7900e-003		5.7900e-003	5.7900e-003	0.0000	82.9861	82.9861	1.5900e-003	1.5200e-003	83.4793
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
Health Club	102882	5.5000e-004	5.0400e-003	4.2400e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	5.4902	5.4902	1.1000e-004	1.0000e-004	5.5228
Other 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
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
Recreational Swimming Pool	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
Unenclosed Parking Structure	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		8.9400e-003	0.0767	0.0347	4.9000e-004		6.1700e-003	6.1700e-003		6.1700e-003	6.1700e-003	0.0000	88.4763	88.4763	1.7000e-003	1.6200e-003	89.0021

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	64.3796	9.7700e-003	2.0200e-003	65.2266
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	2.7909	4.2000e-004	9.0000e-005	2.8276
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.6617	2.5000e-004	5.0000e-005	1.6835
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.0981	1.6900e-003	3.5000e-004	11.2441
Total		79.9303	0.0121	2.5100e-003	80.9819

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	743103	64.3796	9.7700e-003	2.0200e-003	65.2266
City Park	0	0.0000	0.0000	0.0000	0.0000
Health Club	32214	2.7909	4.2000e-004	9.0000e-005	2.8276

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	19180	1.6617	2.5000e-004	5.0000e-005	1.6835
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	128100	11.0981	1.6900e-003	3.5000e-004	11.2441
Total		79.9303	0.0121	2.5100e-003	80.9819

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	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	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6326
Unmitigated	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1600e-003	6.0000e-005	5.6326

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
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SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0401	0.0154	1.3351	7.0000e-005		7.4200e-003	7.4200e-003		7.4200e-003	7.4200e-003	0.0000	2.1896	2.1896	2.0900e-003	0.0000	2.2419
Total	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1500e-003	6.0000e-005	5.6326

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	0.1266					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5299					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-004	2.9100e-003	1.2400e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.3707	3.3707	6.0000e-005	6.0000e-005	3.3907
Landscaping	0.0401	0.0154	1.3351	7.0000e-005		7.4200e-003	7.4200e-003		7.4200e-003	7.4200e-003	0.0000	2.1896	2.1896	2.0900e-003	0.0000	2.2419
Total	0.6970	0.0183	1.3363	9.0000e-005		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	5.5602	5.5602	2.1500e-003	6.0000e-005	5.6326

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.7097	0.2610	6.3300e-003	17.1227
Unmitigated	10.8871	0.3263	7.9200e-003	21.4033

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	9.90975 / 7.39357	10.0314	0.3240	7.8400e-003	20.4669
City Park	0 / 2.46637	0.7479	1.1000e-004	2.0000e-005	0.7577
Health Club	0 / 0.141371	0.0429	1.0000e-005	0.0000	0.0434
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0668317 / 0.0400614	0.0650	2.1800e-003	5.0000e-005	0.1353
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000

Total		10.8871	0.3263	7.9100e-003	21.4033
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Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.9278 / 5.91485	8.0251	0.2592	6.2700e-003	16.3735
City Park	0 / 1.97309	0.5983	9.0000e-005	2.0000e-005	0.6062
Health Club	0 / 0.113097	0.0343	1.0000e-005	0.0000	0.0348
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
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
Recreational Swimming Pool	0.0534654 / 0.0227604	0.0520	1.7500e-003	4.0000e-005	0.1082
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		8.7097	0.2610	6.3300e-003	17.1227

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
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	MT/yr			
Mitigated	22.6639	1.3394	0.0000	56.1490
Unmitigated	22.6639	1.3394	0.0000	56.1490

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	82.8	16.8077	0.9933	0.0000	41.6403
City Park	0.18	0.0365	2.1600e-003	0.0000	0.0905
Health Club	22.23	4.5125	0.2667	0.0000	11.1795
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	6.44	1.3073	0.0773	0.0000	3.2387
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		22.6639	1.3394	0.0000	56.1490

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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ATTACHMENT B

Additional Supporting Information

Blossom Avenue Apartments Project Construction Assumptions

Project Site

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

Construction Phase			Num Days		Phase Description
Phase Name	Start Date	End Date	Week	Num Days	
Site Preparation	9/6/2021	10/15/2021	5	30	09/06/2021-10/15/2021
Grading	10/18/2021	5/25/2022	5	158	10/18/2021-05/25/2021
Building Construction	12/13/2021	5/24/2023	5	378	12/13/2021-05/24/2023
Paving	9/1/2022	9/30/2022	5	22	09/01/2022-09/30/2022
Architectural Coating	9/30/2022	5/24/2023	5	169	Start 09/30/2022 and extend through completion of construction

OffRoad Equipment			Horse		Load
Phase Name	Offroad Equipment Type	Amount	Usage Hours	Power	
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
Paving	Paving Equipment	2	8	132	0.36
Paving	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Trips and VMT			Worker Trip		Vendor	Hauling
Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Trip	Trip
Site Preparation	170	0	14	10.8	7.3	20
Grading	170	0	309	10.8	7.3	20
Building Construction	271	75	18	10.8	7.3	20
Paving	170	4	12	10.8	7.3	20
Architectural Coating	170	0	2	10.8	7.3	20

Off-site Improvements

Off-site Improvements – Unmitigated Construction - Solano-San Francisco County, Annual

Construction Phase			Num Days	
Phase Name	Start Date	End Date	Week	Num Days
Site Preparation	5/26/2021	5/26/2021	5	1
Grading	5/27/2021	5/28/2021	5	2
Paving	5/29/2021	6/4/2021	5	5

OffRoad Equipment			Horse		Load
Phase Name	Offroad Equipment Type	Amount	Usage Hours	Power	
Site Preparation	Graders	1	8	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
Grading	Rubber Tired Dozers	1	1	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6	97	0.37
Paving	Cement and Mortar Mixers	4	6	9	0.56
Paving	Pavers	1	7	130	0.42
Paving	Rollers	1	7	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7	97	0.37

Trips and VMT			Worker Trip		Vendor	Hauling
Phase Name	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Trip	Trip
Site Preparation	5	0	4	10.8	7.3	20
Grading	10	0	8	10.8	7.3	20
Paving	18	4	14	10.8	7.3	20

Pacific Gas Electric CO₂ Intensity Factors

Table 1. PG&E's 2018 Electric Power Mix¹

Power Source	Percent of Total Mix
Eligible Renewable	39%
Natural Gas	15%
Nuclear	34%
Large Hydroelectric	13%
Coal	0%
Other	0%
Non-Renewable Total	61%
Total	100%

Table 3. PG&E's 2030 Electric Power Mix¹

Power Source	Percent of Total Mix
Eligible Renewable	60%
Natural Gas	10%
Nuclear	22%
Large Hydroelectric	9%
Coal	0%
Other	0%
Non-Renewable Total	40%
Total	100%

Notes:

¹ Adjustment to 2030 power mix is based on equal proportions of generation sources in 2018. The only factor that has been adjusted is the change of eligible renewable energy sources total proportion to 60% to reflect compliance with Senate Bill 100's 2030 performance goals.

² PG&E's total CO₂ emission intensity factor of 206 lbs/MWh and CO₂ emission intensity factor specifically for all owned generation sources of 163 lbs/MWh were identified in PG&E's 2020 Corporate Responsibility and Sustainability Report; however, the CO₂ emission intensity factor for non-owned sources is unknown. Therefore, the 2018 CO₂ emission intensity factor for all non-owned generation sources were identified based on the given 206 lbs/MWh and 163 lbs/MWh values and the 2018 power mix using a convex combination equation. PG&E-owned sources are identified in PG&E's Reports as nuclear, hydroelectric, and renewable. All nuclear, hydroelectric, and renewable sources were assumed to be PG&E-owned, having an unweighted average CO₂ intensity factor of the provided 163 lbs/MWh. All remaining generation sources were assumed to not be owned by PG&E with an unweighted average CO₂ intensity factor necessary for the weighted average to total 206 lbs/MWh.

³ PG&E's 2030 CO₂ emission intensity factor is based on equal proportions of renewable and non-renewable generation sources in 2018, as seen in Table 3. The only factor that was uniquely adjusted was the change of eligible renewable energy sources total proportion to 60% to reflect compliance with Senate Bill 100's 2030 performance goals. The CO₂ emission intensity factor is the weighted average using the adjusted renewable generation proportion (see Table 3) and the identified owned source intensity factors for 2018 (see Table 2).

Table 2. PG&E's 2018 CO₂ Intensity Factors²

Power Source	Individual Intensity Factors
Eligible Renewable	163
Natural Gas	439
Nuclear	163
Large Hydroelectric	163
Coal	439
Other	439
<i>Owned Sources %</i>	<i>86%</i>
<i>Not Owned Sources %</i>	<i>15%</i>
Weighted Average	206

Table 4. PG&E's 2030 CO₂ Intensity Factors³

Power Source	Weighted Intensity Factors
Eligible Renewable	163
Natural Gas	439
Nuclear	163
Large Hydroelectric	163
Coal	439
Other	439
<i>Owned Sources %</i>	<i>91%</i>
<i>Not Owned Sources %</i>	<i>10%</i>
Weighted Average	191

PG&E's CO₂ Emission Intensity Factor (2018)

PG&E's 2020 Corporate Responsibility and Sustainability Report, page 121

Voluntary Emissions Reporting

PG&E's voluntary greenhouse gas emissions reporting showed that PG&E's CO₂ emissions rate was our lowest level on record in 2018, the most recent year for which verified data are available. PG&E's emissions rate of 206 pounds of CO₂ per megawatt-hour of delivered electricity represented a slight reduction from the prior year's figure of 210. The emissions rate takes into account both PG&E-owned power generation and power purchased from third parties.

Benchmarking Greenhouse Gas Emissions for Delivered Electricity (Pounds of CO₂ per MWh)

U.S. Average ¹	947
Pacific Gas and Electric Company ²	
2018	206
2017	210
2016	294
2015	405
2014	435
2013	427
2012	445
2011	393
2010	445

1. U.S. Environmental Protection Agency eGRID 2018.

2. Because PG&E purchases a portion of its electricity from the wholesale market, we are not able to track some of our delivered electricity back to a specific generator. Therefore, there is some unavoidable uncertainty in PG&E's total emissions and emissions rate for delivered electricity.

PG&E's Renewable Power Mix (2019)

PG&E's 2020 Corporate Responsibility and Sustainability Report, page 120

Measuring Progress

Mandatory Emissions Reporting

Under AB 32's annual reporting requirements, PG&E reports greenhouse gas emissions to CARB. These reports include emissions from our electric generation facilities, natural gas compressor stations, natural gas supplied to customers and the fugitive emissions from our natural gas distribution system and compressor stations.

The following table shows the greenhouse gas emissions data PG&E reported to CARB under AB 32.

PG&E Emissions Reported to the California Air Resources Board: CO₂-e Emissions from Owned Power Generation¹ and Operations

	2017	2018	2019
Total CO₂-e Emissions (metric tons)	2,292,218	2,512,130	2,484,127
Humboldt Bay Generating Station	199,338	179,025	189,163
Gateway Generating Station	1,111,268	1,163,952	1,137,160
Colusa Generating Station	981,613	1,169,153	1,157,804
CO₂ Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	1,017	1,025	1,028
Gateway Generating Station	881	872	872
Colusa Generating Station	866	861	842
Fossil Plants ²	940	876	868
All Plants ²	146	171	163
Other CO₂-e Emissions (metric tons)			
Natural Gas Compressor Stations ³	269,133	299,256	344,810
Distribution Fugitive Natural Gas Emissions	830,249	497,299	496,789
Customer Natural Gas Use ⁴	38,202,174	41,664,525	42,058,499

1. PG&E's owned net generation was 33,849 GWh in 2019.

2. Applies to fossil-fuel combustion generating stations.

3. Includes all PG&E-owned generation sources, including nuclear, hydroelectric and renewable energy.

4. Includes, but is not limited to, compressor stations and storage facilities emitting more than 25,000 metric tons of CO₂-e annually.

PG&E also reports the greenhouse gas emissions from our facilities and operations to EPA under EPA's mandatory reporting requirements.

PG&E's Power Mix (2018)

PG&E's 2018 Power Content Label

Version: July 2019

2018 POWER CONTENT LABEL				
Pacific Gas and Electric Company				
www.pge.com/billinserts				
ENERGY RESOURCES	Base Plan	100% Solar Choice	50% Solar Choice	2018 CA Power Mix**
Eligible Renewable	39%	100%	69%	31%
Biomass & Biowaste	4%	0%	2%	2%
Geothermal	4%	0%	2%	5%
Eligible Hydroelectric	3%	0%	1%	2%
Solar	18%	100%	59%	11%
Wind	10%	0%	5%	11%
Coal	0%	0%	0%	3%
Large Hydroelectric	13%	0%	6%	11%
Natural Gas	15%	0%	7%	35%
Nuclear	34%	0%	17%	9%
Other	0%	0%	0%	<1%
Unspecified sources of power*	0%	0%	0%	11%
TOTAL	100%	100%	100%	100%
<p>* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.</p> <p>** Percentages are estimated annually by the California Energy Commission based on the electricity generated in California and net imports as reported to the Quarterly Fuel and Energy Report database and the Power Source Disclosure program.</p>				
For specific information about this electricity product, contact:	Pacific Gas and Electric Company 415-973-0640			
For general information about the Power Content Label, please visit:	http://www.energy.ca.gov/pcl/			
For additional questions, please contact the California Energy Commission at:	Toll-free in California: 844-454-2906 Outside California: 916-653-0237			

Select Text from the Air Quality Section of the General Plan EIR

Policies and Programs of the 2035 General Plan Listed in the Air Quality Section of the General Plan Environmental Impact Report (EIR) to Reduce Air Quality Impacts from Construction

- **Policy PHS-3.4:** The City will require implementation of applicable emission control measures recommended by the Bay Area Air Quality Management District for construction, grading, excavation, and demolition.
- **Policy CCD-2.3:** The City will support the construction of new pedestrian bridges, roadways, trails, as appropriate and as funding is available to increase connectivity between Downtown and other areas of Suisun City and between Suisun City and Fairfield. As new connections are created, they should add appropriate landscaping, drainage, and pedestrian and bicycle amenities.
- **Policy CCD-3.4:** The City will support construction of attractive civic landmarks, public artworks, and other public improvements in areas near Key Community Gateways.
- **Policy CCD-5.6:** The City encourages the construction of additional buildings to replace underutilized parking in the South Sunset Avenue Opportunity Area. Additional commercial buildings could be constructed adjacent to Sunset Avenue. New buildings should be placed close to the front property line throughout the South Sunset Avenue Opportunity Area, both north and south of SR 12.
- **Policy T-6.1:** The City will facilitate construction and maintenance of an accessible, safe, pleasant, convenient, and integrated bicycle and pedestrian system that connects local destinations and surrounding communities. The City will support development of a safe and accessible trail network connected to the on-street bicycle and transportation system that provides transportation and recreational opportunities for Suisun City residents and employees.
- **Policy T-6.2:** The City will require design, construction, operation, and maintenance of “complete streets” that provide safe and convenient access and travel for pedestrians, bicyclists, motorists, and transit users of all ages and abilities.
- **Policy T-6.5:** The City will prioritize construction of bike lanes, bike paths, and pedestrian amenities, such as wider sidewalks, street lighting, and crosswalks near commercial services, retail, parks, schools, other civic uses, trails, and transit stops.
- **Policy T-6.9:** The City will encourage construction of transit amenities, such as benches, information systems, shelters, and bike racks near transit stops.
- **Policy T-7.7:** The City discourages construction of new surface parking spaces in amounts greater than required by City standards.
- **Policy CCD-4.1:** New streets shall provide comfortable travel areas for pedestrians, bicyclists, and drivers to facilitate multi-modal travel for people of all ages.
- **Program PHS-3.2. Construction Mitigation.** The City will require new developments to incorporate applicable constructed mitigation measures maintained by the BAAQMD to reduce potentially significant impacts. Basic Control Measures are includes standard mitigation measures designed to minimize fugitive PM dust and exhaust emissions from construction activities. Additional Control Measures may be required when impacts would be significant after application of Basic Control Measures.

Conclusion

The General Plan provides policies intended to reduce construction related emissions, including the requirement that new development incorporate applicable emission control measures recommended by BAAQMD for construction, grading, excavation, and demolition. The City has developed a program to require standard construction mitigation, consistent with guidance from BAAQMD.

BAAQMD requires that all projects, regardless of their significance with respect to numeric thresholds of

significance, to implement their Basic Construction Mitigation Measures. The City is requiring incorporation of these mitigation measures as a part of the General Plan. The current version of the BAAQMD standard mitigation measures is presented below.

BAAQMD's Basic Construction Mitigation Measures include standard mitigation measures designed to minimize fugitive PM dust and exhaust emissions from construction activities. Implementation of BAAQMD-required Basic Construction Mitigation Measures would reduce short-term, construction-related emissions.

- ▶ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- ▶ All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- ▶ All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- ▶ All vehicle speeds on unpaved roads shall be limited to 15 mph.
- ▶ All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- ▶ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- ▶ All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- ▶ Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

In addition to these Basic Construction Mitigation Measures, in some cases when construction emissions would be significant, involve a substantial amount of earthmoving activities, and/or be located in proximity of sensitive receptors, BAAQMD suggests the following Additional Construction Mitigation Measures to reduce construction emissions:

- ▶ All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- ▶ All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- ▶ Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- ▶ Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- ▶ The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area in any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- ▶ All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- ▶ Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer or wood chips, mulch, or gravel.
- ▶ Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- ▶ Minimizing the idling time of diesel powered construction equipment to two minutes.
- ▶ The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a

project wide fleet-average 20 percent NO_x reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

- ▶ Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).

- ▶ Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NO_x and PM.

- ▶ Requiring all contractors use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines.

ATTACHMENT C

Energy

Blossom Avenue Apartments Project—Energy Consumption Summary

Date of Last Revision: February 9, 2021

Summary of Energy Use During Construction

(Annually)

Construction vehicle fuel	90,466 gallons (gasoline, diesel)
Construction equipment fuel	75,296 gallons (diesel)
Construction office trailer electricity	21,982 kilowatt hours

Summary of Energy Use During Proposed Operations

(Annually)

Operational vehicle fuel consumption	97,200 gallons (gasoline, diesel)
Operational natural gas consumption	1,657,982 kilo-British Thermal Units
Operational electricity consumption	922,597 kilowatt hours

Construction Vehicle Fuel Calculations

California Air Resource Board (ARB). 2021. EMFAC2014 Web Database. Website: <https://www.arb.ca.gov/emfac/2014/>. Accessed February 7, 2021.

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: Sub-Area

Region: Solano (SF)

Calendar Year: 2021

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

VMT = Vehicle Miles Traveled

FE = Fuel Economy

<i>Given</i>						<i>Calculations</i>				
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT (mi/day)	Fuel Consumption (1000 gallons/day)	FE (mi/gallon)	VMT*FE
Solano (SF)	2021	HHDT	Aggregated	Aggregated	GAS	16.7891068	2132.3699	0.455255809	4.683893955	9987.7946
Solano (SF)	2021	HHDT	Aggregated	Aggregated	DSL	1971.76611	283753.68	47.90853282	5.922821291	1680622.3
Solano (SF)	2021	LDA	Aggregated	Aggregated	GAS	149294.544	5808356.9	194.6604981	29.83839512	173312047
Solano (SF)	2021	LDA	Aggregated	Aggregated	DSL	1543.73241	63617.798	1.669834762	38.09825941	2423727.4
Solano (SF)	2021	LDT1	Aggregated	Aggregated	GAS	11066.9049	373138.65	14.97072167	24.9245601	9300316.8
Solano (SF)	2021	LDT1	Aggregated	Aggregated	DSL	15.8272112	377.76481	0.01355778	27.86332436	10525.784
Solano (SF)	2021	LDT2	Aggregated	Aggregated	GAS	45541.5897	1758410.2	78.90861032	22.28413617	39184653
Solano (SF)	2021	LDT2	Aggregated	Aggregated	DSL	71.7296903	3174.8485	0.106608535	29.78043421	94548.366
Solano (SF)	2021	LHDT1	Aggregated	Aggregated	GAS	2977.74204	86565.509	8.989769709	9.6293355	833568.32
Solano (SF)	2021	LHDT1	Aggregated	Aggregated	DSL	2981.89827	99080.268	5.690340288	17.41201106	1725186.7
Solano (SF)	2021	LHDT2	Aggregated	Aggregated	GAS	478.303963	17305.933	1.96350002	8.813818479	152531.35
Solano (SF)	2021	LHDT2	Aggregated	Aggregated	DSL	954.040892	36891.353	2.332895366	15.81354809	583383.19
Solano (SF)	2021	MDV	Aggregated	Aggregated	GAS	34039.9078	1129310	68.99309597	16.36844937	18485054
Solano (SF)	2021	MDV	Aggregated	Aggregated	DSL	474.363992	20840.452	0.91658649	22.73702675	473849.9
Solano (SF)	2021	MHDT	Aggregated	Aggregated	GAS	342.290727	17685.93	2.75470143	6.420270941	113548.46
Solano (SF)	2021	MHDT	Aggregated	Aggregated	DSL	1877.10453	91996.458	11.09978931	8.288126485	762478.28

Worker

Weighted Average Fuel Economy 26.567511

Vendor

Weighted Average Fuel Economy 9.2244262

Haul

Weighted Average Fuel Economy 5.9135804

Construction Schedule

Source: CalEEMod Output

Blossom Avenue Apartments Project - Project Construction

CalEEMod Run	Phase Name	Start Date	End Date	Num Days	
				Week	Num Days
Project Construction	Site Preparation	9/6/2021	10/15/2021	5	30
Project Construction	Grading	10/18/2021	5/25/2022	5	158
Project Construction	Building Construction	12/13/2021	5/24/2023	5	378
Project Construction	Paving	9/1/2022	9/30/2022	5	22
Project Construction	Architectural Coating	9/30/2022	5/24/2023	5	169
Off-site Improvements	Site Preparation	5/26/2021	5/26/2021	5	1
Off-site Improvements	Grading	5/27/2021	5/28/2021	5	2
Off-site Improvements	Paving	5/29/2021	6/4/2021	5	5

Construction Trips and VMT

Phase Name	Trips per Day		Total Trips	Construction Trip Length in Miles			Number of Days per Phase	Trips per Phase			VMT per Phase			Fuel Consumption (gallons)		
	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length		Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trips	Vendor Trips	Hauling Trips	Worker Trips	Vendor Trips	Hauling Trips
Site Preparation	170	0	14	10.8	7.3	20	30	5,100	0	14	55,080	0	280	2,073.21	0.00	2.37
Grading	170	0	309	10.8	7.3	20	158	26,860	0	309	290,088	0	6,180	10,918.90	0.00	52.25
Building Construction	271	75	18	10.8	7.3	20	378	102,438	28,350	18	1,106,330	206,955	360	41,642.23	22,435.54	3.04
Paving	170	4	12	10.8	7.3	20	22	3,740	88	12	40,392	642	240	1,520.35	69.64	2.03
Architectural Coating	170	0	2	10.8	7.3	20	169	28,730	0	2	310,284	0	40	11,679.08	0.00	0.34
Off-site Improvements Site Preparation	5	0	4	10.8	7.3	20	1	5	0	4	54	0	80	2.03	0.00	0.68
Off-site Improvements Grading	10	0	8	10.8	7.3	20	2	20	0	8	216	0	160	8.13	0.00	1.35
Off-site Improvements Paving	18	4	14	10.8	7.3	20	5	90	20	14	972	146	280	36.59	15.83	2.37

Total Project Construction VMT (miles)

2,018,780

Total Project Fuel Consumption (gallons)

90,466

Construction Equipment Fuel Calculation

Source: AQ/GHG Appendix, CalEEMod Output

Blossom Avenue Apartments Project - Unmitigated Project Construction and Buildout Year Operations - Solano-San Francisco County, Annual

Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days
Project Construction	Site Preparation	9/6/2021	10/15/2021	5	30
Project Construction	Grading	10/18/2021	5/25/2022	5	158
Project Construction	Building Construction	12/13/2021	5/24/2023	5	378
Project Construction	Paving	9/1/2022	9/30/2022	5	22
Project Construction	Architectural Coating	9/30/2022	5/24/2023	5	169
Off-site Improvements	Site Preparation	5/26/2021	5/26/2021	5	1
Off-site Improvements	Grading	5/27/2021	5/28/2021	5	2
Off-site Improvements	Paving	5/29/2021	6/4/2021	5	5

Construction Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Number of Days	HP Hours	Diesel Fuel Usage
Site Preparation	Rubber Tired Dozers	3	8	247	0.40	30	71,136.00	3,556.80
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37	30	34,454.40	1,722.72
Grading	Excavators	1	8	158	0.38	158	75,890.56	3,794.53
Grading	Graders	1	8	187	0.41	158	96,910.88	4,845.54
Grading	Rubber Tired Dozers	1	8	247	0.40	158	124,883.20	6,244.16
Grading	Tractors/Loaders/Backhoes	3	8	97	0.37	158	136,094.88	6,804.74
Building Construction	Cranes	1	7	231	0.29	378	177,255.54	8,862.78
Building Construction	Forklifts	3	8	89	0.20	378	161,481.60	8,074.08
Building Construction	Generator Sets	1	8	84	0.74	378	187,971.84	9,398.59
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37	378	284,894.82	14,244.74
Building Construction	Welders	1	8	46	0.45	378	62,596.80	3,129.84
Paving	Pavers	2	8	130	0.42	22	19,219.20	960.96
Paving	Paving Equipment	2	8	132	0.36	22	16,727.04	836.35
Paving	Rollers	2	8	80	0.38	22	10,700.80	535.04
Architectural Coating	Air Compressors	1	6	78	0.48	169	37,964.16	1,898.21
Improvements-Site Preparation	Graders	1	8	187	0.41	1	613.36	30.67
Improvements-Site Preparation	Tractors/Loaders/Backhoes	1	8	97	0.37	1	287.12	14.36
Improvements-Grading	Concrete/Industrial Saws	1	8	81	0.73	2	946.08	47.30
Improvements-Grading	Rubber Tired Dozers	1	1	247	0.40	2	197.60	9.88
Improvements-Grading	Tractors/Loaders/Backhoes	2	6	97	0.37	2	861.36	43.07
Improvements-Paving	Cement and Mortar Mixers	4	6	9	0.56	5	604.80	30.24
Improvements-Paving	Pavers	1	7	130	0.42	5	1,911.00	95.55
Improvements-Paving	Rollers	1	7	80	0.38	5	1,064.00	53.20
Improvements-Paving	Tractors/Loaders/Backhoes	1	7	97	0.37	5	1,256.15	62.81
Total Construction Equipment Fuel Consumption (gallons)								75,296.16

Notes:

Equipment assumptions are provided in the CalEEMod output files.

Fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

South Coast Air Quality Management District. 1993. Air Quality Handbook, Table A9-3E.

Construction Office Electricity Calculation

Energy Appendix: CalEEMod Typical Construction Trailer

Typical Construction Trailer - Solano-San Francisco County, Annual

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	12837.6	1.1996	1.7000e-004	3.0000e-005	1.2142
Total		1.1996	1.7000e-004	3.0000e-005	1.2142

kWh/yr = kilowatt hours per year

Energy by Land Use - Electricity

Annual 12,838 kWh/yr

Total Over Construction 21,982 kWh

Total Construction Schedule

Start 9/6/2021

End 5/24/2023

Total Calendar Days 625

Years 1.71

Operational Fuel Calculation—Passenger Vehicles

California Air Resource Board (ARB). 2021. EMFAC2014 Web Database. Website: <https://www.arb.ca.gov/emfac/2014/>. Accessed February 7, 2021.

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: Sub-Area

Region: Solano (SF)

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

VMT = Vehicle Miles Traveled

FE = Fuel Economy

				Given				Calculations		
Region	Calendar Year	Vehicle Class	Model Year	Speed	Fuel	Population	VMT	Fuel Consumption	FE	VMT*FE
Solano (SF)	2023	HHDT	Aggregated	Aggregated	GAS	16.91048301	2216.250447	0.462568829	4.791179833	10618.45445
Solano (SF)	2023	HHDT	Aggregated	Aggregated	DSL	2014.211724	301582.1883	48.24450105	6.251120476	1885226.593
Solano (SF)	2023	LDA	Aggregated	Aggregated	GAS	152832.717	5870926.239	184.9869696	31.73697181	186325420.5
Solano (SF)	2023	LDA	Aggregated	Aggregated	DSL	1713.425731	68781.09	1.702732448	40.39453766	2778380.331
Solano (SF)	2023	LDT1	Aggregated	Aggregated	GAS	10704.63565	364961.411	13.64153738	26.75368625	9764063.082
Solano (SF)	2023	LDT1	Aggregated	Aggregated	DSL	14.12016819	335.6718805	0.011449484	29.31764269	9841.108253
Solano (SF)	2023	LDT2	Aggregated	Aggregated	GAS	46611.6164	1789997.829	74.58451762	23.99958981	42959213.66
Solano (SF)	2023	LDT2	Aggregated	Aggregated	DSL	82.69823794	3492.039974	0.110541745	31.59023743	110314.3719
Solano (SF)	2023	LHDT1	Aggregated	Aggregated	GAS	2659.976164	75539.85426	7.793180608	9.693071168	732213.1834
Solano (SF)	2023	LHDT1	Aggregated	Aggregated	DSL	2870.193237	93704.1707	5.304515601	17.66498164	1655282.455
Solano (SF)	2023	LHDT2	Aggregated	Aggregated	GAS	455.7836576	16501.82894	1.849799661	8.920873588	147210.7299
Solano (SF)	2023	LHDT2	Aggregated	Aggregated	DSL	960.6906785	36747.234	2.281244573	16.10841487	591939.6907
Solano (SF)	2023	MCY	Aggregated	Aggregated	GAS	7610.66939	55078.61786	1.525455926	36.10633183	1988686.853
Solano (SF)	2023	MDV	Aggregated	Aggregated	GAS	33186.45152	1097458.01	62.74351221	17.49117911	19195834.63
Solano (SF)	2023	MDV	Aggregated	Aggregated	DSL	549.5761763	22985.55199	0.95208239	24.14239801	554926.3447
Solano (SF)	2023	MH	Aggregated	Aggregated	GAS	883.2386594	7197.011999	1.082165705	6.650563739	47864.18703
Solano (SF)	2023	MH	Aggregated	Aggregated	DSL	231.3721121	1959.671566	0.202752997	9.665314937	18940.84286
Solano (SF)	2023	MHDT	Aggregated	Aggregated	GAS	342.1291797	17912.37965	2.754731815	6.502404173	116473.5322
Solano (SF)	2023	MHDT	Aggregated	Aggregated	DSL	1911.637179	91910.58962	10.93952756	8.401696428	772204.8725
Solano (SF)	2023	OBUS	Aggregated	Aggregated	GAS	177.2283737	9739.479841	1.468169196	6.63375847	64609.35689
Solano (SF)	2023	OBUS	Aggregated	Aggregated	DSL	418.8715479	33718.19988	4.563013758	7.389458299	249159.2319
Solano (SF)	2023	SBUS	Aggregated	Aggregated	GAS	47.09547295	2291.899538	0.195888118	11.70004367	26815.32469
Solano (SF)	2023	SBUS	Aggregated	Aggregated	DSL	106.6576725	4044.022126	0.555881144	7.274976258	29420.16495
Solano (SF)	2023	UBUS	Aggregated	Aggregated	GAS	66.87884607	9727.022812	1.961779427	4.958265277	48229.15945
Solano (SF)	2023	UBUS	Aggregated	Aggregated	DSL	77.94882968	11239.93282	2.549446178	4.408774313	49554.3271

Weighted Average FE 27.04015413

Total VMT—Passenger Vehicles

Blossom Avenue Apartments Project - Buildout Year Operations

Date: 2/9/2021 10:06 PM

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartment Mid Rise	979.20	883.80	916.20	2,628,292	2,628,292
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	979.20	883.80	916.20	2,628,292	2,628,292

		Fuel
Annual VMT	(miles)	Consumption (gallons/year)
Total VMT	2,628,292	97,200

Project Operations Natural Gas Use

Source: AQ/GHG Appendix, CalEEMod Output

Blossom Avenue Apartments Project - Buildout Year Operations

kBTU/yr = kilo-British Thermal Units/year

	Natural Gas Use (kBTU/yr)
Apartments Mid Rise	1,555,100
City Park	0
Health Club	102,882
Other Asphalt Surfaces	0
Other Non-Asphalt Surfaces	0
Parking Lot	0
Recreational Swimming Pool	0
Unenclosed Parking Structure	0
Total	1,657,982 kBTU/yr

Project Operations Electricity Use

Source: AQ/GHG Appendix, CalEEMod Output

Blossom Avenue Apartments Project - Buildout Year Operations

kWh/yr = kilowatt hours per year

	Electricity Use	
Land Use	(kWh/yr)	
Apartments Mid Rise	743,103	
City Park	0	
Health Club	32,214	
Other Asphalt Surfaces	0	
Other Non-Asphalt Surfaces	0	
Parking Lot	19,180	
Recreational Swimming Pool	0	
Unenclosed Parking Structure	128,100	
Total	922,597	kWh/yr

Typical Construction Trailer - Solano-San Francisco County, Annual

Typical Construction Trailer

Solano-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	0.72	1000sqft	0.02	720.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	4			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Typical Construction Trailer - Solano-San Francisco County, Annual

Project Characteristics - CO2 intensity factor adjusted based on Renewable Energy Portfolio and PG&E's 2020 Corporate Responsibility and Sustainability Report.

Land Use - Upper range of typical single-wide mobile office trailer = 720 square feet.

Construction Phase - Typical construction trailer for energy use estimates - estimates would be included in the operational component of the results

Off-road Equipment - Zeroed out construction equipment

Off-road Equipment - Zeroed out construction equipment

Trips and VMT -

Architectural Coating -

Vehicle Trips - Run for energy estimation only

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products -

Area Coating -

Landscape Equipment -

Energy Use -

Water And Wastewater -

Area Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	11.03	0.00

Typical Construction Trailer - Solano-San Francisco County, Annual

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	12837.6	1.1996	1.7000e-004	3.0000e-005	1.2142
Total		1.1996	1.7000e-004	3.0000e-005	1.2142

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	12837.6	1.1996	1.7000e-004	3.0000e-005	1.2142
Total		1.1996	1.7000e-004	3.0000e-005	1.2142

6.0 Area Detail**6.1 Mitigation Measures Area**

Appendix D BIOLOGICAL RESOURCES TECHNICAL REPORT

Biological Resources Assessment

Suisun Multifamily Project

Solano County, California

Prepared for:

FPA Multifamily, LLC

April 12, 2021
(supersedes version dated November 30, 2020)



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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- Attachment A – Results of Database Queries
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- Attachment D – Preliminary Jurisdictional Determination Form

LIST OF ACRONYMS AND ABBREVIATIONS

BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
IPaC	Information, Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSL	Mean Sea Level
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
PJD	Preliminary Jurisdictional Delineation
Project	Suisun Multifamily Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
Study Area	9.8-acre Suisun Multifamily Project
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Service
WBWG	Western Bat Working Group

1.0 INTRODUCTION

On behalf of FPA Multifamily, LLC, ECorp Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the approximately 9.8-acre Suisun Multifamily Project (Study Area) located in Solano County, California. The purpose of the assessment was to collect information on the biological resources present and evaluate the potential for special-status species and their habitats to occur in the Study Area; assess potential biological impacts related to Project activities; and identify potential mitigation measures to inform the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

1.1 Project Location

The Study Area is located south of Railroad Avenue and east of Blossom Road in Suisun City, Solano County, California (Figure 1. *Property Location and Vicinity*). The Study Area corresponds to a portion of the Unsectioned Rancho Tolenas Land Grant of the "Fairfield North, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1980). The approximate center of the Study Area is located at NAD83 coordinates 38.259362° latitude and -122.013349° longitude within the Suisun Bay Watershed (Hydrologic Unit Code #18050001; Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Study Area.

This assessment includes information generated from field reconnaissance and literature review as well as assessment-level and determinate surveys of the Study Area, including a burrowing owl survey and habitat assessment, a California tiger salamander habitat assessment, a dry-season survey for federally listed large branchiopods, and an aquatic resources delineation. This BRA does not include determinate field surveys for other wildlife or plant species.

This assessment includes a preliminary analysis of impacts on biological resources anticipated to result from the Project, as presently defined. The mitigation recommendations presented in this assessment are based on the preliminary impact analysis, a review of existing literature, the results of site reconnaissance surveys, and the technical studies described above. These surveys and technical studies are discussed in detail in Sections 3.0 (Methods) and 4.0 (Results).

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;

- are identified as a species of special concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as birds of conservation concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" [species with a California Rare Plant Rank (CRPR) 1 and 2], "plants about which more information is needed" (i.e., species with a CRPR of 3), or "plants of limited distribution – a watch list" (i.e., species with a CRPR of 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA, California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. While other species (i.e., special-status lichens, California Natural Diversity Database- (CNDDDB-) tracked species with no special status) are sometimes found in database searches or within the literature, these species were not included within this analysis.

1.3 Project Description

The Project is a proposed multifamily residential development consisting of a community room/clubhouse structure, multiple three-story apartment buildings with associated parking, and common areas such as a swimming pool and other outdoor recreational facilities.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 *Federal Endangered Species Act*

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of State law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued

existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical Habitat for listed species. If direct and/or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a BO. The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

Critical Habitat and Essential Habitat

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential lifecycle needs of the species. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior
2. Food, water, air, light, minerals, or other nutritional or physiological requirements
3. Cover or shelter
4. Sites for breeding, reproduction, or rearing (or development) of offspring
5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species

2.1.2 *Migratory Bird Treaty Act*

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as

hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of non-game birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

2.1.3 Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “Waters of the United States” without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water 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” (33 CFR 328.3 7b). The USEPA also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; In California, this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State or Local Regulations

2.2.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the State as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.

2.2.2 Fully Protected Species

The State of California first began to designate species as “fully protected” prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered

under the federal and/or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

2.2.3 Native Plant Protection Act

The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare.” The NPPA prohibits the take of plants listed under the NPPA, though the NPPA contains exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

2.2.4 California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a several sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 Lake or Streambed Alteration Agreements

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

2.2.6 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the state Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

2.2.7 California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria parallel the definitions used in the ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as SSC by CDFW, birds identified as a conservation concern by USFWS, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the federal ESA, California ESA, or California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not State) threatened or endangered or meets the State definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for State threatened or endangered status.
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA.” To meet this requirement, USFWS published a list of BCC (USFWS 2008) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS’ highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

Sensitive Natural Communities

The CDFW maintains the *California Natural Community List* (CDFW 2020a), which provides a list of vegetation alliances, associations, and special stands as defined in the *Manual of California Vegetation* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

California Rare Plant Ranks

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2020), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private-sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDb. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.

- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2020).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.8 Solano Multi-Species Habitat Conservation Plan

The Solano Habitat Conservation Plan (HCP) is a multispecies regional conservation plan that is in the final stages of development. The Solano HCP encompasses approximately 585,000 acres and addresses the conservation of 36 covered species, 36 additional special management species, and five broad natural communities/geographic regions in Solano and Yolo counties (LSA 2020). Once adopted, the Solano HCP would establish the procedures, conditions, and conservation requirements to authorize take of 37 plant and animal species in compliance with Section 10 of the federal ESA and 14 plant and animal species in compliance with Section 2081 of the California ESA resulting from covered activities by the HCP participants. The Solano HCP would also be a framework for streamlined compliance for regulatory permitting (Solano County Water Agency 2020).

The Study Area is located within the Urban Zone of the Solano HCP Area. However, the Solano HCP is not expected to be finalized in time for the Project to participate.

3.0 METHODS

3.1 Literature Review

The following resources were queried to determine the special-status species that had been documented within or in the vicinity of the Study Area:

- CDFW CNDDDB data for the "Fairfield North, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CDFW 2020a).
- USFWS Information, Planning, and Consultation System (IPaC) Resource Report List for the Study Area (USFWS 2020a).
- CNPS' electronic Inventory of Rare and Endangered Plants of California for the "Fairfield North, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CNPS 2020).

The results of the database queries are included in Attachment A.

3.2 Field Surveys Conducted

The following field surveys were conducted and technical reports prepared to assess and document biological resources within the Study Area:

- Preliminary Aquatic Resources and Special-Status Species Assessment (Attachment B1).
- Aquatic Resources Delineation (Attachment B2).
- Burrowing Owl Nesting Season Survey (Attachment B3).
- California Tiger Salamander Habitat Assessment (Attachment B4).
- Dry-Season Survey for federally Listed Branchiopods (Attachment B5).

The results of these surveys have been incorporated into this BRA. A summary of each survey is included in the following sections. Copies of the technical reports are included in Attachment B.

3.2.1 Special-Status Species Assessment

A field assessment for special-status species was conducted by ECORP biologist Emily Mecke on April 29, 2020. The purpose of this assessment was to identify potential biological resources constraints (e.g., aquatic resources, special-status species) onsite, identify regulatory requirements for development of the site, and assess potential mitigation needs. During the assessment, potential aquatic resources were delineated and the following biological resource information was collected:

- Direct observations of special-status species;
- Animal and plant species directly observed; and
- Habitat and vegetation communities.

3.2.2 Aquatic Resources Delineation

A preliminary field assessment was conducted on April 29, 2020 by ECORP biologist Emily Mecke to evaluate existing conditions and boundaries of potential aquatic resources within the Study Area. The subsequent protocol-level delineation survey, including sampling points, was conducted on June 11, 2020 by ECORP biologist Daniel Wong. The aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement; USACE 2008). The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses). *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (NRCS 2020a) were used to aid in identifying hydric soils in the field. The *Jepson Manual, 2nd Edition* (Baldwin et al. 2012) was used for plant nomenclature and identification. Aquatic resources within the Study Area were recorded in the field using a post-processing capable Global Positioning System unit with sub-meter accuracy.

3.2.3 Burrowing Owl Nesting Season Survey

A focused burrowing owl (*Athene cunicularia*) survey and habitat assessment was conducted by ECORP biologist Daniel Wong on June 12, 2020. The objective of this survey was to identify any potential burrowing owl habitat and observe if there were any burrowing owls or nesting activity within the Study

Area. Two rounds of survey were conducted, the morning survey at approximately 8:30 a.m. and the evening survey at approximately 6:30 p.m. The biologist walked transects spaced between five and 10 meters apart, depending on vegetation height, to identify any potential burrow locations within the Study Area. The biologist also walked meandering transects around the railroad tracks and berm located just north of the Study Area. Each potential burrow was investigated for signs of occupancy by burrowing owl, including the presence of whitewash, pellets, and/or presence of individual owls. During the survey, Mr. Wong scanned all visible areas within and adjacent to the Study Area with binoculars (10x42 magnification) including potential perches and refugia.

3.2.4 California Tiger Salamander Habitat Assessment

A habitat assessment for California tiger salamander (*Ambystoma californiense*) was conducted on June 22, 2020 by ECORP biologist Eric Stitt. The field assessment was conducted by walking meandering transects throughout the Study Area while evaluating aquatic habitats and adjacent uplands for their potential to support breeding, foraging, and refugia or aestivation habitat. Habitat assessments were focused on identifying onsite aquatic habitats that could potentially pond water through the spring and early summer and on characterizing adjacent uplands surrounding such wetlands. The surrounding 1.2-mile area was evaluated as best as possible to characterize land use, potential breeding habitat, uplands, and habitat continuity for dispersal and migration.

3.2.5 Federally Listed Branchiopod Survey

ECORP conducted dry season and wet season surveys for federally listed large branchiopods and did not find evidence of their presence within the Study Area. However, wet season results are inconclusive for many features.

During the dry season survey on August 25, 2020, ECORP collected soil samples from all features and processed the samples under the supervision of permitted ECORP biologist Peter Balfour (Permit Number: TE012973-12) following methods outlined in the Survey Guidelines for the Listed Large Branchiopods (2017 Guidelines; USFWS 2017). The purpose of the investigation was to determine the presence of eggs of federally listed large branchiopod species (e.g., conservancy shrimp, vernal pool fairy shrimp, or vernal pool tadpole shrimp). No federally listed large branchiopod eggs were detected.

The wet season survey for federally listed large branchiopod species was conducted in 2021. Wet season sampling began February 9, 2021 after initial inundation of potential habitat and occurred at 14-day intervals thereafter throughout the wet season, following methods outlined in the 2017 Guidelines. No federally listed large branchiopod species were detected. However, only one feature could be sampled. The other features never experienced inundation during the wet season. This may be due to current drought conditions, but the typical duration of inundation for these features during a normal water year is unknown. Results of the wet season survey is inconclusive for features that could not be sampled.

Because of the inconclusive wet season survey results, federally listed large branchiopod species are presumed to occur on the Project.

3.3 Special-Status Species Considered for the Project

Based on the database queries, a list of special-status species that are considered to have the potential to occur within the Study Area was generated (Table 1 in Section 4.6). Each of the species identified by the queries were evaluated through the literature review, field observations, and surveys, and categorized based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDDB or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Study Area based on CNDDDB records and other available documentation.
- **Absent** - No suitable habitat (including soils and elevation requirements), and/or the species is not known to occur within the Study Area or the vicinity of the Study Area based on CNDDDB records and other documentation or determinate field surveys.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is located within relatively flat terrain situated at an elevational range of approximately 36 feet above mean sea level (MSL) in the Sacramento Valley Subregion of the Great Central Valley floristic region of California (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Study Area is 48.4 degrees Fahrenheit (°F) and the average summer high temperature is 72.4°F. Average annual precipitation is approximately 24.81 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2020).

The Study Area is within a vacant lot bounded by Railroad Avenue to the north and surrounded by commercial and residential properties on the eastern, southern, and western boundaries. The Southern Pacific Railroad tracks are located north of the Study Area across Railroad Avenue. The Study Area has signs of past and ongoing disturbance, including a small gravel patch in the northwest corner and tire tracks were observed within the grassland adjacent to the gravel patch.

Representative photographs of the Study Area are included in Attachment C.

4.2 Vegetation Communities

The Study Area consists primarily of annual grassland dominated by non-native annual grasses, including wild oat (*Avena* sp.), Italian ryegrass (*Festuca perennis*), and red brome (*Bromus madritensis* ssp. *rubens*). Other species observed within the grassland include purple wild radish (*Raphanus sativus*), hairy vetch (*Vicia villosa*), and field bindweed (*Convolvulus arvensis*). One horticultural tree is present in the northeast corner of the site and a few coyote bushes (*Baccharis pilularis*) are scattered along the southern boundary.

A small gravel patch is present in the northwest corner and tire tracks were observed within the grassland adjacent to this area.

4.3 Wildlife Observations and Movement/Corridors

The Study Area is surrounded by development on all sides. Therefore, the Study Area is not expected to support wildlife movement corridors or potential nursery sites. The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2020b).

Wildlife observed during the April 29, 2020 preliminary special-status habitat assessment includes red-winged black bird (*Agelaius phoeniceus*) and western meadowlark (*Sturnella neglecta*). Additionally, California ground squirrel burrows (*Otospermophilus beecheyi*) were observed throughout the site.

4.4 Soils

According to the Web Soil Survey (NRCS 2020a), one soil unit, or type, has been mapped within the Study Area (Figure 2. *Natural Resources Conservation Service Soil Types*):

- AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes

Both the Antioch and San Ysidro series consist of moderately well-drained soils that formed in alluvium derived from sedimentary rock (NRCS 2020a). Both soil series are non-saline to very slightly or slightly saline (NRCS 2020a). However, no halophytic plant communities or other indicators of alkali soils were observed during the special-status species assessment or the aquatic resources delineation.

This soil unit does not contain any listed hydric components (NRCS 2020b).

No soil units derived from serpentinite or other ultramafic parent materials have been reported to occur within the Study Area or its immediate vicinity (NRCS 2020b; Jennings et al. 1977).

4.5 Potential Waters of the U.S.

An aquatic resources delineation of potential Waters of the U.S. was conducted for the Study Area as per USACE guidelines (Attachment B2). A total of 0.380 acre of seasonal wetlands have been mapped within the Study Area (Figure 3: *Aquatic Resources Assessment*). The USACE issued a Preliminary Jurisdictional Determination (PJD) on August 25, 2020 for the site, which states that the 0.38 acre of seasonal wetlands onsite may be subject to USACE regulatory authority under Section 404 of the CWA (SPN-2020-00295; Attachment D).

Seasonal wetlands are ephemeral wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by nonnative annual and sometimes perennial hydrophytic species. Six seasonal wetlands were mapped within the Study Area. Four of these features were dominated by Italian ryegrass (*Festuca perennis*) and Mediterranean barley (*Hordeum marinum*). A couple of these features were dominated by either least spikerush (*Eleocharis acicularis*) or hyssop loosestrife (*Lythrum hyssopifolia*).

4.6 Evaluation of Potentially Occurring Special-Status Species

Table 1 lists all the special-status plant and wildlife species (as defined in Section 1.3) identified in the literature review as potentially occurring within the Study Area. Included in this table is the listing status for each species, a brief habitat description, and a determination on the potential to occur within the Study Area. Following the table is a brief description and discussion of each special-status species that is known to occur in the Study Area (from the literature review) or is considered to potentially occur within the Study Area. The Study Area is in proximity to the Jepson Prairie Core Area but does not contain designated critical habitat for federally listed vernal pool species (USFWS 2005a).

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Plants						
Henderson's bent grass (<i>Agrostis hendersonii</i>)	–	–	3.2	Vernal pools and mesic areas in valley and foothill grasslands (230'–1,001').	April–June	Low potential to occur. Marginally suitable habitat (seasonal wetlands in disturbed valley and foothill grassland) in Study Area.
Twig-like snapdragon (<i>Antirrhinum virga</i>)	–	–	4.3	Rocky soils, openings, and often serpentinite in chaparral and lower montane coniferous forest (328'–6,611').	June–July	Absent. No suitable habitat in Study Area.
Modest rockcress (<i>Arabis modesta</i>)	–	–	4.3	Chaparral and lower and montane coniferous forest (393'–2,625').	March–July	Absent. No suitable habitat in Study Area.
Alkali milk-vetch (<i>Astragalus tener</i> var. <i>tener</i>)	–	–	1B.2	Playas, mesic areas within valley and foothill grasslands, and alkaline vernal pools (3'–197').	March–June	Low potential to occur. Marginally suitable habitat (seasonal wetlands) in disturbed valley and foothill grassland) in Study Area.
Heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities (0'–1,837').	April–October	Absent. No suitable habitat in Study Area.
Crownscale (<i>Atriplex coronata</i> var. <i>coronata</i>)	–	–	4.2	Alkaline, often clay substrates in chenopod scrub, valley and foothill grassland, and vernal pools (3'–1,936').	March–October	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Brittlescale (<i>Atriplex depressa</i>)	–	–	1B.2	Alkaline and clay soils within chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools (3'–1,050').	April–October	Absent. No suitable habitat in Study Area.
Vernal pool smallscale (<i>Atriplex persistens</i>)	–	–	1B.2	Alkaline vernal pools (33'–377').	June–October	Absent. No suitable habitat in Study Area.
Big-scale balsamroot (<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>)	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentinite soils (148'–5,102').	March–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Narrow-anthered brodiaea (<i>Brodiaea leptandra</i>)	–	–	1B.2	Volcanic soils in broad-leaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland (361'–3,002').	May–July	Absent. No suitable habitat in Study Area.
Brewer's calandrinia (<i>Calandrinia breweri</i>)	–	–	4.2	Sandy or loamy soils, disturbed sites, and burns within chaparral and coastal scrub (33'–4,003').	March–June	Absent. No suitable habitat in Study Area.
Mt. Diablo fairy-lantern (<i>Calochortus pulchellus</i>)	–	–	1B.2	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland (98'–2,756').	April–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Tiburon paintbrush (<i>Castilleja affinis</i> ssp. <i>neglecta</i>)	FE	CT	1B.2	Serpentinite soils within valley and foothill grassland (197'–1,312').	April–June	Absent. No suitable habitat in Study Area.
Johnny-nip (<i>Castilleja ambigua</i> var. <i>ambigua</i>)	–	–	4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and margins of vernal pools (0'–1,427').	March–August	Low potential to occur. Marginally suitable habitat (seasonal wetlands and disturbed valley and foothill grassland) in Study Area.
Mead's owl's-clover (<i>Castilleja ambigua</i> var. <i>meadii</i>)	–	–	1B.1	Gravelly, volcanic, and clay soils in meadows and seeps and vernal pools (1,476'–1,559').	April–May	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Holly-leaved ceanothus (<i>Ceanothus purpureus</i>)	–	–	1B.2	Volcanic, rocky slopes in chaparral and cismontane woodland communities (394'–2,100').	February–June	Absent. No suitable habitat in Study Area.
Congdon's tarplant (<i>Centromadia parryi</i> ssp. <i>congdonii</i>)	–	–	1B.1	Valley and foothill grassland with alkaline soils (0'–755').	May–October	Absent. No suitable habitat in Study Area.
Pappose tarplant (<i>Centromadia parryi</i> ssp. <i>parryi</i>)	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernal mesic valley and foothill grassland (0'–1,378').	May–November	Low potential to occur. Marginally suitable habitat (seasonal wetlands within disturbed valley and foothill grassland) in Study Area.
Parry's rough tarplant (<i>Centromadia parryi</i> ssp. <i>rudis</i>)	–	–	4.2	Alkaline, vernal mesic seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'–328').	May–October	Potential to occur. Suitable habitat (seasonal wetlands and disturbed valley and foothill grassland) in Study Area.
Hispid bird's-beak (<i>Chloropyron molle</i> ssp. <i>hispidum</i>)	–	–	1B.1	Alkaline soils in meadows and seeps, playas, and valley and foothill grasslands (3'–509').	June–September	Absent. No suitable habitat in Study Area.
Soft bird's-beak (<i>Chloropyron molle</i> ssp. <i>molle</i>)	FE	CR	1B.2	Coastal salt marshes and swamps (0'–10').	July–November	Absent. No suitable habitat in Study Area.
Bolander's water-hemlock (<i>Cicuta maculata</i> var. <i>bolanderi</i>)	–	–	2B.1	Coastal, fresh, or brackish marshes and swamps (0'–656').	July–September	Absent. No suitable habitat in Study Area.
Suisun thistle (<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>)	FE	–	1B.1	Salt marshes and swamps (0'–3').	June–September	Absent. No suitable habitat in Study Area.
Tracy's clarkia (<i>Clarkia gracilis</i> ssp. <i>tracyi</i>)	–	–	4.2	Openings in chaparral, usually with serpentine soils (213'–2,132').	April–July	Absent. No suitable habitat in Study Area.
Serpentine collomia (<i>Collomia diversifolia</i>)	–	–	4.3	Serpentine, rocky, or gravelly substrates in chaparral and cismontane woodland (656'–1,969').	May–June	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Serpentine cryptantha (<i>Cryptantha dissita</i>)	–	–	1B.2	Serpentine in chaparral (1,295'–1,903').	April–June	Absent. No suitable habitat in Study Area.
Recurved larkspur (<i>Delphinium recurvatum</i>)	–	–	1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'–2,592').	March–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Dwarf downingia (<i>Downingia pusilla</i>)	–	–	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches) (Baldwin et al. 2012, CDFW 2020a) (3'–1,460').	March–May	Potential to occur. Suitable habitat present in Study Area.
Streamside daisy (<i>Erigeron biolettii</i>)	–	–	3	Rocky, mesic soils of broadleaf upland forest, cismontane woodland, and North Coast coniferous forest (98'–3,609').	June–October	Absent. No suitable habitat in Study Area.
Greene's narrow-leaved daisy (<i>Erigeron greenei</i>)	–	–	1B.2	Serpentine or volcanic soils in chaparral (262'–3,298').	May–September	Absent. No suitable habitat in Study Area.
Tiburon buckwheat (<i>Eriogonum luteolum</i> var. <i>caninum</i>)	–	–	1B.2	Sandy to gravelly serpentine areas of chaparral, cismontane woodland, coastal prairie, valley and foothill grassland (0'–2,297').	May–September	Absent. No suitable habitat in Study Area.
Mt. Diablo buckwheat (<i>Eriogonum truncatum</i>)	–	–	1B.1	Sandy soils in chaparral, coastal scrub, valley and foothill grassland (10'–1,148').	April–September	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Jepson's coyote thistle (<i>Eryngium jepsonii</i>)	–	–	1B.2	Clay soils of valley and foothill grassland, and vernal pools (10'–984').	April–August	Low potential to occur. Marginally suitable habitat (seasonal wetlands and disturbed valley and foothill grassland) in Study Area.

Table 1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
San Joaquin spearscale (<i>Extriplex joaquinana</i>)	–	–	1B.2	Alkaline soils in chenopod scrub, meadows seeps, playas, and valley and foothill grassland (3'–2,740').	April–October	Absent. No suitable habitat in Study Area.
Adobe lily (<i>Fritillaria pluriflora</i>)	–	–	1B.2	Adobe soils in chaparral, cismontane woodland, and valley and foothill grassland (197'–2,313').	February–April	Absent. No suitable habitat in Study Area.
Woolly-headed gilia (<i>Gilia capitata</i> ssp. <i>tomentosa</i>)	–	–	1B.1	Serpentinite, rocky soils and outcrops of coastal bluff scrub and valley and foothill grassland (32'–722').	May–July	Absent. No suitable habitat in Study Area.
Nodding harmonia (<i>Harmonia nutans</i>)	–	–	4.3	Rocky, gravelly, often volcanic soils in chaparral and cismontane woodland (246'–4,199').	March–May	Absent. No suitable habitat in Study Area.
Diablo helianthella (<i>Helianthella castanea</i>)	–	–	1B.2	Usually rocky, axonal soils in broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland, often in partial shade (197'–4,265').	March–June	Absent. No suitable habitat in Study Area.
Two-carpellate western flax (<i>Hesperolinon bicarpellatum</i>)	–	–	1B.2	Serpentinite soils of chaparral.	May–July	Absent. No suitable habitat in Study Area.
Brewer's western flax (<i>Hesperolinon breweri</i>)	–	–	1B.2	Usually in serpentinite soils of chaparral, cismontane woodland, and valley and foothill grassland (98'–3,100').	May–July	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Sharsmith's western flax (<i>Hesperolinon sharsmithiae</i>)	–	–	1B.2	Serpentinite soils of chaparral (885'–985').	May–July	Absent. No suitable habitat in Study Area.
Coast iris (<i>Iris longipetala</i>)	–	–	4.2	Mesic areas in coastal prairie, lower montane coniferous forest, and meadows and seeps (0'–1,969').	March–May	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Carquinez goldenbush (<i>Isocoma arguta</i>)	–	–	1B.1	Alkaline soils in valley and foothill grasslands (3'–66').	August–December	Absent. No suitable habitat in Study Area.
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	FE	–	1B.1	Mesic sites within cismontane woodland, playas with alkaline soils, valley and foothill grassland and vernal pools (16'–1,706').	March–June	Low potential to occur. Marginally suitable habitat (seasonal wetlands within disturbed valley and foothill grassland) in Study Area.
Ferris' goldfields (<i>Lasthenia ferrisiae</i>)	–	–	4.2	Alkaline and clay vernal pools (66'–2,297').	February–May	Low potential to occur. Marginally suitable habitat (seasonal wetlands) in Study Area.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	–	–	1B.1	Coastal marshes and swamps, playas, and vernal pools (3'–4,003').	February–June	Low potential to occur. Marginally suitable habitat (seasonal wetlands) in Study Area.
Delta tule pea (<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>)	–	–	1B.2	Freshwater and brackish marshes and swamps (0'–16').	May–September	Absent. No suitable habitat in Study Area.
Legenere (<i>Legenere limosa</i>)	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005a) (3'–2,887').	April–June	Low potential to occur. Marginally suitable habitat (seasonal wetlands) in Study Area.
Jepson's leptosiphon (<i>Leptosiphon jepsonii</i>)	–	–	1B.2	Usually volcanic soils of chaparral, cismontane woodland, valley and foothill grasslands (328'–1,640').	March–May	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Woolly-headed lessingia (<i>Lessingia hololeuca</i>)	–	–	3	Clay or serpentinite soils in broadleaf upland forests, coastal scrub, lower montane coniferous forests, and valley and foothill grassland (49'–1,001').	June–October	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Mason's lilaeopsis (<i>Lilaeopsis masonii</i>)	–	CR	1B.1	Brackish or freshwater marshes or swamps and riparian scrub (0'–33').	April–November	Absent. No suitable habitat in Study Area.
Napa lomatium (<i>Lomatium repostum</i>)	–	–	4.3	Serpentine soils of chaparral and cismontane woodland (295'–2,724').	March–June	Absent. No suitable habitat in Study Area.
Mt. Diablo cottonweed (<i>Micropus amphibolus</i>)	–	–	3.2	Rocky soils in broad-leaved upland forest, chaparral, cismontane woodland, valley and foothill grassland (148'–2,707').	March–May	Absent. No suitable habitat in Study Area.
Marsh microseris (<i>Microseris paludosa</i>)	–	–	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland (16'–1,165').	April–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Green monardella (<i>Monardella viridis</i>)	–	–	4.3	Broadleaf upland forest, chaparral, and cismontane woodland (328'–3,313').	June–September	Absent. No suitable habitat in Study Area.
Little mouseltail (<i>Myosurus minimus</i> ssp. <i>apus</i>)	–	–	3.1	Vernal pools (alkaline), valley and foothill grassland (66'–2,100').	March–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Baker's navarretia (<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>)	–	–	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (16'–5,709').	April–July	Low potential to occur. Marginally suitable habitat (seasonal wetlands) in disturbed valley and foothill grassland) in Study Area.
Few-flowered navarretia (<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>)	FE	CT	1B.1	Volcanic ash flow vernal pools (1,312'–2,805').	May–June	Absent. No suitable habitat in Study Area.
San Joaquin Valley Orcutt grass (<i>Orcuttia inaequalis</i>)	FT	CE	1B.1	Vernal pools (33'–2,477').	April–September	Absent. Outside of geographic range (USFWS 2020b).

Table 1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Gairdner's yampah (<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>)	–	–	4.2	Vernal pools and vernal mesic areas in broadleaf upland forest, chaparral, coastal prairie, and valley and foothill grassland (0'–2,001').	June–October	Low potential to occur. Marginally suitable habitat (seasonal wetlands in disturbed valley and foothill grassland) in Study Area.
Bearded popcornflower (<i>Plagiobothrys hystriculus</i>)	–	–	1B.1	Often in vernal swales, and in mesic areas of valley and foothill grassland and vernal pool margins (0'–899').	April–May	Low potential to occur. Marginally suitable habitat (seasonal wetlands in disturbed valley and foothill grassland) in Study Area.
California alkali grass (<i>Puccinellia simplex</i>)	–	–	1B.2	Alkaline, vernal mesic areas in sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (7'–3,051').	March–May	Absent. No suitable habitat in Study Area.
Lobb's aquatic buttercup (<i>Ranunculus lobbii</i>)	–	–	4.2	Mesic areas of cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools (49'–1,542').	February–May	Low potential to occur. Marginally suitable habitat (seasonal wetlands in disturbed valley and foothill grassland) in Study Area.
California beaked-rush (<i>Rhynchospora californica</i>)	–	–	1B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps, and freshwater marshes and swamps (137'–3,314').	May–July	Absent. No suitable habitat in Study Area.
Cleveland's ragwort (<i>Senecio clevelandii</i> var. <i>clevelandii</i>)	–	–	4.3	Serpentine seeps of chaparral (1,197'–2,953').	June–July	Absent. No suitable habitat in Study Area.
Napa checkerbloom (<i>Sidalcea hickmanii</i> ssp. <i>napensis</i>)	–	–	1B.1	Rhyolitic substrates in chaparral communities (1,361'–2,002').	April–June	Absent. No suitable habitat in Study Area.
Marin checkerbloom (<i>Sidalcea hickmanii</i> ssp. <i>viridis</i>)	–	–	1B.1	Rhyolitic substrates in chaparral communities (164'–1,410').	May–June	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Keck's checkerbloom (<i>Sidalcea keckii</i>)	FE	–	1B.1	Serpentine and clay soils within cismontane woodland and valley and foothill grasslands (246'–2,133').	April–May	Absent. Outside of geographic range (USFWS 2020b).
Long-styled sand-spurrey (<i>Spergularia macrotheca</i> var. <i>longistyla</i>)	–	–	1B.2	Alkaline meadows, seeps, marshes, and swamps (0'–837').	February–May	Absent. No suitable habitat in Study Area.
Slender-leaved pondweed (<i>Stuckenia filiformis</i> ssp. <i>alpina</i>)	–	–	2B.2	Assorted shallow freshwater marshes and swamps (984'–7,054').	May–July	Absent. No suitable habitat in Study Area.
Suisun marsh aster (<i>Symphotrichum lentum</i>)	–	–	1B.2	Brackish and freshwater marshes and swamps (0'–10').	May–November	Absent. No suitable habitat in Study Area.
Napa bluecurls (<i>Trichostema ruygtii</i>)	–	–	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pools (98'–2,231').	June–October	Low potential to occur. Marginally suitable habitat (seasonal wetlands and disturbed valley and foothill grassland) in Study Area.
Two-fork clover (<i>Trifolium amoenum</i>)	FE	–	1B.1	Coastal bluff scrub and valley and foothill grassland communities and is sometimes associated with serpentine soils (16'–1,362').	April–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Saline clover (<i>Trifolium hydrophilum</i>)	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools (0'–984').	April–June	Low potential to occur. Marginally suitable habitat (disturbed valley and foothill grassland) in Study Area.
Dark-mouthed triteleia (<i>Triteleia lugens</i>)	–	–	4.3	Broadleaf upland forest, chaparral, coastal scrub, and lower montane coniferous forest (328'–3,281').	April–June	Absent. No suitable habitat in Study Area.
Oval-leaved viburnum (<i>Viburnum ellipticum</i>)	–	–	2B.3	Chaparral, cismontane woodland, and lower montane coniferous forest communities (705'–4,593').	May–June	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Invertebrates						
California freshwater shrimp <i>(Syncaris pacifica)</i>	FE	CE	–	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy.	Any season	Absent. No suitable habitat in Study Area.
Conservancy fairy shrimp <i>(Branchinecta conservatio)</i>	FE	–	–	Vernal pools/wetlands.	November–April	Absent. Seasonal wetlands are too shallow to provide habitat for this species.
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	–	–	Vernal pools/wetlands.	November–April	Presumed present though species not detected during 2020 dry season survey (Attachment B5) or 2021 wet season survey.
Vernal pool tadpole shrimp <i>(Lepidurus packardii)</i>	FE	–	–	Vernal pools/wetlands.	November–April	Presumed present though species not detected during 2020 dry season survey (Attachment B5) or 2021 wet season survey.
Crotch bumble bee <i>(Bombus crotchii)</i>	-	CC	-	Primarily nests underground in open grassland and scrub habitats from the California coast east to the Sierra Cascade and south to Mexico.	March - September	Absent. No suitable habitat in Study Area.
Western bumble bee <i>(Bombus occidentalis)</i>	-	CC	-	Primarily nests underground in open grassland and scrub habitats from the California coast east to the Sierra Cascade and south to Mexico.	March - September	Absent. No suitable habitat in Study Area.
Valley elderberry longhorn beetle <i>(Desmoceris californicus dimorphus)</i>	FT	–	–	Elderberry shrubs.	Any season	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Delta green ground beetle <i>(Elaphrus viridis)</i>	FT	–	–	Vernal pool edges. Currently found only in the greater Jepson Prairie area in south-central Solano County.	February–May	Absent. No suitable habitat in Study Area.
Callippe silverspot butterfly <i>(Speyeria callippe callippe)</i>	FE	–	–	Restricted to the northern coastal scrub of the San Francisco peninsula. Host plant is johnny jump-up (<i>Viola pedunculata</i>).	May–July	Absent. No suitable habitat in Study Area.
Fish						
Delta smelt <i>(Hypomesus transpacificus)</i>	FT	CE	–	Sacramento-San Joaquin delta.	N/A	Absent. No suitable habitat in Study Area.
Longfin smelt <i>(Spirinchus thaleichthys)</i>	FC	CT	–	Freshwater and seawater estuaries.	Year round	Absent. No suitable habitat in Study Area.
Sacramento splittail <i>(Pogonichthys macrolepidotus)</i>	–	–	SSC	San Francisco bay estuary. Spawns in upstream floodplains and backwater sloughs.	Year round	Absent. No suitable habitat in Study Area.
Amphibians						
Foothill yellow-legged frog - Northwest/North Coast clade <i>(Rana boylei)</i>	–	–	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May - October	Absent. No suitable habitat in Study Area, and outside of geographic range for the species.
California red-legged frog <i>(Rana draytonii)</i>	FT	–	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1- November 1	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
California tiger salamander (Central California Distinct Population Segment) (<i>Ambystoma californiense</i>)	FT	CT	SSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Absent. A habitat assessment conducted in 2020 determined there is marginal upland habitat onsite, but the site is isolated from breeding pools and other potential upland habitat(Attachment B4).
Reptiles						
Northwestern pond turtle (<i>Actinemys marmorata</i>)	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April- September	Absent. No suitable habitat in Study Area.
Giant garter snake (<i>Thamnophis gigas</i>)	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent. No suitable habitat in Study Area.
Birds						
Clark's grebe (<i>Aechmophorus clarkii</i>)	-	-	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	June-August (breeding)	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Rufous hummingbird <i>(Selasphorus rufus)</i>	-	-	BCC	Breeds in British Columbia and Alaska (does not breed in California). Winters in coastal Southern California south into Mexico. Common migrant during March-April in Sierra Nevada foothills and June-August in Lower Conifer to Alpine zone of Sierra Nevada. Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential area.	April-July	Absent. No suitable habitat in Study Area.
Allen's hummingbird <i>(Selasphorus sasin)</i>	-	-	BCC	Breeds along narrow coastal band from SW Oregon south to Santa Barbara and Ventura counties. Channel Islands. Migratory subspecies winter in Mexico, and sedentary resident on Channel Islands and coastal southern California. Breeding occurs in coastal scrub, riparian habitat, mixed evergreen or live oak woodlands.	February -June	Absent. No suitable habitat in Study Area.
Yellow rail <i>(Coturnicops noveboracensis)</i>	-	-	BCC, SSC	Found in sedge meadows, dense stands of bulrush, high marshlands dominated by sedges and grasses (in California, found in Lassen, Plumas, Siskiyou, Modoc counties, and San Francisco Bay and Tomales Bay regions)	May- September	Absent. No suitable habitat in Study Area.
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March- September (breeding)	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Ridgway's rail (California clapper rail) (<i>Rallus obsoletus obsoletus</i>)	FE	CE	CFP	San Francisco and San Pablo Bay tidal marshes, sloughs, with pickleweed (<i>Salicornia</i> spp.), cordgrass (<i>Spartina</i> spp.), and gum plant (<i>Grindelia</i> spp.).	March-August	Absent. No suitable habitat in Study Area.
Ridgway's rail (Light- footed clapper rail) (<i>Rallus obsoletus levipes</i>)	FE	CE	CFP	Coastal Santa Barbara County to San Diego County into Baja; tidal marshes with tall dense cordgrass (<i>Spartina</i> spp.)	March-August	Absent. No suitable habitat in Study Area.
Long-billed curlew (<i>Numenius americanus</i>)	-	-	BCC	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	September- March (wintering)	Absent. No suitable habitat in Study Area.
Willet (<i>Tringa semipalmata</i>)	-	-	BCC	Breeds locally in interior of western North America. In California, breeding range includes the Klamath Basin and Modoc Plateau and portions of Mono and possibly Inyo counties. Breeding habitat includes prairies, Breeds in wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali wetlands over semipermanent and permanent wetlands.	April-August	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
White-tailed kite (<i>Elanus leucurus</i>)	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Low potential to occur. Marginally suitable foraging habitat present in Study Area.
Golden eagle (<i>Aquila chrysaetos</i>)	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	February- August (nest); October- February (wintering in Central Valley)	Absent. No suitable habitat in Study Area.
Northern harrier (<i>Circus hudsonius</i>)	-	-	SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April- September	Absent. No suitable nesting habitat in Study Area.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Delisted	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands	February – September (nesting); October-March (wintering)	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Swainson's hawk (<i>Buteo swainsoni</i>)	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Low potential to occur. Marginally suitable foraging habitat present in Study Area.
Ferruginous hawk (<i>Buteo regalis</i>)	-	-	BCC, CDFW WL	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Absent. No suitable habitat in Study Area.
Burrowing owl (<i>Athene cunicularia</i>)	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Low potential to occur. Minimal suitable burrowing habitat present in Study Area. Species not detected during 2020 focused survey (Attachment B3).
Northern spotted owl (<i>Strix occidentalis caurina</i>)	FT	CC	SSC	Found from Marin County through coastal ranges north to British Columbia; breeds in old growth mature forest. They use forests with greater complexity and structure.	March-June	Absent. No suitable habitat in Study Area.
Short-eared owl (<i>Asio flammeus</i>)	-	-	SSC	Nests in large expanses of prairie, coastal grasslands, heathlands, shrub-steppe, tundra, and agricultural areas.	March-July (breeding); August-March (wintering in Central Valley)	Absent. No suitable nesting habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Lewis' woodpecker (<i>Melanerpes lewis</i>)	-	-	BCC	In California, breeds in Siskiyou and Modoc Counties, Warner Mountains, inner coast ranges from Tehama to San Luis Obispo Counties, San Bernardino Mountains, and Big Pine Mountain (Inyo County); nesting habitat includes open ponderosa pine forest, open riparian woodland, logged/burned forest, and oak woodlands. Does not breed on the west side of Sierran crest (Beedy and Pandalfino 2013).	April-September (breeding); September-March (wintering in Central Valley).	Absent. No suitable habitat in Study Area.
Nuttall's woodpecker (<i>Dryobates nuttallii</i>)	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Absent. No suitable habitat in Study Area.
American peregrine falcon (<i>Falco peregrinus anatum</i>)	Delisted	Delisted	BCC, CFP	In California, breeds in coastal region, northern California, and Sierra Nevada. Nesting habitat includes cliff ledges and human-made ledges on towers and buildings. Wintering habitat includes areas where there are large concentrations of shorebirds, waterfowl, pigeons or doves.	CA Residents nest in February-June	Absent. No suitable habitat in Study Area.
Yellow-billed magpie (<i>Pica nuttallii</i>)	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Absent. No suitable nesting habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Oak titmouse (<i>Baeolophus inornatus</i>)			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree).	March-July	Absent. No suitable habitat in Study Area.
Wrentit (<i>Chamaea fasciata</i>)	-	-	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March-August	Absent. No suitable habitat in Study Area.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	-	-	SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May-August	Absent. No suitable habitat in Study Area.
Suisun song sparrow (<i>Melospiza melodia maxillaris</i>)	-	-	BCC, SSC	Resident of brackish marshes of Suisun Bay	Year round resident; nests March-July	Absent. No suitable habitat in Study Area.
San Clemente spotted towhee (<i>Pipilo maculatus clementae</i>)	-	-	BCC, SSC	Resident on Santa Catalina and Santa Rosa Islands; extirpated on San Clemente Island, California. Breeds in dense, broadleaf shrubby brush, thickets, and tangles in chaparral, oak woodland, island woodland, and Bishop pine forest.	Year round resident; breeding season is April-July	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Yellow-breasted chat <i>(Icteria virens)</i>	-	-	SSC	In California, breeds in Klamath Mountains, inner Northern Coast Range south to San Francisco Bay, locally distributed from Santa Clara County south to San Diego County Sacramento and San Joaquin valleys, along west slope of Sierra Nevada from the Feather River to Kern River, Mono and Inyo counties. In the west, nesting habitat includes dense riparian and shrubby habitats.	May-August	Absent. No suitable nesting habitat in Study Area.
Tricolored blackbird <i>(Agelaius tricolor)</i>	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos south to San Bernardino, Riverside and San Diego Counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Absent. No suitable habitat in Study Area.
Saltmarsh common yellowthroat <i>(Geothlypis trichas sinuosa)</i>	-	-	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County.	March-July	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Mammals						
Pallid bat <i>(Antrozous pallidus)</i>	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2017).	April- September	Absent. No suitable habitat in Study Area.
Townsend's big-eared bat <i>(Corynorhinus townsendii)</i>	-	-	SSC	Caves, mines, buildings, rock crevices, trees.	April- September	Absent. No suitable habitat in Study Area.
Western red bat <i>(Lasiurus blossevillei)</i>	-	-	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).	April- September	Absent. No suitable habitat in Study Area.
Hoary bat <i>(Lasiurus cinereus)</i>	-	-	CNDDDB	Dense foliage of medium to large trees; roost primarily in foliage of both coniferous and deciduous trees; Roosts are usually at the edge of a clearing. Some unusual roosting situations have been reported in caves, beneath a rock ledge, in a woodpecker hole, in a grey squirrel nest, under a driftwood plank, and clinging to the side of a building (WBWG 2017).	April- September	Absent. No suitable habitat in Study Area.

Table 1. Potentially Occurring Special-Status Species

Common Name (Scientific Name)	Federal ESA Status	California ESA Status	Other Status	Habitat Description ¹	Approximate Survey Dates	Potential To Occur in the Study Area
Suisun shrew (<i>Sorex ornatus sinuosus</i>)	-	-	SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays.	Any season	Absent. No suitable habitat in Study Area.
Salt-marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE	CE	CFP	Saline emergent marsh.	Any season	Absent. No suitable habitat in Study Area.
American badger (<i>Taxidea taxus</i>)	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent. No suitable habitat in Study Area.

¹ Habitat descriptions for plant species are from the CNPS Inventory of Rare and Endangered Plants (CNPS 2020).

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	Federal ESA listed, Endangered.
FT	Federal ESA listed, Threatened.
FC	Candidate for federal ESA listing as Threatened or Endangered.
Delisted	Formally Delisted (delisted species are monitored for 5 years).
BCC	U. S. Fish and Wildlife Service Bird of Conservation Concern (USFWS, 2002).
CE	California ESA or Native Plant Protection Act listed, Endangered.
CT	California ESA or Native Plant Protection Act listed, Threatened.
CR	California ESA or Native Plant Protection Act listed, Rare.
CC	Candidate for California ESA listing as Endangered or Threatened.
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern (CDFW, updated July 2017).
CFP	California Fish and Game Code Fully Protected Species (§3511-birds, §4700-mammals, §5050-reptiles/amphibians).
1B	California Rare Plant Rank/Rare or Endangered in California and elsewhere.
2B	Plants rare, threatened, or endangered in California but more common elsewhere.
3	CRPR/Plants About Which More Information is Needed – A Review List.
4	CRPR/Plants of Limited Distribution – A Watch List.
0.1	Threat Rank/Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20 to 80 percent occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.6.1 Plants

Seventy-six special-status plant species were identified by the literature review as having the potential to occur within the vicinity of the Study Area. Of those, 49 species were determined to be absent from the Study Area due to the lack of suitable habitat and based on the conditions observed during the site visits (Table 1). No further discussion of those species is provided in this assessment. A brief description of the remaining 27 species that have the potential to occur within the Study Area is presented below.

Henderson's Bent Grass

Henderson's bent grass (*Agrostis hendersonii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3.2 species. This species is an herbaceous annual that occurs in vernal pools and in mesic areas in valley and foothill grasslands (CNPS 2020). Henderson's bent grass blooms from April through June and is known to occur at elevations between 230 to 1,001 feet above MSL (CNPS 2020). The current range of this species in California includes Butte, Calaveras, Merced, Napa, Shasta, Tehama, and Tuolumne counties; distribution and identity in Butte County is uncertain (CNPS 2020).

While no occurrences of Henderson's bent grass have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Henderson's bent grass has low potential to occur.

Alkali Milk-Vetch

Alkali milk-vetch (*Astragalus tener* var. *tener*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in alkaline areas of playas, adobe clay valley and foothill grasslands, and vernal pools (CNPS 2020). Alkali milk-vetch blooms from March through June and is known to occur at elevations ranging from 3 to 197 feet above MSL (CNPS 2020). Alkali milk-vetch is endemic to California; the current range of this species includes Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanislaus, and Yolo counties and is likely extirpated from Contra Costa, Monterey, San Benito, Santa Clara, San Francisco, San Joaquin, Sonoma, and Stanislaus counties (CNPS 2020).

There are seven documented CNDDDB occurrences of alkali milk-vetch within five miles of the Study Area (CDFW 2020a). The closest occurrence overlaps with the Study Area; however, it is a low-accuracy historic occurrence that is presumed extirpated (CDFW 2020a). All other occurrences are over 2 miles from the Study Area. The seasonal wetlands and valley and foothill grassland within the Study Area provide marginally suitable habitat for this species. Alkali milk-vetch has low potential to occur.

Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and occasionally on serpentinite soils (CNPS 2020). Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 148 to 5,102 feet above MSL (CNPS 2020). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2020).

While no occurrences of big-scale balsamroot have been reported within five miles of the Study Area (CDFW 2020a), the valley and foothill grassland within the Study Area provides marginally suitable habitat for this species. Big-scale balsamroot has low potential to occur.

Mt. Diablo Fairy-Lantern

Mt. Diablo fairy-lantern (*Calochortus pulchellus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a perennial bulbiferous herb that occurs in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland (CNPS 2020). Mt. Diablo fairy-lantern blooms from April through June and is known to occur from 98 to 2,756 feet above MSL (CNPS 2020). Mt. Diablo fairy-lantern is endemic to California; the current range of the species includes Alameda, Contra Costa, and Solano counties (CNPS 2020).

While no occurrences of Mt. Diablo fairy-lantern have been reported within five miles of the Study Area (CDFW 2020a), the valley and foothill grassland within the Study Area provides marginally suitable habitat for this species. Mt. Diablo fairy-lantern has low potential to occur.

Johnny-Nip

Johnny-nip (*Castilleja ambigua* var. *ambigua*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a hemiparasitic annual herb that occurs in coastal bluffs, prairies, and scrub; marshes and swamps; valley and foothill grassland; and margins of vernal pools (CNPS 2020). Johnny-nip blooms from March through August and is known to occur at elevations ranging from sea level to 1,427 feet above MSL (CNPS 2020). The current range of this species in California includes Alameda, Contra Costa, Del Norte, Humboldt, Mendocino, Marin, Napa, Santa Cruz, San Francisco, San Luis Obispo, San Mateo, and Sonoma counties. Its distribution in San Francisco County is uncertain (CNPS 2020).

While no occurrences of johnny-nip have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Johnny-nip has low potential to occur.

Pappose Tarplant

Pappose tarplant (*Centromadia parryi* ssp. *parryi*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an annual herb that occurs often in alkaline soils of chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernal mesic valley and foothill grassland (CNPS 2020). Pappose tarplant blooms from May through November and is known to occur at elevations ranging from sea level to 1,378 feet above MSL (CNPS 2020). Pappose tarplant is endemic to California; the current range of this species includes Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma counties (CNPS 2020).

There are ten documented CNDDDB occurrences of papoose tarplant within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 0.5 miles from the Study Area. The seasonal wetlands and valley and foothill grassland provide marginally suitable habitat for this species. Pappose tarplant has low potential to occur.

Parry's Rough Tarplant

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs

in vernal pools and valley and foothill grassland with alkaline and vernal mesic soils, seeps, and sometimes roadsides (CNPS 2020). Parry's rough tarplant blooms from May to October and is known to occur at elevations ranging from sea level to 328 feet above MSL (CNPS 2020). Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties (CNPS 2020).

While no occurrences of Parry's rough tarplant have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands and valley and foothill grassland within the Study Area provide suitable habitat for this species. Parry's rough tarplant has potential to occur.

Recurved Larkspur

Recurved larkspur (*Delphinium recurvatum*) is not listed pursuant to either the federal or California ESAs, but is designated a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in alkaline substrates in chenopod scrub, cismontane woodland, and valley and foothill grasslands (CNPS 2020). Recurved larkspur blooms from March through June and is known to occur at elevations ranging from 9 to 2,592 feet above MSL (CNPS 2020). Recurved larkspur is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Solano, Sutter, and Tulare counties (CNPS 2020). The species is presumed extirpated from Butte and Colusa counties (CNPS 2020).

While no occurrences of recurved larkspur have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Recurved larkspur has low potential to occur.

Dwarf Downingia

Dwarf downingia (*Downingia pusilla*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.2 species. This species is an herbaceous annual that occurs in vernal pools and mesic areas in valley and foothill grasslands (CNPS 2020). Dwarf downingia also appears to have an affinity for slight disturbance since it has been found in manmade features such as tire ruts, scraped depressions, stock ponds, and roadside ditches (Baldwin et al. 2012, CDFW 2020a). This species blooms from March through May and is known to occur at elevations ranging from 3 to 1,460 feet above MSL (CNPS 2020). The current range of this species in California includes Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties (CNPS 2020).

There is one documented CNDDDB occurrence of dwarf downingia within five miles of the Study Area (CDFW 2020a). The occurrence is located approximately 2.3 miles from the Study Area. The seasonal wetlands within the Study Area provide suitable habitat for this species. Dwarf downingia has potential to occur.

Mt. Diablo Buckwheat

Mt. Diablo buckwheat (*Eriogonum truncatum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in sandy substrates in chaparral, coastal scrub, and valley and foothill grassland (CNPS 2020). Mt. Diablo buckwheat

blooms from April through September and is known to occur at elevations ranging from 10 to 1,148 feet above MSL (CNPS 2020). Mt. Diablo buckwheat is endemic to California; the current range of this species includes Alameda, Contra Costa, and Solano counties, and is considered to be extirpated in Solano County (CNPS 2020).

There is one documented CNDDDB occurrence of Mt. Diablo buckwheat within five miles of the Study Area (CDFW 2020a). The occurrence is located approximately 1.3 miles from the Study Area. The valley and foothill grassland within the Study Area provides marginally suitable habitat for this species. Mt. Diablo buckwheat has low potential to occur.

Jepson's Coyote Thistle

Jepson's coyote thistle (*Eryngium jepsonii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a perennial herb that occurs in clay soils of valley and foothill grassland, and vernal pools (CNPS 2020). Jepson's coyote thistle blooms from April through August and is known to occur at elevations ranging from 10 to 984 feet above MSL (CNPS 2020). Jepson's coyote thistle is endemic to California; the current range of this species includes Alameda, Amador, Calaveras, Contra Costa, Fresno, Napa, San Mateo, Solano, Stanislaus, Tuolumne, and Yolo counties (CNPS 2020).

While no occurrences of Jepson's coyote thistle have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Jepson's coyote thistle has low potential to occur.

Brewer's Western Flax

Brewer's western flax (*Hesperolinon breweri*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in chaparral, cismontane woodland, and valley and foothill grassland, usually in serpentinite substrates (CNPS 2020). Brewer's western flax blooms from May through July and is known to occur from 98 to 3,100 feet above MSL (CNPS 2020). Brewer's western flax is endemic to California; the current range of this species includes Alameda, Contra Costa, Napa, and Solano counties (CNPS 2020).

While no occurrences of Brewer's western flax have been reported within five miles of the Study Area (CDFW 2020a), the valley and foothill grassland within the Study Area provide marginally suitable habitat for this species. Brewer's western flax has low potential to occur.

Contra Costa Goldfields

Contra Costa goldfields (*Lasthenia conjugens*) is listed as endangered pursuant to the federal ESA, not listed pursuant to the California ESA, and is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in mesic sites within cismontane woodland, playas with alkaline soils, valley and foothill grassland, and vernal pools (CNPS 2020). Contra Costa goldfields blooms between March and June and is known to occur at elevations ranging from sea level to 1,542 feet above MSL (CNPS 2020). Contra Costa goldfields is endemic to California; its current range includes Alameda, Contra Costa,

Mendocino, Monterey, Marin, Napa, Santa Barbara, Santa Clara, Solano, and Sonoma counties. It is likely extirpated from Mendocino, Santa Barbara, and Santa Clara counties (CNPS 2020).

There are 14 documented CNDDDB occurrence of Contra Costa goldfields within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 1.0 mile from the Study Area. The seasonal wetlands and valley and foothill grassland within the Study Area provide marginally suitable habitat for this species. Contra Costa goldfields has low potential to occur.

Ferris' Goldfields

Ferris' goldfields (*Lasthenia ferrisiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in alkaline and clay soils in vernal pools (CNPS 2020). Ferris' goldfields blooms between February and May and is known to occur at elevations ranging from 66 to 2,297 feet above MSL (CNPS 2020). Ferris' goldfields is endemic to California; its current range includes Alameda, Butte, Contra Costa, Colusa, Fresno, Kings, Kern, Merced, Monterey, Sacramento, San Benito, San Joaquin, San Luis Obispo, Solano, Stanislaus, Tulare, Ventura, and Yolo counties (CNPS 2020).

While no occurrences of Ferris' goldfields have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Ferris' goldfields has low potential to occur.

Coulter's Goldfields

Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in coastal salt marshes and swamps, playas, and vernal pools (CNPS 2020). Coulter's goldfields blooms between February and June and is known to occur at elevations ranging from 3 to 4,003 feet above MSL (CNPS 2020). The current range of this species in California includes Colusa, Kern, Los Angeles, Merced, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Solano, Santa Rosa Island, Tehama, Tulare, Ventura, and Yolo counties. Its distribution or identity is uncertain in Tulare county and it is likely extirpated from Kern, Los Angeles, and San Bernardino counties (CNPS 2020).

While no occurrences of Coulter's goldfields have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Coulter's goldfields has low potential to occur.

Legenere

Legenere (*Legenere limosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species (CNPS 2020). This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005b). Legenere blooms from April through June and is known to occur at elevations ranging from 3 feet to 2,887 feet above MSL (CNPS 2020). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey,

Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties; is believed to be extirpated from Stanislaus County (CNPS 2020).

There is one documented CNDDDB occurrence of *legenere* within five miles of the Study Area (CDFW 2020a). The occurrence overlaps with the Study Area; however, it is a low-accuracy historic occurrence that is presumed extirpated (CDFW 2020a). The seasonal wetlands within the Study Area provide marginally suitable habitat for this species. *Legenere* has low potential to occur.

Jepson's Leptosiphon

Jepson's leptosiphon (*Leptosiphon jepsonii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an annual herb that usually occurs in volcanic soils of chaparral, cismontane woodland, and valley and foothill grasslands (CNPS 2020). Jepson's leptosiphon blooms from March through May and is known to occur at elevations ranging from 328 to 1,640 feet above MSL (CNPS 2020). Jepson's leptosiphon is endemic to California; the current range of this species includes Lake, Napa, Sonoma, and Yolo counties (CNPS 2020).

While no occurrences of Jepson's leptosiphon have been reported within five miles of the Study Area (CDFW 2020a), the annual grassland within the Study Area provides marginally suitable habitat for this species. Jepson's leptosiphon has low potential to occur.

Woolly-Headed Lessingia

Woolly-headed lessingia (*Lessingia hololeuca*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3 species. This species is an herbaceous annual that occurs in clay or serpentinite soils in broadleaf upland forests, coastal scrub, lower montane coniferous forests, and valley and foothill grassland (CNPS 2020). Woolly-headed lessingia blooms from June to October and is known to occur at elevations ranging from 49 to 1,001 feet above MSL (CNPS 2020). Woolly-headed lessingia is endemic to California; the current range of this species includes Alameda, Monterey, Marin, Napa, Santa Clara, San Mateo, Solano, Sonoma, and Yolo counties (CNPS 2020).

While no occurrences of woolly-headed lessingia have been reported within five miles of the Study Area (CDFW 2020a), the valley and foothill grassland within the Study Area provide marginally suitable habitat for this species. Woolly-headed lessingia has low potential to occur.

Marsh Microseris

Marsh microseris (*Microseris paludosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland (CNPS 2020). Marsh microseris blooms from April through June and is known to occur at elevations ranging from 16 to 1,165 feet above MSL (CNPS 2020). Marsh microseris is endemic to California; its current range includes Mendocino, Monterey, Marin, San Benito, Santa Cruz, San Francisco, San Luis Obispo, San Mateo, Solano, and Sonoma counties (CNPS 2020). It is likely extirpated from San Francisco and San Mateo counties (CNPS 2020).

There is one documented CNDDDB occurrence of marsh microseris within five miles of the Study Area (CDFW 2020a). The occurrence is located approximately 2.7 miles from the Study Area. The valley and foothill grassland within the Study Area provides marginally suitable habitat for this species. Marsh microseris has low potential to occur.

Little Mousetail

Little mousetail (*Myosurus minimus* ssp. *apus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3.1 species. This species is an herbaceous annual that occurs in mesic areas of valley and foothill grassland and alkaline vernal pools (CNPS 2020; USFWS 2005a). Little mousetail blooms between March and June and is known to occur at elevations ranging from 66 to 2,100 feet above MSL (CNPS 2020). The current range for little mousetail in California includes Alameda, Contra Costa, Colusa, Lake, Merced, Riverside, San Bernardino, San Diego, Solano, Tulare, and Yolo counties (CNPS 2020).

While no occurrences of little mousetail have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Little mousetail has low potential to occur.

Baker's Navarretia

Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (CNPS 2020). Baker's navarretia blooms from April through July and is known to occur at elevations ranging from 16 to 5,709 feet above MSL (CNPS 2020). Baker's navarretia is endemic to California; the current range of this species includes Colusa, Glenn, Lake, Lassen, Mendocino, Marin, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties (CNPS 2020).

There are two documented CNDDDB occurrences of Baker's navarretia within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 2.3 miles from the Study Area. The seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Baker's navarretia has low potential to occur.

Gairdner's Yampah

Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous perennial that occurs in vernal mesic areas in broadleaf upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools (CNPS 2020). Gairdner's yampah blooms from June to October and is known to occur at elevations ranging from sea level to 2,001 feet above MSL (CNPS 2020). Gairdner's yampah is endemic to California. The current range of this species includes Contra Costa, Kern, Los Angeles, Mendocino, Monterey, Marin, Napa, Orange, San Benito, Santa Clara, Santa Cruz, San Diego, San Luis Obispo, San Mateo, Solano, and Sonoma counties. It is presumed extirpated from Los Angeles, Orange, and San Diego counties; it has been confirmed in San Mateo County, but is presumed extirpated (CNPS 2020).

While no occurrences of Gairdner's yampah have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Gairdner's yampah has low potential to occur.

Bearded Popcornflower

Bearded popcornflower (*Plagiobothrys hystriculus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grassland and vernal pool margins, often in vernal swales (CNPS 2020). Bearded popcornflower blooms between April and May and is known to occur at elevations ranging from sea level to 899 feet above MSL (CNPS 2020). Bearded popcornflower is endemic to California; its current range includes Napa, Solano, and Yolo counties (CNPS 2020).

There is one documented CNDDDB occurrence of bearded popcornflower within five miles of the Study Area (CDFW 2020a). The occurrence is located approximately 0.8 miles from the Study Area. The seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Bearded popcornflower has low potential to occur.

Lobb's Aquatic Buttercup

Lobb's aquatic buttercup (*Ranunculus lobbii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an aquatic annual herb that occurs in mesic areas of cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools (CNPS 2020). Lobb's aquatic buttercup blooms from February through May and is known to occur at elevations ranging from 49 to 1,542 feet above MSL (CNPS 2020). The current range of this species in California includes Alameda, Contra Costa, Mendocino, Marin, Napa, Santa Cruz, San Mateo, Solano, and Sonoma counties; distribution or identity is uncertain in Santa Cruz and San Mateo counties, but it is presumed extirpated if it was once present there.

While no occurrences of Lobb's aquatic buttercup have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Lobb's aquatic buttercup has low potential to occur.

Napa Bluecurls

Napa bluecurls (*Trichostema ruygtii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an annual herb that occurs in chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland, and vernal pools (CNPS 2020). Napa bluecurls blooms from June through October and is known to occur at elevations ranging from 98 to 2,231 feet above MSL (CNPS 2020). Napa bluecurls is endemic to California; the current range of this species includes Lake, Napa, and Solano counties; however, it is possibly extirpated from Lake County (CNPS 2020).

While no occurrences of Napa bluecurls have been reported within five miles of the Study Area (CDFW 2020a), the seasonal wetlands and valley and foothill grassland within the Study Area provide marginally suitable habitat for this species. Napa bluecurls has low potential to occur.

Two-Fork Clover

Two-fork clover (*Trifolium amoenum*) is listed as endangered pursuant to the federal ESA, not listed pursuant to the California ESA, and is designated as a CRPR 1B.1 species. The species is an herbaceous annual that occurs in coastal bluff scrub and valley and foothill grassland communities and is sometimes associated with serpentinite soils (CNPS 2020). Two-fork clover blooms from April through June and is known to occur at elevations ranging from 16 to 1,362 feet above MSL (CNPS 2020). Two-fork clover is endemic to California; the current range of this species includes Marin, Napa, Santa Clara, San Mateo, Solano, and Sonoma counties; it is likely extirpated from all of these counties except Marin and San Mateo counties (CNPS 2020).

There are two documented CNDDDB occurrences of two-fork clover within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 2.3 miles from the Study Area (CDFW 2020a). The valley and foothill grassland within the Study Area provides marginally suitable habitat for this species. Two-fork clover has low potential to occur.

Saline Clover

Saline clover (*Trifolium hydrophilum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools (CNPS 2020). Saline clover blooms between April and June and is known to occur at elevations ranging from sea level to 984 feet above MSL (CNPS 2020). Saline clover is endemic to California; its current range includes Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo counties; however, distribution and identity are uncertain in Colusa county (CNPS 2020).

There are three documented CNDDDB occurrences of saline clover within five miles of the Study Area (CDFW 2020a). The occurrence is located approximately 1.6 miles from the Study Area. The seasonal wetlands within the Study Area provide marginally suitable habitat for this species. Saline clover has low potential to occur.

4.6.2 Invertebrates

Nine special-status invertebrate species were identified as having potential to occur in the Study Area based on the literature review (Table 1). However, upon further analysis, and after the site visit, seven species were considered to be absent from the site due to the lack of suitable habitat. No further discussion of those species is provided within this assessment. A brief description of the remaining two species that have the potential to occur within the Study Area is presented below.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened pursuant to the federal ESA. Vernal pool fairy shrimp may occur in seasonal ponds, vernal pools, and swales during the wet season, which generally occurs from December through May. This species can be found in a variety of pool sizes, ranging from less than 0.001 acre to over 24.5 acres (Eriksen and Belk 1999). The shrimp hatch from cysts

when colder water (10°C [50°F] or less) fills the pool and mature in as few as 18 days, under optimal conditions (Eriksen and Belk 1999). At maturity, mating takes place and cysts are dropped. Vernal pool fairy shrimp occur in disjunct patches dispersed across California's Central Valley from Shasta County to Tulare County, the central and southern Coast Ranges from northern Solano County to Ventura County, and three areas in Riverside County (USFWS 2003).

There are seven documented CNDDDB occurrences of vernal pool fairy shrimp within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 0.3 mile from the Study Area. The Study Area is in the vicinity of the Jepson Prairie Core Area but there is no designated critical habitat for vernal pool species in the Study Area (USFWS 2005a). The seasonal wetlands within the Study Area provide suitable habitat for this species; however, the species was not detected during a dry season survey conducted in 2020 (Attachment B5) or wet season surveys conducted in 2021. However, wet season surveys conducted were inconclusive due to drought conditions. Thus, vernal pool fairy shrimp has low potential to occur.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp (*Lepidurus packardii*) is listed as endangered pursuant to the federal ESA. This species inhabits vernal pools containing clear to highly turbid water, ranging in size from 0.001 acre to 89.0 acres (USFWS 1994). Vernal pool tadpole shrimp are distinguished from other vernal pool branchiopods discussed in this report by a large, shield like carapace that covers the anterior half of their body (USFWS 2003). Cysts hatch during the wet season and the shrimp reach maturity in a few weeks. This species matures slowly and is long lived, relative to other species. Vernal pool tadpole shrimp will continue to grow as long as the pools they occur in remain inundated, and in some instances can survive for six months or longer (USFWS 2003). The geographic range of vernal pool tadpole shrimp extends from Shasta County to northern Tulare County in California's Central Valley, and in the central coast range from Solano County to Alameda County (USFWS 2003).

There are seven documented CNDDDB occurrences of vernal pool tadpole shrimp within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 1.4 miles from the Study Area. The seasonal wetlands within the Study Area provide suitable habitat for this species; however, the species was not detected during a dry season survey conducted in 2020 (Attachment B5). or wet season surveys conducted in 2021. However, wet season surveys conducted were inconclusive due to drought conditions. Thus, vernal pool tadpole shrimp has low potential to occur.

4.6.3 Fish

Three special-status fish (Delta smelt [*Hypomesus transpacificus*], longfin smelt [*Spirinchus thaleichthys*], and Sacramento splittail [*Pogonichthys macrolepidotus*]) were identified as having potential to occur in the Study Area based on the literature review (Table 1). However, upon further analysis and after the site visit, all three species were considered absent from the site due to the lack of suitable habitat. No further discussion of these species is provided within this assessment.

4.6.4 Amphibians

Three special-status amphibians (Foothill yellow-legged frog [*Rana boylei*], California red-legged frog [*Rana draytonii*], and California tiger salamander [*Ambystoma californiense*]) were identified as having potential to occur in the Study Area based on the literature review (Table 1). However, upon further analysis and after the site visit, all three species were considered absent from the site due to the lack of suitable habitat. No further discussion of these species is provided within this assessment.

4.6.5 Reptiles

Two special-status reptiles, northwestern pond turtle (*Actinemys marmorata*) and giant garter snake (*Thamnophis gigas*), were identified as having the potential to occur in the Study Area based on the literature review (Table 1). However, upon further analysis and after the site visit, both species were considered absent from the site due to the lack of suitable habitat. No further discussion of these species is provided within this assessment.

4.6.6 Birds

Thirty special-status bird species were identified as having the potential to occur within the Study Area based on the literature review (Table 1). However, upon further analysis and after the site visit, 27 of these species were considered absent from the site due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. A brief description of the three remaining species that have the potential to occur within the Study Area is presented below.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a BCC by the USFWS and a SSC by the CDFW. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Poulin et al. 2020). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (CDFG 2012). The breeding season typically occurs between February 1 and August 31 (California Burrowing Owl Consortium [CBOC] 1993; CDFG 2012).

There are nine documented CNDDDB occurrences of burrowing owl within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 1.3 miles from the Study Area. The annual grassland within the Study Area provides minimal suitable burrowing habitat for this species; however, the species was not detected during a focused survey conducted in 2020 (Attachment B3). Burrowing owl has low potential to occur.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and are protected pursuant to the California ESA. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanoplus* sp.). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are four documented CNDDB occurrences of Swainson's hawk within five miles of the Study Area (CDFW 2020a). The closest occurrence is located approximately 2.8 miles from the Study Area. There is no potential nesting habitat onsite, but suitable nesting habitat may be present in the immediate vicinity of the Study Area. The annual grassland within the Study Area provides marginally suitable foraging habitat for this species. Swainson's hawk has low potential to occur.

White-tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal ESAs; however, the species is fully protected pursuant to § 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 2020). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low-elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 2020).

While no occurrences of white-tailed kite have been reported within five miles of the Study Area (CDFW 2020a), the annual grassland within the Study Area provides marginally foraging suitable habitat for this species. There is no potential nesting habitat onsite, but may be present in the immediate vicinity of the Study Area. White-tailed kite has low potential to occur.

4.6.7 Mammals

Seven special-status mammal species were identified as having the potential to occur within the Study Area based on the literature review (Table 1). However, upon further analysis and after the site visit, all seven species (pallid bat [*Antrozous pallidus*], Townsend's big-eared bat [*Corynorhinus townsendii*],

western red bat [*Lasiurus blossevillei*], hoary bat [*Lasiurus cinereus*], salt-marsh harvest mouse [*Reithrodontomys raviventris*], Suisun shrew [*Sorex ornatus sinuosus*], and American badger [*Taxidea taxus*] were considered to be absent from the site due to the lack of suitable habitat. No further discussion of these species is provided within this assessment.

4.7 Sensitive Natural Communities

Five sensitive natural communities were identified as having the potential to occur within the vicinity of the Study Area based on the literature review (CDFW 2020a). These include Valley Needlegrass Grassland, Serpentine Bunchgrass, Northern Vernal Pool, Northern Claypan Vernal Pool, and Coastal Brackish Marsh. However, upon further analysis and after the site visit, all sensitive natural communities were determined to be absent from the site due to the lack of suitable habitat and/or past and ongoing disturbance. No further discussion of sensitive natural communities is provided within this assessment.

5.0 IMPACTS AND RECOMMENDATIONS

5.1 Waters of the U.S./State

The USACE has issued a PJD for the site (SPN-2020-00295; Attachment D). Unavoidable direct impacts to Waters of the U.S., including wetlands, will require authorization to fill wetlands under the Section 404 of the federal CWA (Section 404 Permit) be obtained from USACE and a Water Quality Certification pursuant to Section 401 federal CWA be obtained from the RWQCB prior to discharging any dredged or fill materials into any Waters of the U.S. The wetlands onsite are also considered Waters of the State and will require authorization to discharge dredged or fill material from the RWQCB under the Porter-Cologne Water Quality Act. No wetlands onsite are subject to CDFW regulation.

The following measures are recommended as potential minimization and mitigation measures for impacts to Waters of the U.S.:

- File a request for authorization to fill wetlands and other Waters of the U.S. under the Section 404 of the CWA and obtain a Section 404 Nationwide Permit prior to discharging any dredged or fill materials into any Waters of the U.S.
- File a request for a Water Quality Certification or waiver pursuant to Section 401 of the CWA from the RWQCB for Section 404 permit actions and obtain a Section 401 Water Quality Certification.
- File a request for permit authorization from the RWQCB prior to the discharge of material in an area that could affect Waters of the State. This can be concurrent with the Section 401 Water Quality Certification process.
- Mitigation measures will be developed as part of the CWA Permit process to ensure no net loss of wetland function and values. The Applicant has provided compensatory mitigation through the purchased of seasonal wetland creation credits at a 1:1 ratio at the Elsie Gridley Mitigation Bank, which has a service area including the Project. The USACE and RWQCB will determine if additional compensatory mitigation is required through the CWA permitting process.

5.2 Special-Status Species

There is suitable to marginally suitable habitat within the Study Area for 27 special-status plants, three special-status invertebrates, and three special-status birds. A brief discussion of recommended avoidance and minimization measures is presented below for each group.

5.2.1 Plants

There are two plant species with CNDDDB occurrences that overlap with the Study Area. These include alkali milk-vetch and legenere. However, both are low-accuracy historic occurrences that are presumed extirpated (CDFW 2020a). While no special-status plant species are currently known to occur within the Study Area, focused surveys have not been conducted. The entire Study Area is planned for impact. Twenty-seven special-status plant species have potential to occur (Table 1 and Section 4.5).

The following measures are recommended to minimize potential impacts to special-status plants:

- Perform focused plant surveys according to USFWS, CDFW, and CNPS protocols prior to construction. Surveys should be timed according to the blooming period for target species and known reference populations, if available, and/or local herbaria should be visited prior to surveys to confirm the appropriate phenological stage of the target species. If no special-status plants are found within the Project site, no further measures pertaining to special-status plants are necessary.
- If special-status plants are found, implement the following measures:
 1. If avoidance of special-status plants is feasible, establish and clearly demarcate avoidance zones for special-status plant occurrences prior to construction. Avoidance zones should be maintained until the completion of construction.
 2. If avoidance of special-status plants is not feasible, mitigate for significant impacts to special-status plants. Mitigation measures should be developed in consultation with the appropriate regulatory agency (i.e., USFWS during Section 7 ESA consultation through the Section 404 Permit process; CDFW and/or Suisun City during the CEQA process) and may require preparation of a mitigation plan. Mitigation for permanent impacts may include permanent preservation of offsite habitat for special-status plants and/or translocation of plants or seeds from impacted areas to unaffected habitats.

5.2.2 Invertebrates

Suitable habitat for two federally listed vernal pool invertebrates (vernal pool fairy shrimp, and vernal pool tadpole shrimp) is present within the seasonal wetlands of the Study Area. The entire Study Area is planned for impact. Unavoidable direct impacts to federally listed vernal pool invertebrates would require consultation with USFWS and compliance with ESA through the Section 7 consultation process.

The following measures are recommended to minimize potential impacts to federally listed vernal pool invertebrates:

- No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS) until a biological opinion (c) and incidental take permit has been issued by USFWS and the applicant has abided by conditions in the BO, including all conservation and minimization measures. A similar process shall be followed for future subsequent improvement plans and conservation and minimization measures for those phases shall also be implemented according to the BO. Conservation and minimization measures shall include preparation of supporting documentation describing methods to protect existing vernal pools during and after Project construction, a detailed monitoring plan, and reporting requirements or appropriate mitigation if avoidance and minimization is not feasible.
- The applicant shall identify mitigation acceptable to the City, USACE, and USFWS for the impacts to vernal pools and other seasonal wetland habitats that support or potentially support federally listed vernal pool invertebrates in such a manner that there will be no net loss of habitat (acreage and function) for these species following Project implementation. The applicant shall complete the purchase of a certified bank credit describing how loss of vernal pool and other wetland habitats shall be offset, including details for creating habitat, accounting for the temporal loss of habitat, performance standards to ensure success, and remedial actions to be implemented if performance standards are not met. Mitigation shall include, where feasible and practicable, preservation and or restoration of in-kind wetland habitats within the Jepson Prairie core habitat area at ratios satisfactory to ensure no net loss of habitat acreage, function, and value within the Jepson Prairie core habitat area.
- The applicant shall preserve acreage of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat at a ratio approved by USFWS at the conclusion of the Section 7 consultation. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. Unless otherwise agreed to by USFWS, vernal pool habitat within 250 feet of development will be considered indirectly affected. The applicant will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan. A standard set of best management plans shall be applied when working in areas within 250 feet of offsite vernal pool habitat or within any lesser distance deemed by a qualified biologist to constitute a sufficient buffer from such habitat with approval from USFWS.

5.2.3 Birds

Marginal nesting habitat for burrowing owl and marginal foraging habitat for Swainson's hawk and white-tailed kite are present within the Study Area. The entire Study Area is planned for impact. If present, the Project could result in harassment to nesting burrowing owls and may displace a small amount of

marginal foraging habitat for Swainson's hawk and white-tailed kite. The Study Area is highly fragmented and surrounded by development, so foraging habitat value for raptors is relatively low. Therefore, impacts to raptor foraging habitat are less than significant, and mitigation requirements are not anticipated.

In addition to the above-listed special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the federal MBTA.

The following measures are recommended to minimize potential impacts to special-status birds or protected active nests:

■ **Burrowing Owl Measures:**

1. The Project proponent shall retain a qualified biologist to conduct a habitat assessment. If no habitat is present, no further measures are necessary.
2. If suitable burrowing owl habitat is found onsite, a survey should be conducted in accordance with Appendix D of CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012).
3. If no occupied burrows are found, a letter report documenting the survey methods and results shall be submitted to CDFW and/or Suisun City through the CEQA process and no further mitigation will be required.
4. If an occupied burrow is found during the nonbreeding season (September 1 through January 31), the Project proponent shall consult with CDFW to develop a burrowing owl exclusion plan, as described in Appendix E of CDFW's 2012 Staff Report. Burrowing owls shall not be excluded from occupied burrows until the Project's burrowing owl exclusion plan is approved by CDFW. CDFW would have 30 days to comment on the exclusion plan; if no comments are received CDFW-approval shall be assumed and the plan can be implemented.
5. If an active burrow is found during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and will be provided with a 150- to 1,500-foot protective buffer unless a qualified biologist verifies through noninvasive means that either: (1) the birds have not begun egg laying, or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. The size of the buffer shall depend on the time of year and level of disturbance as outlined in the CDFW Staff Report (CDFG 2012) or the most recent CDFW protocols. The size of the buffer may be reduced if a broad-scale, long-term monitoring program acceptable to CDFW is implemented to ensure burrowing owls are not detrimentally affected. Once the fledglings are capable of independent survival, the owls can be evicted, and the burrow can be destroyed during the nonbreeding season per the terms of a CDFW-approved burrowing owl exclusion plan developed in accordance with Appendix E of CDFW's 2012 Staff Report or the most recent CDFW protocols.

■ **All Other Special Status Birds and Active Nests:**

1. Conduct a pre-construction nesting bird survey of all suitable habitat on the Project within 14 days of the commencement of construction during the nesting season (generally February 1 -

August 31). The survey shall be conducted within 0.25-mile radius of the Project for Swainson's hawk and within a 300-foot radius for other raptors. A no-disturbance buffer around any active nests found shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. Pre-construction nesting surveys are not required for construction activity outside the nesting season.

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Figure 2. Natural Resources Conservation Service Soil Units

Figure 3. Aquatic Resources Assessment

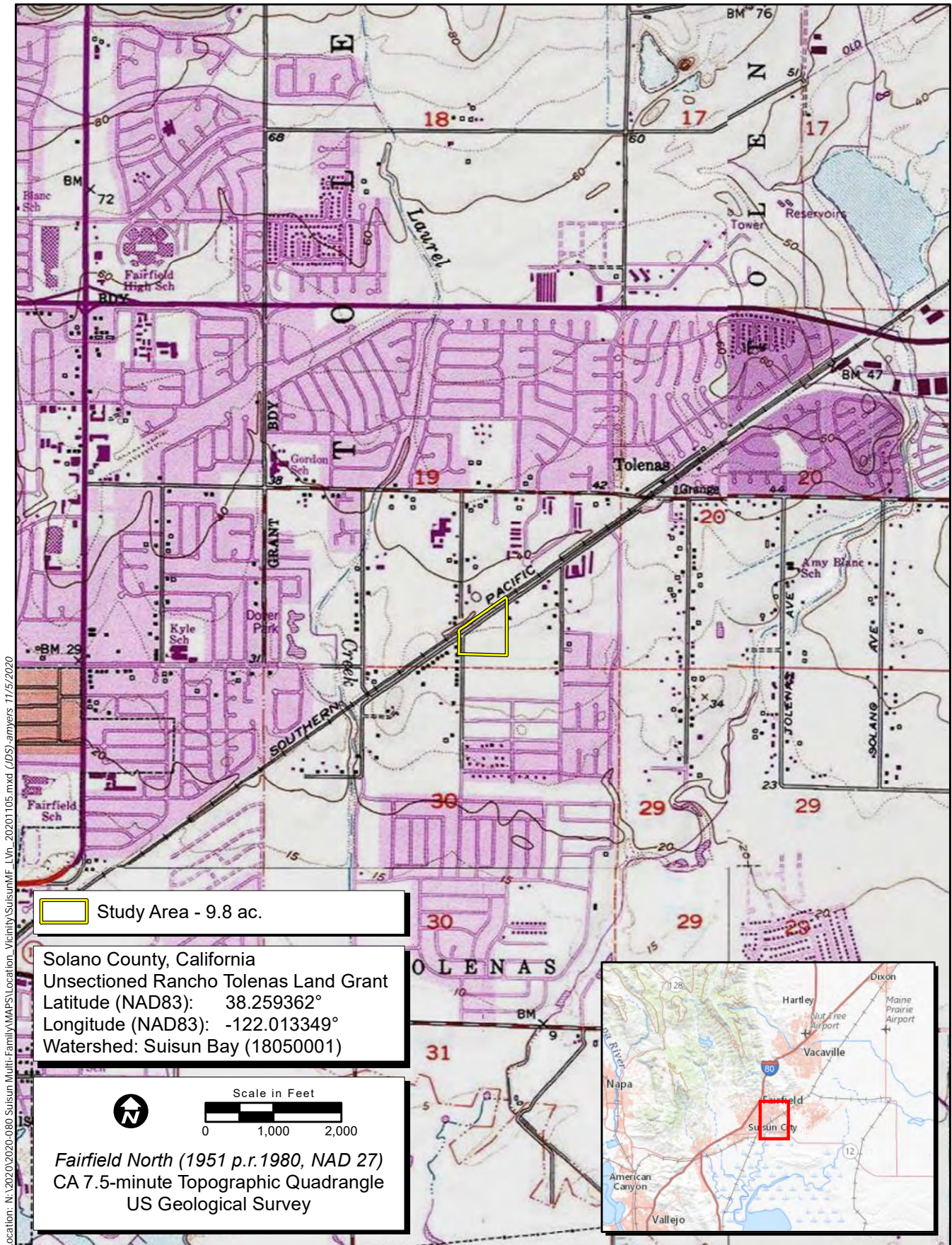



Figure 1. Project Location and Vicinity

Location: N:\2020\2020-080 Suisun Multi-Family\DWG\Soils\Soils\2020070.mxd (KIT)-armyers 11/5/2020




**Figure 2. Natural Resources
Conservation Service Soil Types**

Map Features

 Study Area - 9.8 ac.

Series Number - Series Name

 AsA - Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes

Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
Solano County, CA





Waters Label	Sum of Acres
SW-01	0.017
SW-02	0.122
SW-03	0.009
SW-04	0.069
SW-05	0.156
SW-06	0.008
Grand Total	0.380

Map Features

Study Area - 9.8 ac.

Reference Coordinate (NAD83)

Sample Points

Upland Point

Waters Point

Waters Type

Seasonal Wetland - 0.380 ac.

Photo Source: NAIP 2018
Boundary Source: Solano County Parcels
Delineator(s): Daniel Wong
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

¹ Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

LIST OF ATTACHMENTS

Attachment A – Results of Database Queries

- A1 - USFWS IPaC Resource List
- A2 - CDFW CNDDDB Database Query Result
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Attachment B – Technical Studies

- B1 – Preliminary Aquatic Resources and Special-Status Species Assessment
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ATTACHMENT A

Results of Database Queries

- A1 - USFWS IPaC Resource List
- A2 - CDFW CNDDDB Database Query Result
- A3 - CNPS Inventory Query Result

ATTACHMENT A

Results of Database Queries

- A1 - USFWS IPaC Resource List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Solano County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME

STATUS

California Clapper Rail *Rallus longirostris obsoletus* Endangered
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/4240>

Northern Spotted Owl *Strix occidentalis caurina* Threatened
 There is **final** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/1123>

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle <i>Elaphrus viridis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2319	Threatened

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7903	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7058	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6459	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A
BREEDING SEASON IS INDICATED
FOR A BIRD ON YOUR LIST, THE
BIRD MAY BREED IN YOUR
PROJECT AREA SOMETIME WITHIN
THE TIMEFRAME SPECIFIED,
WHICH IS A VERY LIBERAL
ESTIMATE OF THE DATES INSIDE
WHICH THE BIRD BREEDS
ACROSS ITS ENTIRE RANGE.
"BREEDS ELSEWHERE" INDICATES

THAT THE BIRD DOES NOT LIKELY
BREED IN YOUR PROJECT AREA.)

Allen's Hummingbird *Selasphorus sasin*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9637>

Breeds Feb 1 to Jul 15

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Jan 1 to Aug 31

Black Rail *Laterallus jamaicensis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/7717>

Breeds Mar 1 to Sep 15

Burrowing Owl *Athene cunicularia*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9737>

Breeds Mar 15 to Aug 31

Clark's Grebe *Aechmophorus clarkii*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds Jan 1 to Dec 31

Common Yellowthroat *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Lewis's Woodpecker *Melanerpes lewis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9408>

Breeds Apr 20 to Sep 30

Long-billed Curlew *Numenius americanus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/5511>

Nuttall's Woodpecker *Picoides nuttallii*

Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Oak Titmouse *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9656>

Rufous Hummingbird *Selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

Song Sparrow *Melospiza melodia*

Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee *Pipilo maculatus clementae*

Breeds Apr 15 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/4243>

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Willet *Tringa semipalmata*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit *Chamaea fasciata*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

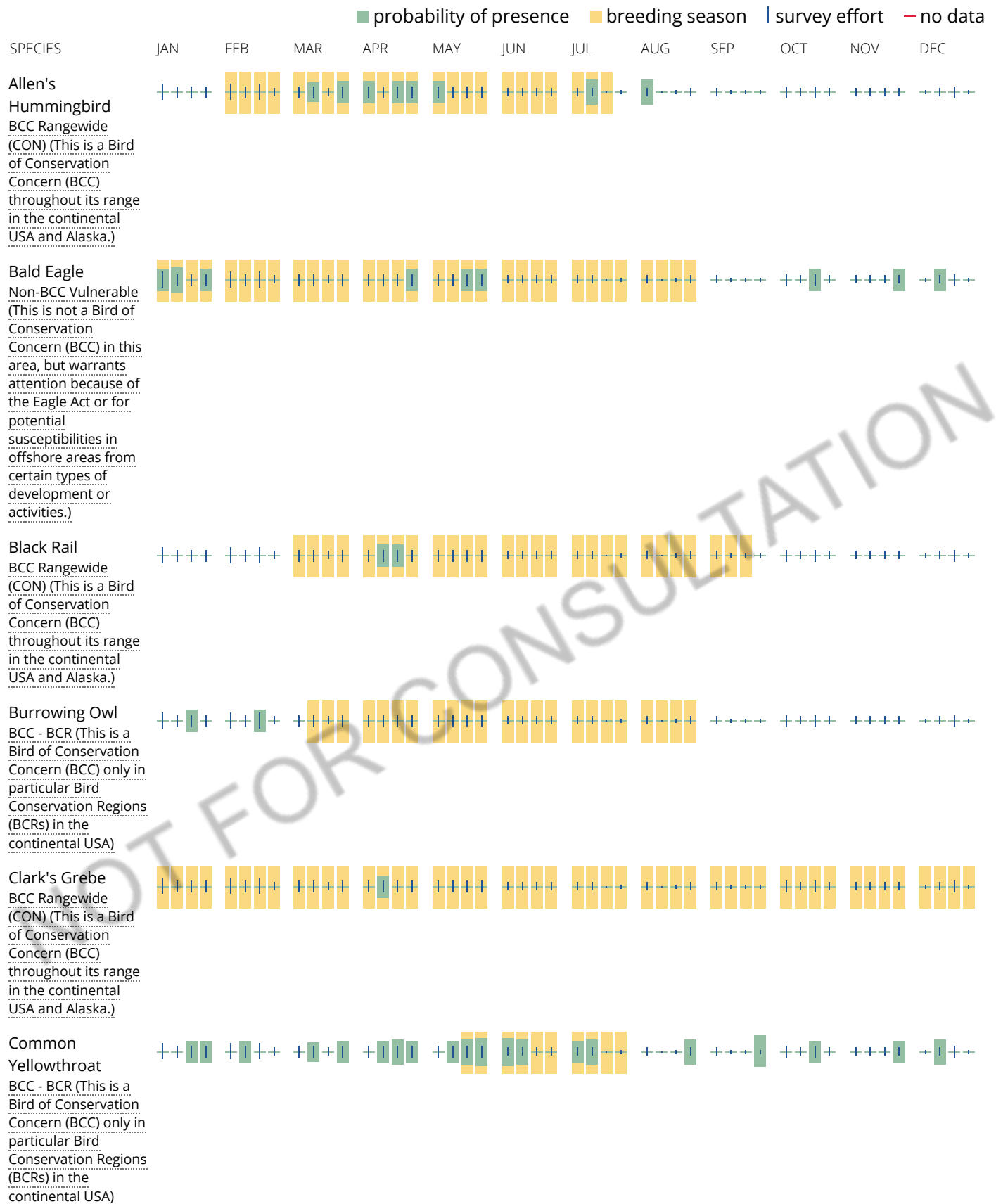
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

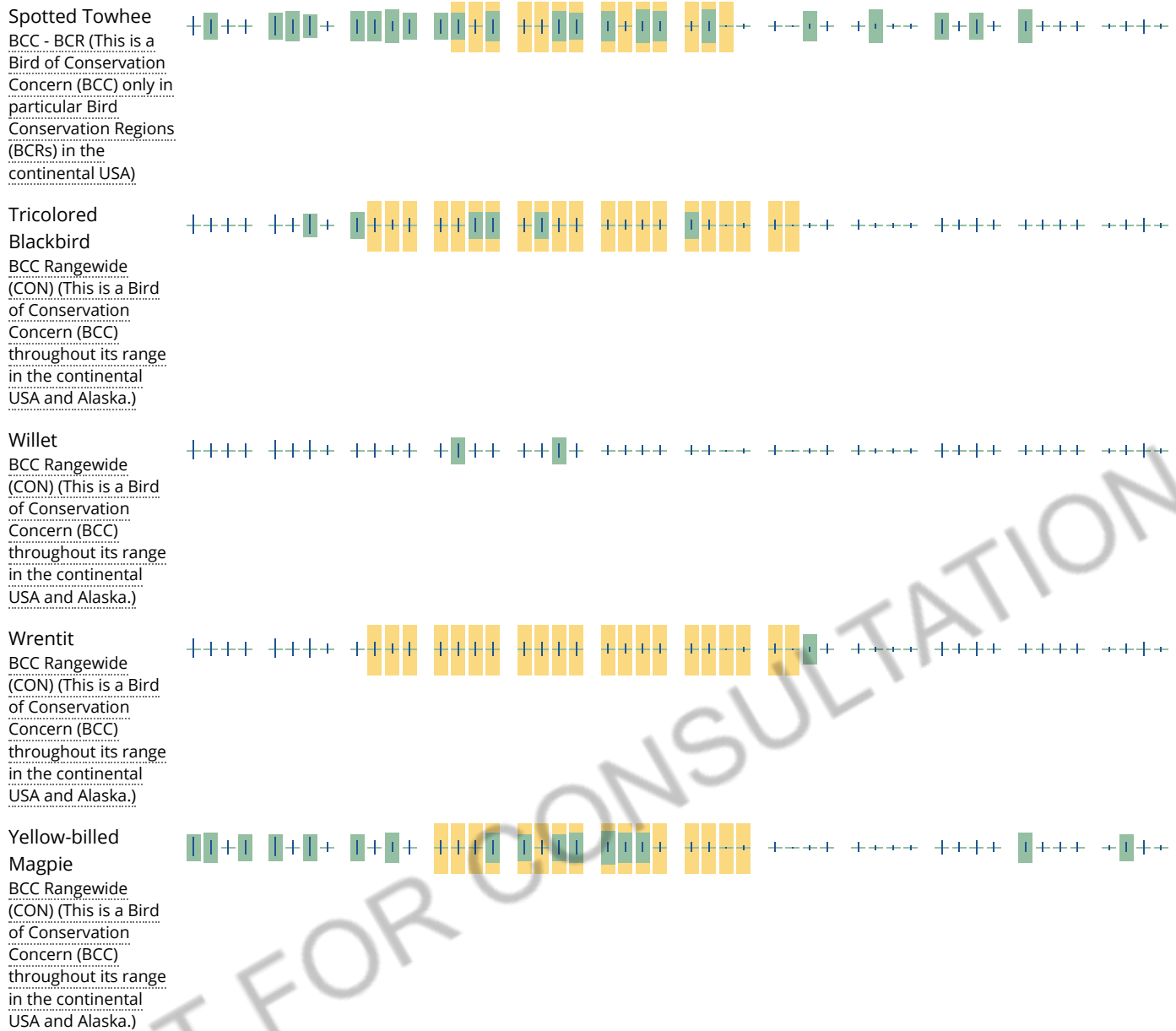
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project

intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT A

Results of Database Queries

- A2 - CDFW CNDDDB Database Query Result



Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Capell Valley (3812242) OR Mt. Vaca (3812241) OR Allendale (3812148) OR Mt. George (3812232) OR Fairfield North (3812231) OR Elmira (3812138) OR Cordelia (3812222) OR Fairfield South (3812221) OR Denverton (3812128))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAA01180	<i>Ambystoma californiense</i> California tiger salamander	Threatened	Threatened	G2G3	S2S3	WL
AAABH01022	<i>Rana draytonii</i> California red-legged frog	Threatened	None	G2G3	S2S3	SSC
AAABH01050	<i>Rana boylei</i> foothill yellow-legged frog	None	Endangered	G3	S3	SSC
ABNGA06030	<i>Egretta thula</i> snowy egret	None	None	G5	S4	
ABNGA11010	<i>Nycticorax nycticorax</i> black-crowned night heron	None	None	G5	S4	
ABNKC06010	<i>Elanus leucurus</i> white-tailed kite	None	None	G5	S3S4	FP
ABNKC11011	<i>Circus hudsonius</i> northern harrier	None	None	G5	S3	SSC
ABNKC19070	<i>Buteo swainsoni</i> Swainson's hawk	None	Threatened	G5	S3	
ABNKC19120	<i>Buteo regalis</i> ferruginous hawk	None	None	G4	S3S4	WL
ABNKC22010	<i>Aquila chrysaetos</i> golden eagle	None	None	G5	S3	FP
ABNKD06071	<i>Falco peregrinus anatum</i> American peregrine falcon	Delisted	Delisted	G4T4	S3S4	FP
ABNME01010	<i>Coturnicops noveboracensis</i> yellow rail	None	None	G4	S1S2	SSC
ABNME03041	<i>Laterallus jamaicensis coturniculus</i> California black rail	None	Threatened	G3G4T1	S1	FP
ABNME05011	<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	Endangered	Endangered	G5T1	S1	FP
ABNSB10010	<i>Athene cunicularia</i> burrowing owl	None	None	G4	S3	SSC
ABNSB13040	<i>Asio flammeus</i> short-eared owl	None	None	G5	S3	SSC
ABPBX1201A	<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	None	None	G5T3	S3	SSC
ABPBX24010	<i>Icteria virens</i> yellow-breasted chat	None	None	G5	S3	SSC
ABPBXA0020	<i>Ammodramus savannarum</i> grasshopper sparrow	None	None	G5	S3	SSC



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABPBXA301K	<i>Melospiza melodia maxillaris</i> Suisun song sparrow	None	None	G5T3	S3	SSC
ABPBXB0020	<i>Agelaius tricolor</i> tricolored blackbird	None	Threatened	G2G3	S1S2	SSC
AFCHB03010	<i>Spirinchus thaleichthys</i> longfin smelt	Candidate	Threatened	G5	S1	
AFCJB34020	<i>Pogonichthys macrolepidotus</i> Sacramento splittail	None	None	GNR	S3	SSC
AMABA01103	<i>Sorex ornatus sinuosus</i> Suisun shrew	None	None	G5T1T2Q	S1S2	SSC
AMACC05030	<i>Lasiurus cinereus</i> hoary bat	None	None	G5	S4	
AMACC05060	<i>Lasiurus blossevillei</i> western red bat	None	None	G5	S3	SSC
AMACC08010	<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None	None	G3G4	S2	SSC
AMACC10010	<i>Antrozous pallidus</i> pallid bat	None	None	G5	S3	SSC
AMAFF02040	<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	Endangered	Endangered	G1G2	S1S2	FP
AMAJF04010	<i>Taxidea taxus</i> American badger	None	None	G5	S3	SSC
ARAAD02030	<i>Emys marmorata</i> western pond turtle	None	None	G3G4	S3	SSC
CTT42110CA	<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	None	None	G3	S3.1	
CTT42130CA	<i>Serpentine Bunchgrass</i> Serpentine Bunchgrass	None	None	G2	S2.2	
CTT44100CA	<i>Northern Vernal Pool</i> Northern Vernal Pool	None	None	G2	S2.1	
CTT44120CA	<i>Northern Claypan Vernal Pool</i> Northern Claypan Vernal Pool	None	None	G1	S1.1	
CTT52200CA	<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	None	None	G2	S2.1	
ICBRA03010	<i>Branchinecta conservatio</i> Conservancy fairy shrimp	Endangered	None	G2	S2	
ICBRA03030	<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	<i>Branchinecta mesoallensis</i> midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	<i>Linderiella occidentalis</i> California linderiella	None	None	G2G3	S2S3	



Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA10010	<i>Lepidurus packardii</i> vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
ICBRA23010	<i>Dumontia oregonensis</i> hairy water flea	None	None	G1G3	S1	
IICOL36010	<i>Elaphrus viridis</i> Delta green ground beetle	Threatened	None	G1	S1	
IICOL48011	<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	Threatened	None	G3T2	S3	
IICOL5V010	<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	None	None	G2?	S2?	
IIHEM07010	<i>Saldula usingeri</i> Wilbur Springs shorebug	None	None	G1	S1	
IIHYM24250	<i>Bombus occidentalis</i> western bumble bee	None	Candidate Endangered	G2G3	S1	
IIHYM24480	<i>Bombus crotchii</i> Crotch bumble bee	None	Candidate Endangered	G3G4	S1S2	
IILEPJ6091	<i>Speyeria callippe callippe</i> callippe silverspot butterfly	Endangered	None	G5T1	S1	
IILEPP2012	<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	None	None	G4T2T3	S2S3	
PDAP10M051	<i>Cicuta maculata var. bolanderi</i> Bolander's water-hemlock	None	None	G5T4T5	S2?	2B.1
PDAP10Z130	<i>Eryngium jepsonii</i> Jepson's coyote-thistle	None	None	G2	S2	1B.2
PDAP119030	<i>Lilaeopsis masonii</i> Mason's lilaeopsis	None	Rare	G2	S2	1B.1
PDAST11061	<i>Balsamorhiza macrolepis</i> big-scale balsamroot	None	None	G2	S2	1B.2
PDAST2E1G1	<i>Cirsium hydrophilum var. hydrophilum</i> Suisun thistle	Endangered	None	G2T1	S1	1B.1
PDAST3M5G0	<i>Erigeron greenei</i> Greene's narrow-leaved daisy	None	None	G3	S3	1B.2
PDAST4R0P1	<i>Centromadia parryi ssp. congdonii</i> Congdon's tarplant	None	None	G3T1T2	S1S2	1B.1
PDAST4R0P2	<i>Centromadia parryi ssp. parryi</i> pappose tarplant	None	None	G3T2	S2	1B.2
PDAST57050	<i>Isocoma arguta</i> Carquinez goldenbush	None	None	G1	S1	1B.1
PDAST5L040	<i>Lasthenia conjugens</i> Contra Costa goldfields	Endangered	None	G1	S1	1B.1
PDAST5L0A1	<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	None	None	G4T2	S2	1B.1



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDAST6E0D0	<i>Microseris paludosa</i> marsh microseris	None	None	G2	S2	1B.2
PDASTE8470	<i>Symphyotrichum lentum</i> Suisun Marsh aster	None	None	G2	S2	1B.2
PDBOR0V0H0	<i>Plagiobothrys hystriculus</i> bearded popcornflower	None	None	G2	S2	1B.1
PDCAM060C0	<i>Downingia pusilla</i> dwarf downingia	None	None	GU	S2	2B.2
PDCAM0C010	<i>Legenere limosa</i> legenere	None	None	G2	S2	1B.1
PDCAR0W062	<i>Spergularia macrotheca</i> var. <i>longistyla</i> long-styled sand-spurrey	None	None	G5T2	S2	1B.2
PDCHE040B0	<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	None	None	G3T2	S2	1B.2
PDCHE041F3	<i>Extriplex joaquinana</i> San Joaquin spearscale	None	None	G2	S2	1B.2
PDCHE042L0	<i>Atriplex depressa</i> brittlescale	None	None	G2	S2	1B.2
PDCHE042P0	<i>Atriplex persistens</i> vernal pool smallscale	None	None	G2	S2	1B.2
PDCPR07080	<i>Viburnum ellipticum</i> oval-leaved viburnum	None	None	G4G5	S3?	2B.3
PDFAB0F8R1	<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	None	None	G2T1	S1	1B.2
PDFAB250D2	<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	None	None	G5T2	S2	1B.2
PDFAB40040	<i>Trifolium amoenum</i> two-fork clover	Endangered	None	G1	S1	1B.1
PDFAB400R5	<i>Trifolium hydrophilum</i> saline clover	None	None	G2	S2	1B.2
PDLAM220H0	<i>Trichostema ruygtii</i> Napa bluecurls	None	None	G1G2	S1S2	1B.2
PDLIN01030	<i>Hesperolinon breweri</i> Brewer's western flax	None	None	G2	S2	1B.2
PDLIN010E0	<i>Hesperolinon sharsmithiae</i> Sharsmith's western flax	None	None	G2Q	S2	1B.2
PDMAL110A6	<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	None	None	G3T1	S1	1B.1
PDMAL110D0	<i>Sidalcea keckii</i> Keck's checkerbloom	Endangered	None	G2	S2	1B.1
PDPGN085Z0	<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	None	None	G1	S1	1B.1



Selected Elements by Element Code
California Department of Fish and Wildlife
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPLM09140	<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	None	None	G2G3	S2S3	1B.2
PDPLM0C0E1	<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	None	None	G4T2	S2	1B.1
PDPLM0C0E4	<i>Navarretia leucocephala ssp. pauciflora</i> few-flowered navarretia	Endangered	Threatened	G4T1	S1	1B.1
PDRAN0B1J0	<i>Delphinium recurvatum</i> recurved larkspur	None	None	G2?	S2?	1B.2
PDRHA04160	<i>Ceanothus purpureus</i> holly-leaved ceanothus	None	None	G2	S2	1B.2
PDSCR0D013	<i>Castilleja affinis var. neglecta</i> Tiburon paintbrush	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
PDSCR0D404	<i>Castilleja ambigua var. meadii</i> Mead's owls-clover	None	None	G4T1	S1	1B.1
PDSCR0J0D1	<i>Chloropyron molle ssp. hispidum</i> hispid salty bird's-beak	None	None	G2T1	S1	1B.1
PDSCR0J0D2	<i>Chloropyron molle ssp. molle</i> soft salty bird's-beak	Endangered	Rare	G2T1	S1	1B.2
PMCYP0N060	<i>Rhynchospora californica</i> California beaked-rush	None	None	G1	S1	1B.1
PMLIL0C022	<i>Brodiaea leptandra</i> narrow-anthered brodiaea	None	None	G3?	S3?	1B.2
PMLIL0V0F0	<i>Fritillaria pluriflora</i> adobe-lily	None	None	G2G3	S2S3	1B.2
PMPOA040K0	<i>Agrostis hendersonii</i> Henderson's bent grass	None	None	G2Q	S2	3.2
PMPOA4G060	<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	Threatened	Endangered	G1	S1	1B.1
PMPOA53110	<i>Puccinellia simplex</i> California alkali grass	None	None	G3	S2	1B.2
PMPOT03091	<i>Stuckenia filiformis ssp. alpina</i> slender-leaved pondweed	None	None	G5T5	S2S3	2B.2

Record Count: 98

ATTACHMENT A

Results of Database Queries

- A3 - CNPS Inventory Query Result



*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

78 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 3812242, 3812241, 3812148, 3812232, 3812231, 3812138, 3812222 3812221 and 3812128;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Agrostis hendersonii	Henderson's bent grass	Poaceae	annual herb	Apr-Jun	3.2	S2	G2Q
Antirrhinum virga	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	4.3	S3?	G3?
Arabis modesta	modest rockcress	Brassicaceae	perennial herb	Mar-Jul	4.3	S3	G3
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun, Aug, Sep, Oct	1B.2	S2	G2
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Brodiaea leptandra	narrow-anthered brodiaea	Themidaceae	perennial bulbiferous herb	May-Jul	1B.2	S3?	G3?
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	4.2	S4	G4
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Castilleja affinis var. neglecta	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	1B.2	S1S2	G4G5T1T2
Castilleja ambigua var. ambigua	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	4.2	S3S4	G4T4
Castilleja ambigua var. meadii	Mead's owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-May	1B.1	S1	G4T1

<u>Ceanothus purpureus</u>	holly-leaved ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	1B.2	S2	G2
<u>Centromadia parryi ssp. congdonii</u>	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
<u>Centromadia parryi ssp. parryi</u>	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
<u>Centromadia parryi ssp. rudis</u>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
<u>Chloropyron molle ssp. hispidum</u>	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
<u>Chloropyron molle ssp. molle</u>	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
<u>Cicuta maculata var. bolanderi</u>	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
<u>Cirsium hydrophilum var. hydrophilum</u>	Suisun thistle	Asteraceae	perennial herb	Jun-Sep	1B.1	S1	G2T1
<u>Clarkia gracilis ssp. tracyi</u>	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	4.2	S3	G5T3
<u>Collomia diversifolia</u>	serpentine collomia	Polemoniaceae	annual herb	May-Jun	4.3	S4	G4
<u>Cryptantha dissita</u>	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	1B.2	S2	G2
<u>Delphinium recurvatum</u>	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
<u>Erigeron biolettii</u>	streamside daisy	Asteraceae	perennial herb	Jun-Oct	3	S3?	G3?
<u>Erigeron greenei</u>	Greene's narrow-leaved daisy	Asteraceae	perennial herb	May-Sep	1B.2	S3	G3
<u>Eriogonum luteolum var. caninum</u>	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	1B.2	S2	G5T2
<u>Eriogonum truncatum</u>	Mt. Diablo buckwheat	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	1B.1	S1	G1
<u>Eryngium jepsonii</u>	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
<u>Extriplex joaquinana</u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
<u>Fritillaria pluriflora</u>	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
<u>Gilia capitata ssp. tomentosa</u>	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	1B.1	S1	G5T1
<u>Harmonia nutans</u>	nodding harmonia	Asteraceae	annual herb	Mar-May	4.3	S3	G3
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
<u>Hesperolinon bicarpellatum</u>	two-carpellate western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
<u>Hesperolinon breweri</u>	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
<u>Hesperolinon sharsmithiae</u>	Sharsmith's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2Q
<u>Iris longipetala</u>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May	4.2	S3	G3
<u>Isocoma arguta</u>	Carquinez	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1

	goldenbush						
<u>Juglans hindsii</u>	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
<u>Lasthenia conjugens</u>	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Asteraceae	annual herb	Feb-May	4.2	S3	G3
<u>Lasthenia glabrata ssp. coulteri</u>	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2
<u>Lathyrus jepsonii var. jepsonii</u>	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
<u>Leptosiphon jepsonii</u>	Jepson's leptosiphon	Polemoniaceae	annual herb	Mar-May	1B.2	S2S3	G2G3
<u>Lessingia hololeuca</u>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	3	S2S3	G3?
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
<u>Lilium rubescens</u>	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	4.2	S3	G3
<u>Lomatium repostum</u>	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	4.3	S3	G3
<u>Micropus amphibolus</u>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	3.2	S3S4	G3G4
<u>Microseris paludosa</u>	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	1B.2	S2	G2
<u>Monardella viridis</u>	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	4.3	S3	G3
<u>Myosurus minimus ssp. apus</u>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
<u>Navarretia leucocephala ssp. pauciflora</u>	few-flowered navarretia	Polemoniaceae	annual herb	May-Jun	1B.1	S1	G4T1
<u>Orcuttia inaequalis</u>	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	1B.1	S1	G1
<u>Perideridia gairdneri ssp. gairdneri</u>	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	4.2	S3S4	G5T3T4
<u>Plagiobothrys hystriculus</u>	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
<u>Puccinellia simplex</u>	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
<u>Ranunculus lobbii</u>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	4.2	S3	G4
<u>Rhynchospora californica</u>	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
<u>Senecio clevelandii var. clevelandii</u>	Cleveland's ragwort	Asteraceae	perennial herb	Jun-Jul	4.3	S3	G4?T3Q
<u>Sidalcea hickmanii ssp. napensis</u>	Napa checkerbloom	Malvaceae	perennial herb	Apr-Jun	1B.1	S1	G3T1
<u>Sidalcea hickmanii ssp. viridis</u>	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	1B.1	SH	G3TH

<u>Sidalcea keckii</u>	Keck's checkerbloom	Malvaceae	annual herb	Apr-May(Jun)	1B.1	S2	G2
<u>Spergularia macrotheca var. longistyla</u>	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May(Jun)	1B.2	S2	G5T2
<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
<u>Symphotrichum lentum</u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
<u>Trichostema ruygtii</u>	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	1B.2	S1S2	G1G2
<u>Trifolium amoenum</u>	two-fork clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
<u>Triteleia lugens</u>	dark-mouthed triteleia	Themidaceae	perennial bulbiferous herb	Apr-Jun	4.3	S4?	G4?
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 20 October 2020].

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Questions and Comments

rareplants@cnps.org

Technical Studies

- B1 – Preliminary Aquatic Resources and Special-Status Species Assessment
- B2 – Aquatic Resources Delineation
- B3 – Burrowing Owl Nesting Season Survey
- B4 – California Tiger Salamander (CTS) Habitat Assessment
- B5 – Dry Season Survey for Federally Listed Branchiopods

- B1 – Preliminary Aquatic Resources and Special-Status Species Assessment

May 13, 2020

Russell Shaw
FPA Multi Family LLC
2082 Michelson Drive
Irvine, California 92612

RE: *Preliminary Aquatic Resources and Special-Status Species Assessment – Blossom Road and Railroad Avenue Property, Suisun City, Solano County, California*

Dear Mr. Shaw:

At the request of FPA Multi Family LLC, ECORP has conducted a preliminary aquatic resources and special-status species assessment for the Blossom Road and Railroad Avenue Property (Property) located in Suisun City, Solano County, California. The ±9.6-acre Property is located at the intersection of Blossom Road and Railroad Avenue (Figure 1. *Property Location and Vicinity*). The Property corresponds to a portion of the unsectioned Rancho Tolenas Land Grant of the “Fairfield North, California” 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1951, photo revised 1980). The approximate center of the Property corresponds to 38.259362° and -122.013349° within the Suisun Bay Watershed (Hydrologic Unit Code [HUC] 18050001) (Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). The Property corresponds to Assessor Parcel Number 0037-130-010.

The purpose of this assessment was to identify potential biological resources constraints (e.g., aquatic resources, special-status species) onsite, identify regulatory requirements for development of the site, and assess potential mitigation needs.

ECORP conducted a literature review, including previous biological resources documentation prepared for the Property, as well as querying the California Native Plant Society (CNPS) Rare Plant Inventory (CNPS 2020), California Department of Fish and Wildlife’s (CDFW) California Natural Diversity Database (CDFW 2020), and U.S. Fish and Wildlife Service (USFWS) IPac resource list (USFWS 2020). ECORP biologist Emily Mecke also conducted a brief reconnaissance site visit on April 29, 2020 to evaluate existing conditions and boundaries of aquatic resources onsite.

EXISTING CONDITIONS

The Property consists primarily of annual grassland dominated by non-native annual grasses, including wild oak (*Avena* sp.), Italian ryegrass (*Festuca perennis*), and red brome (*Bromus madritensis* ssp. *rubens*). Other species observed within the grassland include wild radish (*Raphanus sativus*), winter vetch (*Vicia vilosa*), and morning glory (*Convolvulus arvensis*). One horticultural tree is present in the northeast corner of the site and a few coyote bush (*Baccharis pilularis*) are scattered along the southern boundary. A small gravel patch is present in the northwest corner and tire tracks were observed within the grassland adjacent to this area.

PRELIMINARY AQUATIC RESOURCES ASSESSMENT

A wetland delineation was previously conducted for the Property in 2005 by Moore Biological Consultants, and a total of 0.55 acre of seasonal wetlands were delineated and mapped within the Property (Attachment A; Moore Biological Consultants 2005).

During the 2020 site visit conducted by ECORP, potential aquatic resources were delineated based on current site conditions. A total of approximately 0.447 acre of potential aquatic resources consisting of seasonal wetlands were mapped within the Property (Figure 2. *Preliminary Aquatic Resources Assessment*). Some of the seasonal wetlands mapped generally correspond to the features from the 2005 delineation and some additional features were also mapped. Please note, this is only a preliminary aquatic resources assessment and an aquatic resource delineation in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers [USACE] 2008), and the USACE Sacramento District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016) will be required to determine official boundaries/acreage of aquatic resources and gather concurrence from the USACE.

The seasonal wetlands were primarily dominated by Italian ryegrass and Mediterranean barley (*Horedum marimum*). SW-02 was also dominated by creeping spikerush (*Eleocharis macrostachya*) and SW-03 also contained patches of prostrate knotweed (*Polygonum aviculare*) and hyssop loosestrife (*Lythrum hyssopifolium*).

SPECIAL-STATUS SPECIES

No special-status species were observed onsite during the site visit; however, the literature review did identify the potential for special-status species to occur onsite.

Several special-status plant species have potential to occur within the annual grassland and seasonal wetlands onsite. Special-status plant surveys during the appropriate bloom periods for the plant species will likely be required to determine presence or absence of special-status plants.

The seasonal wetlands onsite may provide marginal habitat for the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*). The Property may also provide marginal habitat for federally and State threatened California tiger salamander (*Ambystoma californiense*) as there are occurrences within the vicinity of the Property (CDFW 2020). While the seasonal wetlands likely do not pond long enough to provide suitable breeding habitat, the annual grassland may provide marginal upland/dispersal habitat.

The annual grassland and trees within the vicinity of the Property provide suitable nesting habitat for nesting birds, including raptors protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. Additionally, ground squirrel burrows were observed throughout the site, which may provide suitable habitat for burrowing owl (*Athene cunicularia*), but no burrowing owls were observed onsite. Preconstruction nesting surveys will be required if construction begins during the nesting season, generally February through August.

REGULATORY REQUIREMENTS

Waters of the U.S./Clean Water Act Section 404

Moore Biological Consultants submitted the wetland delineation to the USACE in May 2005 to request concurrence that the seasonal wetlands were isolated and considered non-USACE jurisdictional. ECORP does not have documentation that the USACE concurred with this request.

Under the recently adopted *Navigable Waters Protection Rule: Definition of "Waters of the United States"* (2020 Navigable Waters Protection Rule) that goes into effect on June 22, 2020, the seasonal wetlands onsite would likely not be Waters of the U.S. and thus non-USACE jurisdictional. The 2020 Navigable Waters Protection Rule restricts Waters of the U.S. to the territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters. The seasonal wetlands onsite do not meet the definition of adjacent wetlands. A formal aquatic resources delineation per the USACE standards (referenced above) and request for approved jurisdictional determination will likely be required to be submitted to the USACE to verify the features are non-USACE jurisdictional.

If the seasonal wetlands are determined to be non-USACE jurisdictional, filling of the features would not require a permit under Section 404 of the Clean Water Act (CWA).

Waters of the State/Porter-Cologne Water Quality Control Act

While the seasonal wetlands onsite are likely not Waters of the U.S. and would not require a CWA Section 401 Water Quality Certification, these features will still be considered Waters of the State and subject to regulation under the California Porter-Cologne Water Quality Control Act. Filling of the seasonal wetlands onsite will require a Waste Discharge Requirement (WDR) from the San Francisco Bay Regional Water Quality Control Board (RWQCB). In April 2019, the State Water Resources Control Board adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Procedures), which goes into effect on May 28, 2020. Under the State Procedures, filling of the seasonal wetlands will require preparation of a Tier 3 alternatives analysis, which requires the applicant to evaluate potential onsite and offsite alternatives.

An alternatives analysis was previously prepared and submitted to the RWQCB in 2006. However, this alternatives analysis only assessed onsite alternatives and was prepared prior to the adoption of the State Procedures. A supplemental alternatives analysis will likely be required that includes an assessment of offsite alternatives and updates the onsite alternatives with the current development plan for the site.

Federal Endangered Species Act/Solano Multi-Species Habitat Conservation Plan

There are species listed under the federal Endangered Species Act (ESA) that would require an incidental take authorization from the USFWS. These include vernal pool fairy shrimp and potentially California tiger salamander. Typically, when filling of aquatic resources is involved, incidental take authorization is received through Section 7 consultation between the USACE and USFWS during the CWA Section 404

process. Because a CWA Section 404 permit is likely not required and there is no other federal nexus, Section 7 consultation is not an option for this Property. Instead, development of the site will require obtaining an incidental take authorization under Section 10 of the federal ESA, which requires development of a Habitat Conservation Plan (HCP).

USFWS is currently working to develop an HCP for Solano County with the Solano County Water Agency (SCWA) and other local jurisdictions, including Suisun City. An Administrative Draft of the Solano Multispecies HCP (SMHCP) was released in 2012 (SCWA 2012). The Property falls within the urban development boundaries of the SMHCP. Vernal pool fairy shrimp, California tiger salamander, and several other species that have potential to occur onsite, such as burrowing owl, are listed as covered species in the SMHCP. Once adopted, the SMHCP can provide mitigation and incidental take coverage for the covered species. This will include preparation of an HCP application, compliance with avoidance and minimization measures, and completion of compensatory mitigation for species habitat. Please note, the Property will not be able to use the SMHCP until it is final and adopted by all parties involved.

California Environmental Quality Act

California Environmental Quality Act (CEQA) documentation will be required for the development of the site. The City of Suisun will likely be the lead agency and will prepare the necessary documentation. The CEQA document will likely identify mitigation measures to avoid and/or minimize impacts to biological resources. These mitigation measures will likely include requirements for surveys as mentioned in the special-status species section, as well as obtaining necessary regulatory permits previously mentioned and/or purchasing mitigation credits.

MITIGATION ASSESSMENT

Mitigation for the seasonal wetlands onsite will be required by the RWQCB and potentially the CEQA process. The 2006 alternatives analysis document identified purchasing mitigation credits at a 2:1 ratio to mitigate for impacts to the 0.55 acre of previously mapped seasonal wetlands. Documentation for the Property provided to ECORP included a Bill of Sale for purchase of 1.1 seasonal wetland credits from the Elsie Gridley Mitigation Bank. ECORP has verified with the bank that the credit purchase was executed.

The RWQCB will need to approve the previously purchased credits as mitigation for filling of the seasonal wetlands as part of the WDR application process. While the Property is located within the service area delineated for the Elsie Gridley Mitigation Bank, the Property is in a different HUC 8 watershed from the bank. Thus, the RWQCB will likely require mitigation at a ratio greater than 1:1. The credits purchased will likely be sufficient as the credits were purchased at a 2:1 ratio with the previously mapped acreage of 0.55. However, ECORP cannot guarantee that the RWQCB will accept the past mitigation credit purchase as there is no documentation that the RWQCB previously approved the mitigation purchase.

Compensatory mitigation will also be required to participate in the SMHCP. Mitigation requirements may include preservation of offsite species habitat, restoration of offsite species habitat, and/or payment of fees to the SMHCP. Until the SMHCP is officially adopted, ECORP cannot accurately predict the mitigation requirements; however, it is likely that additional mitigation beyond the 1.1 seasonal wetland credits purchased will be required.

CONCLUSION

Aquatic resources onsite are considered Waters of the State and will require a WDR permit from the RWQCB. The 1.1 seasonal wetland credits purchased from the Elsie Gridley Mitigation Bank will likely satisfy mitigation requirements for impacts to Waters of the State but is subject to approval by the RWQCB. Additionally, development of the site will also require take coverage for federally listed species (fairy shrimp, California tiger salamander), which may be able to be covered by the SMHCP, once adopted. Compensatory mitigation will also be required to participate in the SMHCP, and it is likely that additional mitigation beyond the 1.1 seasonal wetland credits purchased will be required. Lastly, species surveys such as special-status plant surveys and preconstruction nesting bird surveys, including burrowing owls, will likely be required by the SMHCP and the document prepared for CEQA.

If you have any questions, please contact me at (916) 782-9100 or lgperalta@ecorpconsulting.com.

Sincerely,



Lourdes Peralta-Gonzalez
Senior Biologist/Project Manager
ECORP Consulting, Inc.

REFERENCES

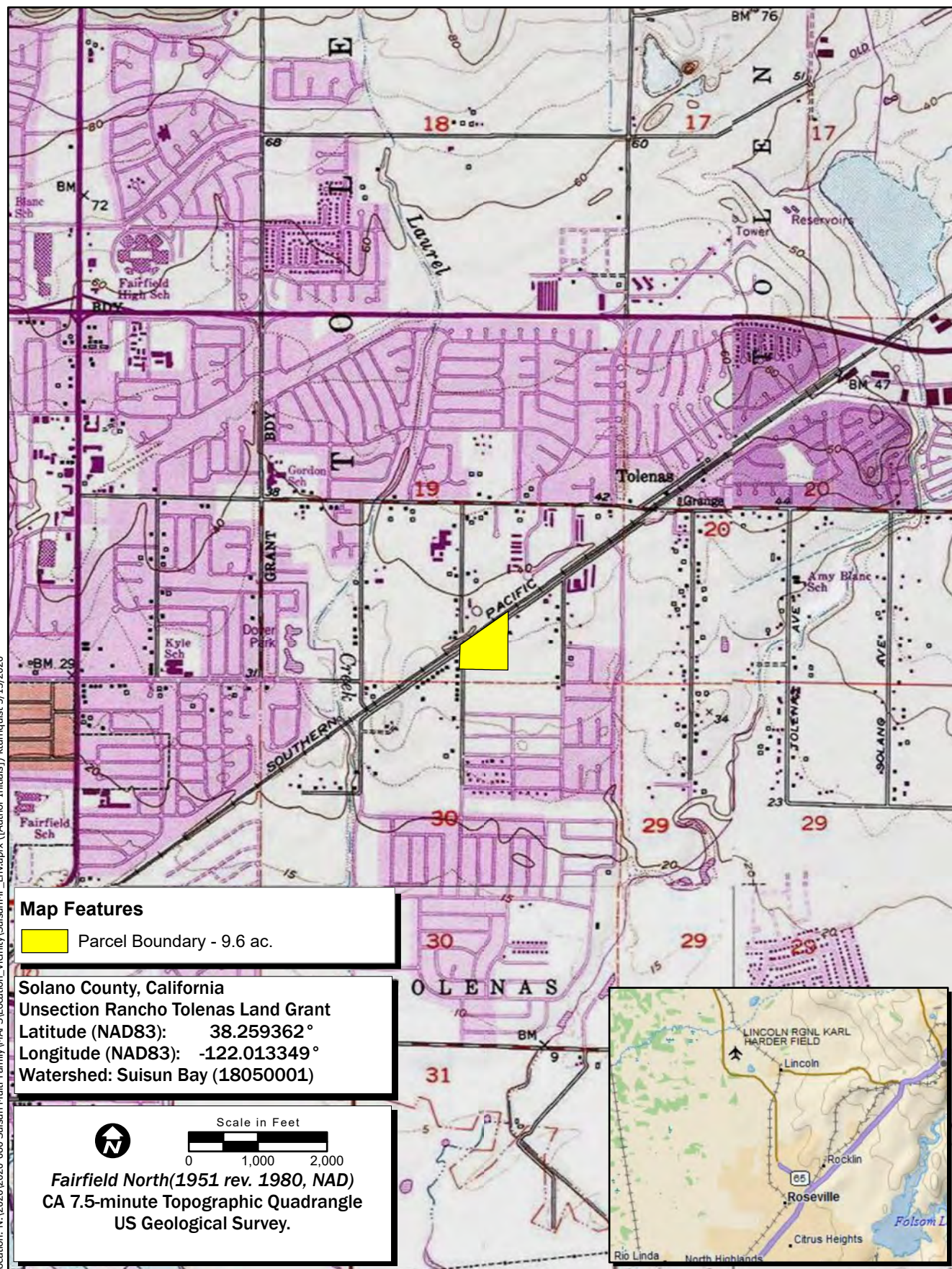
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LIST OF FIGURES

Figure 1. Property Location and Vicinity

Figure 2. Preliminary Aquatic Resources Assessment

Location: N:\2020\2020-080 Suisun Multi-Family\MAPS\Location_Vicinity\SuisunME_LnVaprx (Author: Initials)-kurnquist-5/13/2020



Map Date: 5/13/2020


Service Layer Credits: USA_Topo_Maps: Copyright© 2013 National Geographic Society, i-cubed
 DeLorme World Basemap: Copyright(c) 2018 Garmin

Figure 1. Property Location and Vicinity



Waters Label	Sum of Acres
SW-01	0.006
SW-02	0.036
SW-03	0.163
SW-04	0.009
SW-05	0.069
SW-06	0.156
SW-07	0.009
Grand Total	0.447

Map Features

 Parcel Boundary - 9.6 ac.

Waters Type

 Seasonal Wetland - 0.447 ac.

¹ The information depicted on this graphic represents a preliminary aquatic resources assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, aquatic resources boundaries, and acreage values are approximate.
² The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential aquatic resources acreage reported.

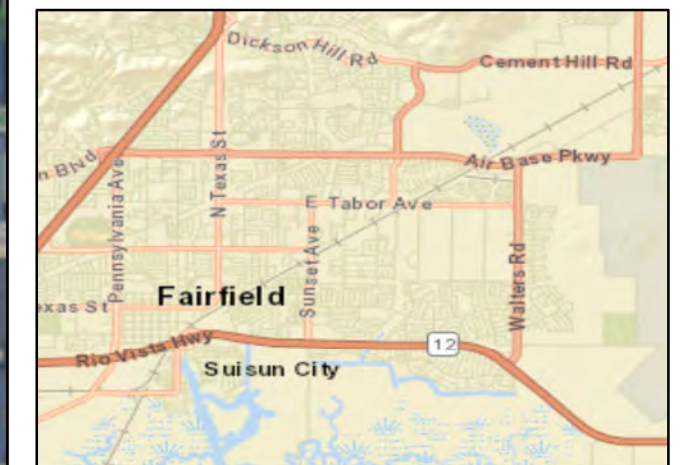


Figure 2. Preliminary Aquatic Resources Assessment

ATTACHMENT A

2005 Wetland Delineation Map

BLOSSOM AVENUE PROJECT SITE

SECTION 19. T5N, R1W, MDBM
(USGS FAIRFIELD NORTH TOPOGRAPHIC QUADRANGLE)

DELINEATED WETLANDS

SEASONAL WETLAND 1 = SEASONAL WETLANDS (0.55 ACRE TOTAL)
1 (UP) = 3-PARAMETER DATA POINT

DELINEATOR: JAMES HENKE

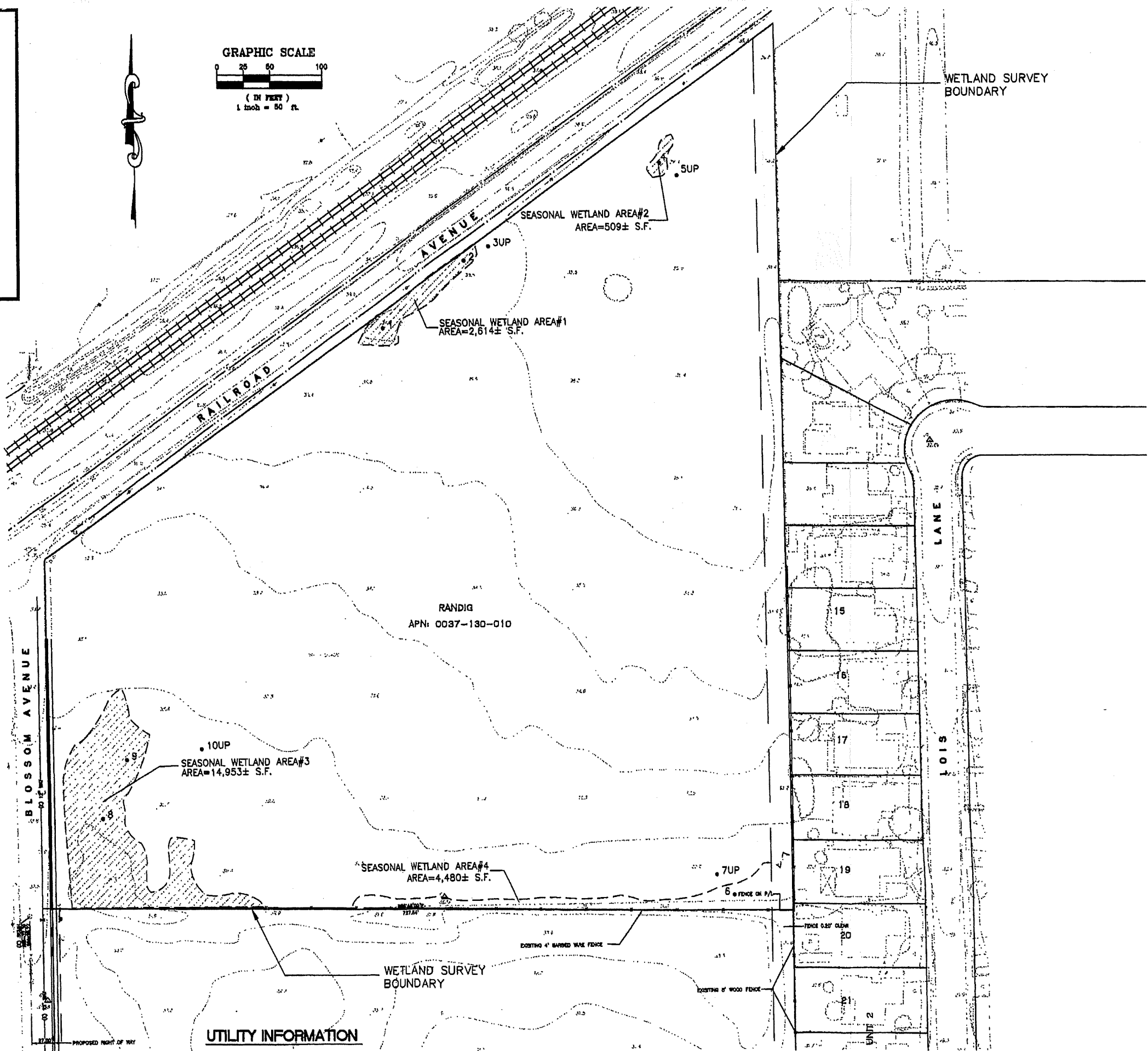
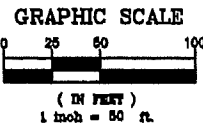
MOORE BIOLOGICAL CONSULTANTS
1300 W. LODI AVENUE, SUITE A
LODI, CA 95242
(209) 365-6828

BASIS OF BEARINGS

BEING THE MONUMENT LINE ON SARAH WAY TAKEN
AS SOUTH 88°48'00" EAST BETWEEN EXISTING MONUMENTS SHOWN
ON SUBDIVISION BLOSSOM ESTATES (35 M. 8).

BENCHMARK

ELEVATION 40.473, CITY OF FAIRFIELD NO. 17 NORTH SIDE OF EAST
OF TABOR STREET, 250 FEET EAST OF SUNSET AVENUE; BRASS DISK
(STAMPED BM 17) LOCATED ON TOP OF WEST END OF CONCRETE BOX
CULVERT NEXT TO PIPE RAILING.



UTILITY INFORMATION

THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVE GROUND
STRUCTURES AND RECORD INFORMATION. LOCATIONS OF UNDERGROUND UTILITIES MAY VARY FROM
LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY EXIST. NO EXCAVATIONS
WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES.
PRIOR TO ANY EXCAVATIONS, UTILITY COMPANIES AND THE CITY ENGINEER'S OFFICES SHOULD BE
CONTACTED AND NOTIFIED.

DESIGNED BY: V.H.C.			
DRAWN BY: R.C.E.			
CHECKED BY: V.H.C.			
SCALE:			
APPROVED BY:			
CUNHA ENGINEERING INC. 701 BELMONT WAY, STE. A PINOLE, CALIFORNIA 94564 (510) 741-8290			
BIOLOGICAL STUDY SEASONAL WETLAND LOCATIONS BLOSSOM AVENUE			
SHEET NUMBER 1 OF 1 SHEET DRAWING NO. 204071			

- B2 – Aquatic Resources Delineation

Aquatic Resources Delineation

Suisun Multi-Family Project

Solano County, California

Prepared for:

FPA Multifamily, LLC

July 13, 2020



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LIST OF ACRONYMS AND ABBREVIATIONS

CARI	California Aquatic Resource Inventory
CFR	Code of Federal Register
CWA	Clean Water Act
FR	Federal Register
NRCS	Natural Resources Conservation Service
OHWM	Ordinary high water mark
PJD	Preliminary Jurisdictional Determination
TNW	Traditional Navigable Waters
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

1.0 INTRODUCTION

On behalf of FPA Multifamily, LLC, ECorp Consulting, Inc. conducted an aquatic resources delineation for the ±9.6-acre Suisun Multi-Family Project (Study Area) located in Solano County, California. The Study Area is located south of Railroad Avenue and east of Blossom Road (Figure 1. *Property Location and Vicinity*). The Study Area corresponds to a portion of the Rancho Tolenas Land Grant of the "Fairfield North, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1980). The approximate center of the Study Area is located at NAD83 coordinates 38.259362° latitude and -122.013349° longitude within the Suisun Bay Watershed (Hydrologic Unit Code #18050001, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). Driving directions to the Study Area are included as Attachment A.

This report describes aquatic resources identified within the Study Area that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA). The information presented in this report provides data required by the USACE San Francisco District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2016a). The aquatic resource boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the Study Area and are subject to modification following the USACE verification process.

The purpose of this report is to provide adequate information to USACE for the issuance of a Preliminary Jurisdictional Determination (PJD).

2.0 REGULATORY SETTING

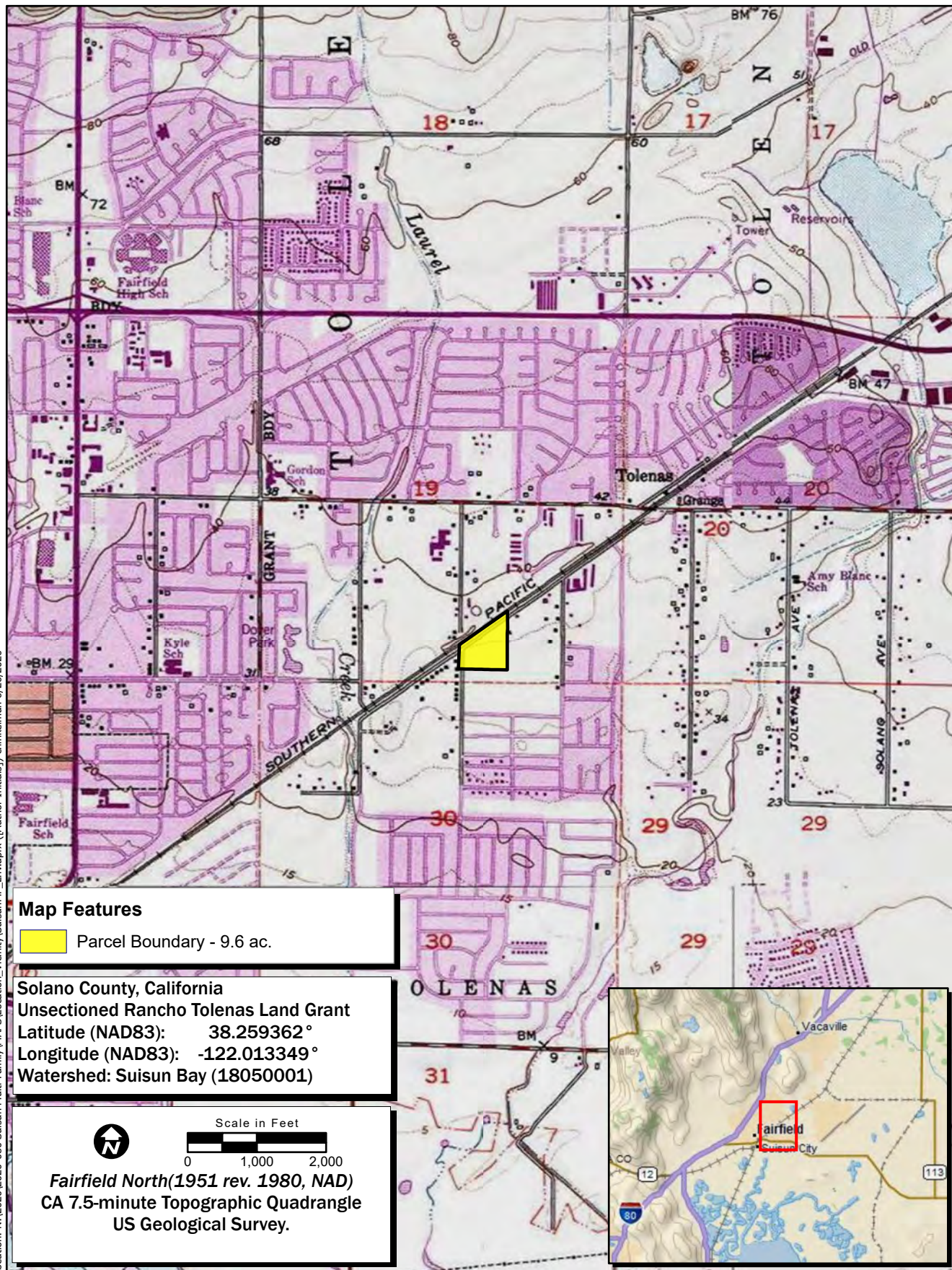
2.1 Waters of the United States

This report describes aquatic resources, including wetlands that may be regulated by USACE under Section 404 of the federal CWA. The following sections define these regulations.

2.1.1 **Wetlands**

Wetlands are "*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*" [51 Federal Register (FR) 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993]. Wetlands can be perennial or intermittent.

Location: N:\2020\2020-080 Suisun Multi-Family\MAPS\Location_Vicinity\SuisunME LnVaprx (Author: Initials)-chinkelman 6/26/2020



Map Date: 6/26/2020

Service Layer Credits: USA_Topo_Maps: Copyright© 2013 National Geographic Society, i-cubed
 DeLorme World Basemap: Copyright(c) 2018 Garmin

Figure 1. Property Location and Vicinity

2.1.2 Other Waters

Other waters are nontidal, perennial, and intermittent watercourses and tributaries to such watercourses [51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, August 25, 1993]. The limit of USACE jurisdiction for nontidal watercourses (without adjacent wetlands) is defined in 33 Code of Federal Register (CFR) 328.4(c)(1) as the "ordinary high water mark" (OHWM). The OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

2.2 Clean Water Act

The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. "Discharges of fill material" is defined as the addition of fill material into Waters of the U.S., including, but not limited to the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 U.S. Code 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to wetlands, over 0.5 acre of impact, may require an individual permit. Projects that only minimally affect wetlands, less than 0.5 acre of impact, may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

2.3 Jurisdictional Assessment

On April 21, 2020, the U.S. Environmental Protection Agency and the Department of the Army published the Navigable Waters Protection Rule to define "Waters of the United States" in the Federal Register. The agencies are streamlining the definition so that it includes four categories of jurisdictional waters, provides clear exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that have never been defined before. The Navigable Waters Protection Rule regulates traditional navigable waters and the core tributary systems that provide perennial or intermittent flow into them.

The four categories of federally regulated waters are:

- The territorial seas and traditional navigable waters,

- Perennial and intermittent tributaries to those waters,
- Certain lakes, ponds, and impoundments, and
- Wetlands adjacent to jurisdictional waters.

The final rule also details 12 categories of exclusions, features that are not “waters of the United States,” such as features that only contain water in direct response to rainfall (e.g., ephemeral features); groundwater; many ditches; prior converted cropland; and waste treatment systems.

The final rule clarifies key elements related to the scope of federal Clean Water Act jurisdiction, including:

- Providing clarity and consistency by removing the proposed separate categories for jurisdictional ditches and impoundments.
- Refining the proposed definition of “typical year,” which provides important regional and temporal flexibility and ensures jurisdiction is being accurately determined in times that are not too wet and not too dry.
- Defining “adjacent wetlands” as wetlands that are meaningfully connected to other jurisdictional waters, for example, by directly abutting or having regular surface water communication with jurisdictional waters.

The Navigable Waters Protection Rule is the second step in a two-step process to review and revise the definition of “waters of the United States” consistent with the February 2017 Presidential Executive Order entitled [“Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ‘Waters of the United States.’”](#) This final rule became effective on June 22, 2020 and has replaced the [Step One Rule](#) published in October, 2019.

3.0 METHODS

This aquatic resources delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (USACE 2008). The boundaries of aquatic resources were delineated through standard field methods (e.g., paired sample set analyses). Field data were recorded on Wetland Determination Data Forms - Arid West Region (Attachment B). *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (NRCS 2020a) were used to aid in identifying hydric soils in the field. The Jepson Manual, 2nd Edition (Baldwin et al. 2012) was used for plant nomenclature and identification.

A preliminary field assessment was conducted on April 29, 2020 by ECORP biologist Emily Mecke to evaluate existing conditions and boundaries of potential aquatic resources within the Study Area. The subsequent protocol-level delineation survey, including sampling points, was conducted on June 11, 2020 by ECORP biologist Daniel Wong. The biologists walked the entire ±9.6-acre Study Area to determine the location and extent of aquatic resources within the Study Area during the surveys. Paired locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported an aquatic

resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. Additional non-paired locations were sampled to document marginal areas that were determined not to be aquatic resources because they lacked hydrophytic vegetation, hydric soils, and/or wetland hydrology. Aquatic resources within the Study Area were recorded in the field using a post-processing capable global positioning system unit with sub-meter accuracy (Trimble GeoXT).

3.1 Routine Determinations for Wetlands

To be determined a wetland, the following three criteria must be met:

- A majority of dominant vegetation species are wetland-associated species;
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

3.1.1 Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "*a prevalence of vegetation typically adapted for life in saturated soil conditions.*" Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each sampling point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (USACE 1992, USACE 2008).

Dominant plant species observed at each sampling point were then classified according to their indicator status (probability of occurrence in wetlands, Table 1), *North American Digital Flora: National Wetland Plant List* (Lichvar et al. 2016). If the majority (more than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), the site was considered to be dominated by hydrophytic vegetation.

Table 1. Classification of Wetland-Associated Plant Species ¹		
Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	Almost always occur in wetlands
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands
Upland	UPL	Almost never occur in wetlands
Plants That Are Not Listed (assumed upland species)	N/L	Does not occur in wetlands in any region.

¹Source: Lichvar et al. 2016

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was re-evaluated using the Prevalence Index. The Prevalence Index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the Prevalence Index, the presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

3.1.2 Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

At each sampling point, a soil pit was excavated to the depth needed to document an indicator to confirm the absence of indicators, or until refusal at each sampling point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Munsell Color 2009). Hydric soils are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. These processes and the features in the soil that develop can be identified by looking at the color and texture of the soils.

3.1.3 Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to: visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine

environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard.

4.0 RESULTS

4.1 Existing Site Conditions

The Study Area is located within relatively flat terrain situated at an elevational range of approximately 36 feet above mean sea level in the Sacramento Valley Subregion of the Great Central Valley floristic region of California (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Study Area is 48.4°F and the average summer high temperature is 72.4°F. Average annual precipitation is approximately 24.81 inches, which falls as rain (National Oceanic and Atmospheric Administration 2020).

The Study Area is an empty, vegetated lot between commercial and residential zones. The northwest corner of the property was used as a temporary fruit stand and parking lot. The Southern Pacific Railroad train tracks lie north of the Study Area and across Railroad Avenue.

The Study Area is composed of annual grassland, a vegetation community dominated primarily by a mix of nonnative annual grasses and forbs such as Italian ryegrass (*Festuca perennis*), medusahead grass (*Elymus caput-medusae*), and wild oats (*Avena fatua*).

This aquatic resources delineation was conducted in the spring and summer, during the blooming season for many plant species. The boundaries of potential aquatic resources were collected in April when potential hydrology and peak vegetation could be observed. The protocol sampling survey was conducted in June, which is not an optimal time of the year to observe wetland hydrology, but hydric soil indicators were still observable. Although many plant species had senesced at the time of the June survey, most plants were identifiable to species based upon vegetative or fruit morphology. During the 2019-2020 rainy season prior to the protocol survey date (1 October 2019 to 11 June 2020), 11.86 inches of precipitation were recorded at the FAIRFIELD 5.9 WSW, CA US reporting station (NOAA 2020b), located approximately seven miles west from the Study Area.

4.1.1 California Aquatic Resource Inventory

The California Aquatic Resource Inventory (CARI, San Francisco Estuary Institute [SFEI] 2017) is a statewide map of surface waters and related habitats combining multiple national and regional datasets, including the National Wetlands Inventory, and the National Hydrography Dataset. CARI includes aquatic resource features mapped using a variety of remote sensing and modeling techniques. As such, these aquatic features may or may not exist as represented. In addition, CARI data varies in detail, accuracy, and age, and is meant to be used as a tool to assist with an aquatic resource delineation but not as the only source of information (SFEI 2017).

According to the California Aquatic Resources Inventory (CARI, San Francisco Estuary Institute 2017), there are no aquatic features mapped within the Study Area.

4.1.2 Soils

According to the Web Soil Survey (NRCS 2020a), One soil unit, or type, has been mapped within the Study Area (Figure 2. *Natural Resources Conservation Service Soil Types*):

- AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes

This soil unit does not contain any listed hydric components (NRCS 2020b).

4.2 Aquatic Resources

A total of 0.380 acre of aquatic resources have been mapped within the Study Area (Table 2). The wetland determination data forms are included in Attachment B, and a list of plant species observed within the Study Area is included as Attachment C. A discussion of the aquatic resources is presented below, and the aquatic resources delineation map is presented in Figure 3. *Aquatic Resources Delineation*.

Representative site photographs are included as Attachment D. The USACE Operations and Maintenance Business Information Link Regulatory Module (ORM) aquatic resources table of potential Waters of the U.S. is included in Attachment E.

Table 2. Aquatic Resources	
Type	Acreage ¹
Wetlands	
Seasonal Wetland	0.380
Total	0.380

¹Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

4.2.1 Wetlands

4.2.1.1 Seasonal Wetland

Seasonal wetlands are ephemeral wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by nonnative annual and sometimes perennial hydrophytic species. Six seasonal wetlands were mapped within the Study Area. Sampling point 2, 4, and 6 were collected within these seasonal wetlands. With the exception of features SW-01 and SW-02, these features were mostly dominated by Italian ryegrass (*Festuca perennis*) and Mediterranean barley (*Hordeum marinum*). SW-01 was dominated by least spikerush (*Eleocharis acicularis*), and SW-02 was dominated by hyssop loosestrife (*Lythrum hyssopifolia*).

Location: N:\2020\2020-080 Suisun Multi-Family\DWG\Soils\Soils\2020070.mxd (KIT)-turnquist 7/1/2020




**Figure 2. Natural Resources
Conservation Service Soil Types**

Map Features

 Project Boundary

Series Number - Series Name

 AsA - Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes

Natural Resources Conservation Service (NRCS)
Soil Survey Geographic (SSURGO) Database for
Solano County, CA





Waters Label	Sum of Acres
SW-01	0.017
SW-02	0.122
SW-03	0.009
SW-04	0.069
SW-05	0.156
SW-06	0.008
Grand Total	0.380

Map Features

- Parcel Boundary - 9.6 ac.
- Reference Coordinate (NAD83)

Sample Points

- Upland Point
- Waters Point

Waters Type

- Seasonal Wetland - 0.380 ac.

Photo Source: NAIP 2018
Boundary Source: Solano County Parcels
Delineator(s): Daniel Wong
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

* Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



Figure 3. Aquatic Resources Assessment



The soil matrix color within the seasonal wetland at sampling point 2 was 7.5YR 3/2 with 15 percent redox concentrations colored 2.5YR 4/8. The soil matrix color for sampling point 6 10YR 3/2 with 5 percent redox concentrations colored 5YR 3/5. Soils at sampling points 2 and 6 were determined to be hydric based on the presence of hydric soil indicator Redox Dark Surface (F6).

The soil matrix color within the seasonal wetland at sampling point 4 was 10YR 3/3 with 0 percent redox concentrations. Soils at sampling point 4 did not meet any criteria for hydric soil indicators, however the sample point was taken within a feature that had significantly disturbed soils due to its previous land use. Sampling point 4 was dominated by wetland obligate species and had hydrology indicators of Surface Soil Cracks (B6) and Biotic Crust (B12).

5.0 JURISDICTIONAL ASSESSMENT

As per Regulatory Guidance Letter 16-01, an applicant may request a PJD “in order to move ahead expeditiously to obtain a Corps permit authorization where the requestor determines *that it is in his or her best interest to do so ... even where initial indications are that the aquatic resources on a parcel may not be jurisdictional*” (USACE 2016b).

The aquatic resources delineated within the Study Area do not appear to have a direct surface connection to a jurisdictional waters, and may not be federally jurisdictional waters. However, these aquatic resources may be under state jurisdiction per the Porter Cologne Water Quality Act.

5.1 Porter-Cologne Water Quality Act

The Regional Water Quality Control Board (RWQCB) implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” [Water Code 13260(a)]. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” [Water Code 13050 (e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirement for these activities.

6.0 CONCLUSION

A total of 0.380 acres of aquatic resources have been mapped within the Study Area. This acreage represents a calculated estimation of the extent of aquatic resources within the Study Area and is subject to modification following USACE review and/or the verification process. The placement of dredged or fill material into jurisdictional features would require a permit pursuant to Section 404 of the CWA and certification or waiver in compliance with Section 401 of the CWA.

7.0 REFERENCES

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LIST OF ATTACHMENTS

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Attachment C – Plant Species Observed Onsite

Attachment D – Representative Site Photographs

Attachment E – USACE ORM Aquatic Resources Table

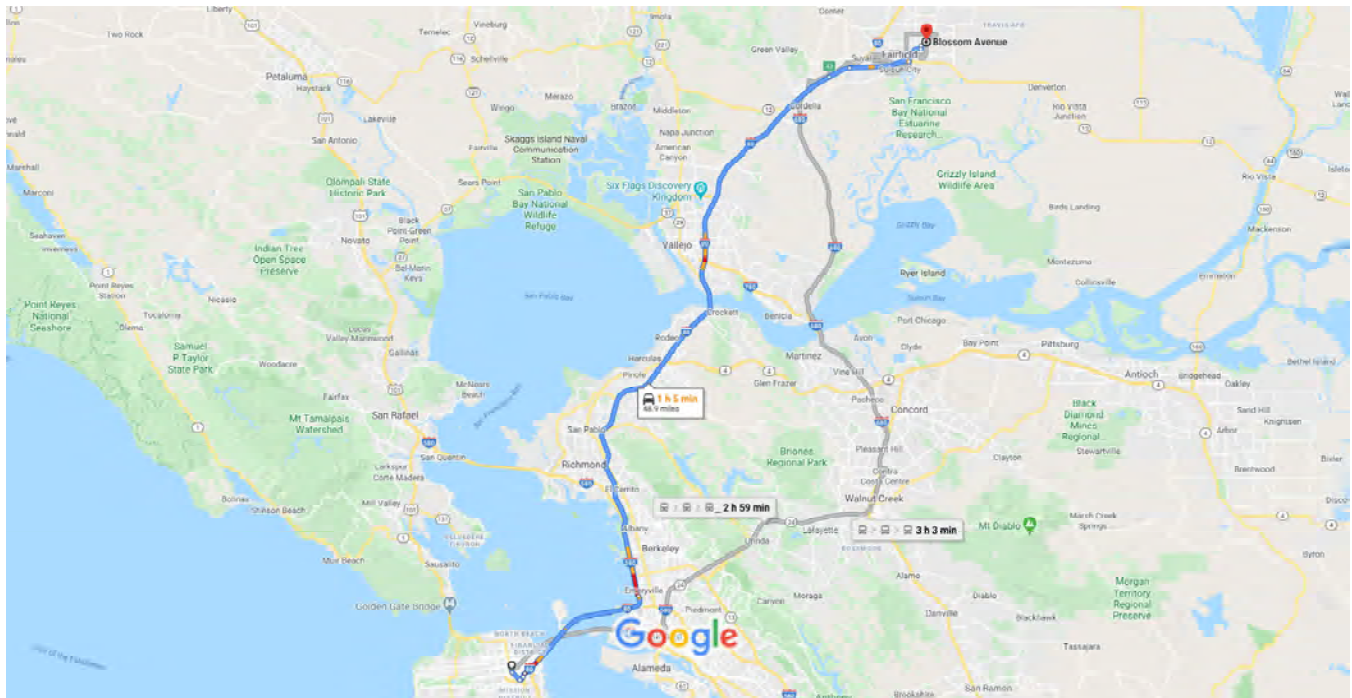
Attachment F – Wetland Delineation Shape File (to be included with USACE submittal only)

ATTACHMENT A

Driving Directions to Study Area



450 Golden Gate Ave 4th Floor, Phillip Burton Federal Building, San Francisco, CA 94102 to Blossom Ave, Suisun City, CA 94585 Drive 48.9 miles, 1 h 5 min



Map data ©2020 Google 2 mi


450 Golden Gate Ave 4th Floor, Phillip Burton Federal Building, San Francisco, CA 94102


Get on I-80 E from Polk St and 10th St



1. Head west on Turk St toward Polk St
7 min (1.5 mi)
2. Turn left onto Polk St
233 ft
3. Continue onto 10th St
0.4 mi
[Pass by Peet's Coffee \(on the right\)](#)
0.6 mi
4. Turn left onto Bryant St
0.2 mi
5. Turn left onto the Interstate 80 E ramp to Oakland
0.2 mi


Follow I-80 E to CA-12 E in Fairfield. Take exit 43 from I-80 E

39 min (42.5 mi)

-  6. Merge onto I-80 E


7.9 mi
-  7. Keep left to continue on I-580 W/I-80 E


3.5 mi
-  8. Keep left to continue on I-80 E
 Toll road


29.8 mi
-  9. Use the right 2 lanes to take exit 43 for CA-12 E toward Suisun City/Rio Vista


1.2 mi


Continue on CA-12 E. Take Railroad Ave to Blossom Ave



-
- 9 min (4.9 mi)
-  10. Continue onto CA-12 E

3.2 mi
 -  11. Use the left 2 lanes to turn left onto Marina Blvd

0.3 mi
 -  12. Marina Blvd turns right and becomes Railroad Ave

0.8 mi
 -  13. Use the middle lane to turn left onto Sunset Ave

0.2 mi
 -  14. Turn right at the 1st cross street onto Railroad Ave

0.4 mi
 -  15. Turn right onto Blossom Ave
 Destination will be on the left

30 ft

Blossom Ave

Suisun City, CA 94585

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Wetland Determination Data Forms - Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 01
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): California Lat: 38.260485 Long: -122.012703 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Within ditch or old tire rut; no indicators of hydrology	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5x5 ft</u>) 1. <u>Avena fatua</u> <u>20</u> <u>Yes</u> <u>NL</u> 2. <u>Festuca perennis</u> <u>60</u> <u>Yes</u> <u>FAC</u> 3. <u>Convolvulus arvensis</u> <u>10</u> <u></u> <u>NL</u> 4. <u>Asclepias fascicularis</u> <u>5</u> <u></u> <u>FAC</u> 5. <u>Lactuca seriola</u> <u>5</u> <u></u> <u>FACU</u> 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

SOIL

Sampling Point: 01

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 02
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR): California Lat: 38.260013 Long: -122.013698 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Seasonal wetland on the northern edge of the property.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5x5 ft</u>) 1. <u>Polypogon monspeliensis</u> <u>5</u> <u>FACW</u> 2. <u>Festuca perennis</u> <u>10</u> <u>FAC</u> 3. <u>Elocharis acicularis</u> <u>60</u> <u>Yes</u> <u>OBL</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust <u>10</u>				
Remarks:				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

SOIL

Sampling Point: 02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	7.5YR 3/2	85	2.5YR 4/8	15	C	PL/m	Cl. loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Shallow root zone of approximately 2-3 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input checked="" type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Very clear signs of biotic crust.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 03
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): California Lat: 38.260005 Long: -122.013727 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upward point of sample point 2.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5x5 ft</u>) 1. <u>Festuca perennis</u> <u>75</u> <u>Yes</u> <u>FAC</u> 2. <u>Hordeum marinum</u> <u>15</u> <u></u> <u>FAC</u> 3. <u>Malva parviflora</u> <u>5</u> <u></u> <u>NL</u> 4. <u>Tragopogon porrifolius</u> <u>5</u> <u></u> <u>NL</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				

SOILSampling Point: 03**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/3	90	5YR 4/6	10	C	M/PL	Slt.Cl. Lm.	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)

☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes _____ No ☒ Depth (inches): _____Water Table Present? Yes _____ No ☒ Depth (inches): _____Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No clear indicators of hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 04
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Convex Slope (%): 0-1
 Subregion (LRR): California Lat: 38.259298 Long: -122.014679 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Soils are disturbed by frequent vehicle traffic and coarse fragments of old concrete and stone.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>5x5 ft</u>) 1. <u>Lythrum hysopifolium</u> <u>50</u> <u>Yes</u> <u>OBL</u> 2. <u>Polypogon monspeliensis</u> <u>5</u> <u></u> <u>FACW</u> 3. <u>Festuca perennis</u> <u>10</u> <u></u> <u>FAC</u> 4. <u>Phalaris aquatica</u> <u>5</u> <u></u> <u>FACU</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u> % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: 04

[illegible]

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
Weak biotic crust, some soil cracks at the surface.		

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 05
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): California Lat: 38.259262 Long: -122.014693 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland point of disturbed seasonal wetland. Soil disturbed and compacted from vehicle use.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover Herb Stratum (Plot size: <u>5x5 ft.</u>) 1. <u>Phalaris aquatica</u> <u>25</u> <u>Yes</u> <u>FACU</u> 2. <u>Lactuca seriola</u> <u>5</u> <u></u> <u>FAC</u> 3. <u>Festuca perennis</u> <u>40</u> <u>Yes</u> <u>FAC</u> 4. <u>Hordeum marinum</u> <u>10</u> <u></u> <u>FAC</u> 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover % Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

SOIL

Sampling Point: 05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100					Cly. Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Contains some coarse fragments of rocks. Soil is highly compacted due to former use as a parking lot for a fruit stand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 06
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): California Lat: 38.258669 Long: -122.14643 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Marginal wetland; no hydrology indicators due sample point taken during the middle of the summer.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
_____ = Total Cover				
Herb Stratum (Plot size: <u>5x5 ft</u>)				
1. <u>Festuca perennis</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Hordeum marinum</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	99	5YR 3/4	1	C	M/PL	Snd.Cl.Lm	
4-8	10YR 3/2	95	5YR 3/4	5	C	M/PL	Snd.Cl.Lm	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histic Sol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☒ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was identified according to procedure described in Arid West supplement for site visits during the dry season.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Suisun Multifamily City/County: Suisun City Sampling Date: 6/11/2020
 Applicant/Owner: FPA Multifamily, LLC State: CA Sampling Point: 07
 Investigator(s): D. Wong Section, Township, Range: Rancho Tolenas Land Grant
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR): California Lat: 38.258680 Long: -122.014600 Datum: NAD83
 Soil Map Unit Name: AsA – Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
_____ = Total Cover				
Herb Stratum (Plot size: <u>5x5</u>)				
1. <u>Hordeum marinum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Avena fatua</u>	<u>20</u>	<u>Yes</u>	<u>NL</u>	
3. <u>Lactuca seriola</u>	<u>10</u>		<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. <u>Convolvulus arvensis</u>	<u>10</u>		<u>NL</u>	
5. <u>Festuca perennis</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

SOIL

Sampling Point: 07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10YR 3/3	100					Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

ATTACHMENT C

Plant Species Observed Onsite

Attachment C. Plants Observed

Family	Species Name	Common Name	Indicator
ASTERACEAE	<i>Baccharis pilularis</i>	Coyote bush	FAC
ASTERACEAE	<i>Lactuca serriola</i> ☐	Prickly lettuce	NL
ASTERACEAE	<i>Tragopogon porrifolius</i> ☐	Purple salsify	FACU
BRASSICACEAE	<i>Raphanus sativus</i> ☐	Purple wild radish	NL
CONVOLVULACEAE	<i>Convolvulus arvensis</i> ☐	Field bindweed	NL
CYPERACEAE	<i>Eleocharis acicularis</i> var. <i>acicularis</i>	Least spikerush	OBL
CYPERACEAE	<i>Eleocharis macrostachya</i>	Creeping spikerush	NL
FABACEAE	<i>Vicia villosa</i> ☐	Hairy vetch	NL
LYTHRACEAE	<i>Lythrum hyssopifolia</i> ☐	Hyssop loosestrife	OBL
MALVACEAE	<i>Malva parviflora</i> ☐	Cheeseweed	OBL
POACEAE	<i>Avena fatua</i> ☐	Wild oat	NL
POACEAE	<i>Bromus madritensis</i> ssp. <i>rubens</i> ☐	Red brome	NL
POACEAE	<i>Elymus caput-medusae</i> ☐	Medusahead grass	NL
POACEAE	<i>Festuca perennis</i> ☐	Italian Ryegrass	FAC
POACEAE	<i>Hordeum marinum</i> ssp. <i>gussoneanum</i> ☐	Mediterranean barley	FAC
POACEAE	<i>Phalaris aquatica</i> ☐	Harding grass	FACU
POACEAE	<i>Polypogon monspeliensis</i> ☐	Annual rabbit-foot grass	FACW
POLYGONACEAE	<i>Polygonum aviculare</i> ☐	Prostrate knotweed	FAC

*Indicates a nonnative species.

ATTACHMENT D

Representative Site Photographs



Photo 1. Sampling Point 1, view west.
Photo taken on June 11, 2020.



Photo 2. Sampling Point 2, view southwest.
Photo taken on June 11, 2020.



Photo 3. Sampling Point 4, view north.
Photo taken on June 11, 2020.



Photo 4. Sampling Point 7, view south.
Photo taken on June 11, 2020.

ATTACHMENT E

USACE ORM Aquatic Resources Table

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
SW-01	CALIFORNIA	PEM		Area	0.01651518	ACRE	DELINEATE	38.26003694	-122.0136416
SW-02	CALIFORNIA	PEM		Area	0.12166313	ACRE	DELINEATE	38.25935843	-122.0145673
SW-03	CALIFORNIA	PEM		Area	0.00862484	ACRE	DELINEATE	38.25919949	-122.0139268
SW-04	CALIFORNIA	PEM		Area	0.06863521	ACRE	DELINEATE	38.25893721	-122.0137994
SW-05	CALIFORNIA	PEM		Area	0.15588076	ACRE	DELINEATE	38.25868613	-122.0145997
SW-06	CALIFORNIA	PEM		Area	0.00836084	ACRE	DELINEATE	38.25859408	-122.0130071

ATTACHMENT F

Wetland Delineation Shape File
(to be included with USACE submittal only)

- B3 – Burrowing Owl Nesting Season Survey



MEMORANDUM

TO: Mr. Ron Wu, FPA Multifamily, LLC,
Mr. Tim Kihm, Red Tail Acquisitions, LLC
Mr. Russel Shaw, Real Estate Consultant

FROM: Ms. Theresa Johnson, Senior Biologist/Project Manager

DATE: July 6, 2020

RE: **Suisun City Project – Burrowing Owl Nesting Season Survey**

At the request of FPA Multifamily, LLC, ECORP Consulting, Inc. conducted a focused burrowing owl (*Athene cunicularia*) survey and habitat assessment within the approximately 9.6-acre Suisun City Project (Project Area). The objective of this survey was to identify any potential burrowing owl habitat and observe if there were any burrowing owls or nesting activity within the Project Area. This survey was intended to assess potential biological constraints and support the Project pre-planning process.

SURVEY LOCATION

The Project Area is bounded to the north by Railroad Avenue and the Southern Pacific Railroad tracks, to the south and east by residential neighborhoods and a storage facility, and to the west by Blossom Road (Figure 1. *Property Location and Vicinity*). Coordinates for the approximate center of the Project Area are 38.259362° Latitude and -122.013349° Longitude, and the Project Area coincides with a portion of the unsectioned Rancho Tolenas Land Grant of the "Fairfield North, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1951, photo revised 1980). The Project Area corresponds to Assessor Parcel Number 0037-130-010 and is within the Suisun Bay Watershed (Hydrologic Unit Code 18050001) (Natural Resources Conservation Service [NRCS], et al. 2016).

SURVEY METHODS

ECORP biologist Daniel Wong conducted the focused burrowing owl survey and habitat assessment on June 12, 2020. Two rounds of survey were conducted, the morning survey at approximately 8:30 a.m. and the evening survey at approximately 6:30 p.m. The biologist walked transects spaced between five and 10 meters apart, depending on vegetation height, to identify any potential burrow locations within the Project Area. The biologist also walked meandering transects around the railroad tracks and berm located just north of the Project Area. Each potential burrow was investigated for signs of occupancy by burrowing owl, including the presence of whitewash, pellets, and/or presence of individual owls. During the survey, Mr. Wong scanned all visible areas within and adjacent to the Project Area with binoculars (10x42 magnification) including potential perches and refugia.

RESULTS

The weather conditions during the morning survey were sunny, average temperature of 72°F with winds approximately 0-5 miles per hour (MPH). The weather conditions during the evening survey were clear skies, average temperature of 76°F with winds approximately five to 10 MPH. The Project Area is primarily annual nonnative grassland that is largely overgrown with high thatch. There were two potential burrows identified within the Project Area (Figure 2. *Potential Burrowing Owl Habitat*). Neither burrow exhibited any sign of burrowing owl use. No burrowing owl individuals were identified during the morning and evening surveys. Additionally, no burrowing owls were identified within the railroad alignment.

Surrounding Burrowing Owl Occurrences

A query of the Rarefind Natural Diversity Data Base Program centered on the Project Area resulted in no previously documented burrowing owl occurrences within the Project Area and surrounding one-mile radius (California Department of Fish and Wildlife [CDFW] 2020). There were three occurrences of burrowing owl within a two-mile radius of the Project Area (CDFW 2020). The occurrences within a two-mile radius provide evidence that burrowing owl have been found utilizing the surrounding areas; therefore, the use of habitat onsite cannot be ruled out entirely.

CONCLUSION

ECORP conducted a focused burrowing owl survey and habitat assessment within the approximately 9.6-acre Project Area. There were no burrowing owls observed within or adjacent to the Project Area. Two unoccupied burrows that are potential habitat for burrowing owls were observed within the Project Area; no burrows were observed in the surrounding habitat. The Project Area is currently low quality habitat due to the overgrown nature of the grassland.

Sincerely,



Theresa Johnson
Senior Biologist / Project Manager
ECORP Consulting, Inc.

REFERENCES

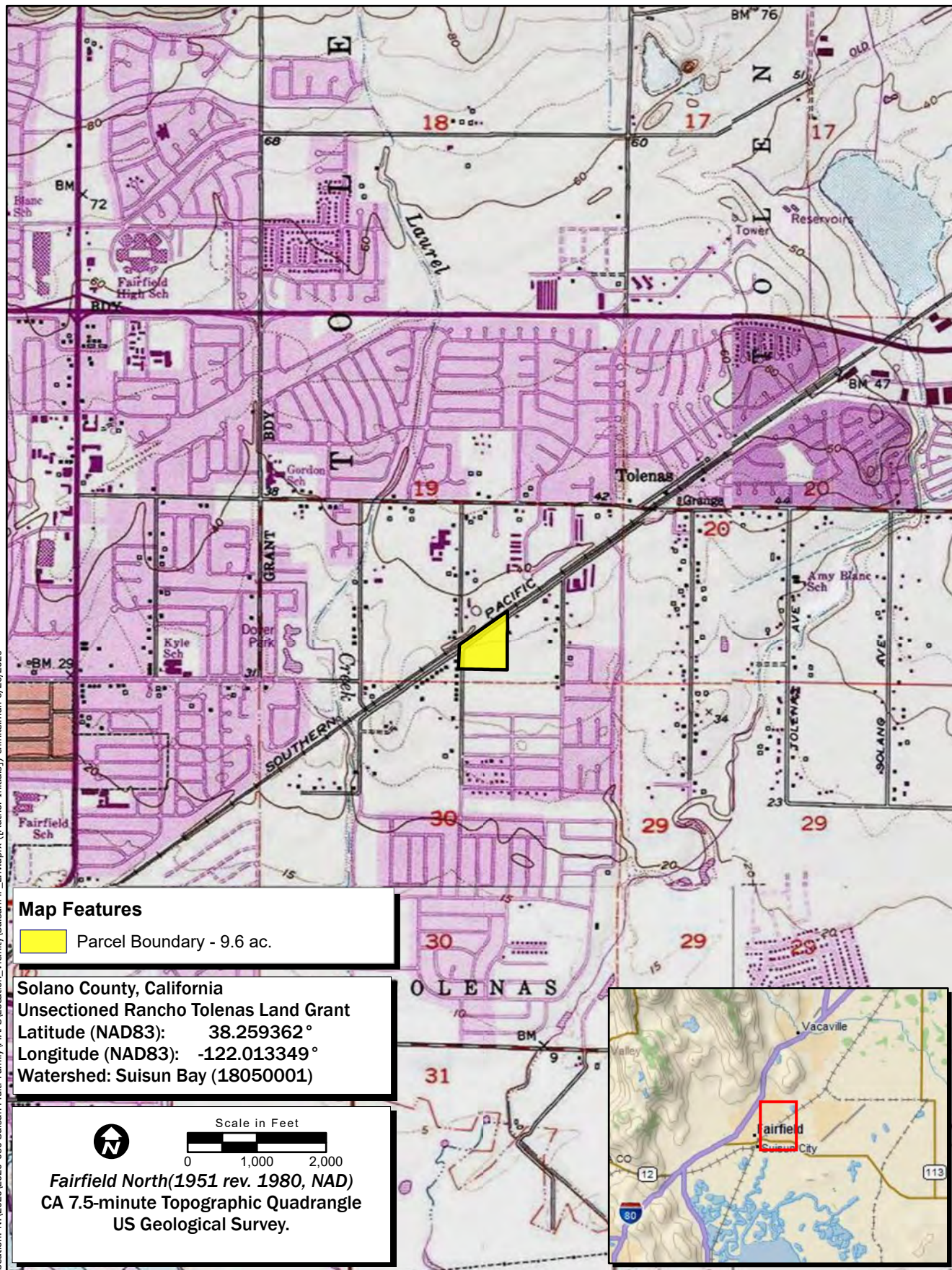
- CDFW. 2020. Rarefind Natural Diversity Data Base Program. Commercial Version. California Natural Diversity Database. The Resources Agency, Sacramento. Accessed June 2020.
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LIST OF FIGURES

Figure 1. Location and Vicinity

Figure 2. Potential Burrowing Owl Habitat

Location: N:\2020\2020-080 Suisun Multi-Family\MAPS\Location_Vicinity\SuisunME LnVaprx (Author: Initials)-chinkelman 6/26/2020



Map Date: 6/26/2020

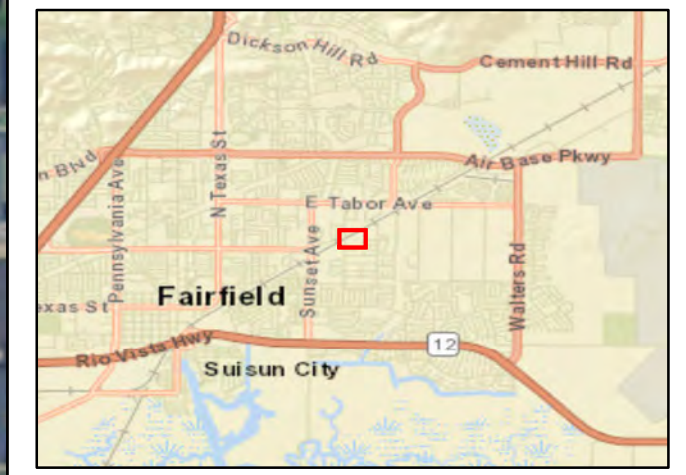
Service Layer Credits: USA_Topo_Maps: Copyright© 2013 National Geographic Society, i-cubed
 DeLorme World Basemap: Copyright(c) 2018 Garmin

Figure 1. Property Location and Vicinity



- Map Features**
- Parcel Boundary - 9.6 ac.
 - Unoccupied Burrow

Sources: NAIP 2018



- B4 – California Tiger Salamander (CTS) Habitat Assessment

California Tiger Salamander Habitat Assessment

Suisun Multi-Family Project

Solano County, California

Prepared for:

FPA Multi Family LLC.

July 10, 2020



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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- Attachment A – Qualifications
- Attachment B – Representative Site Photographs
- Attachment C – California Natural Diversity Database Records

1.0 INTRODUCTION

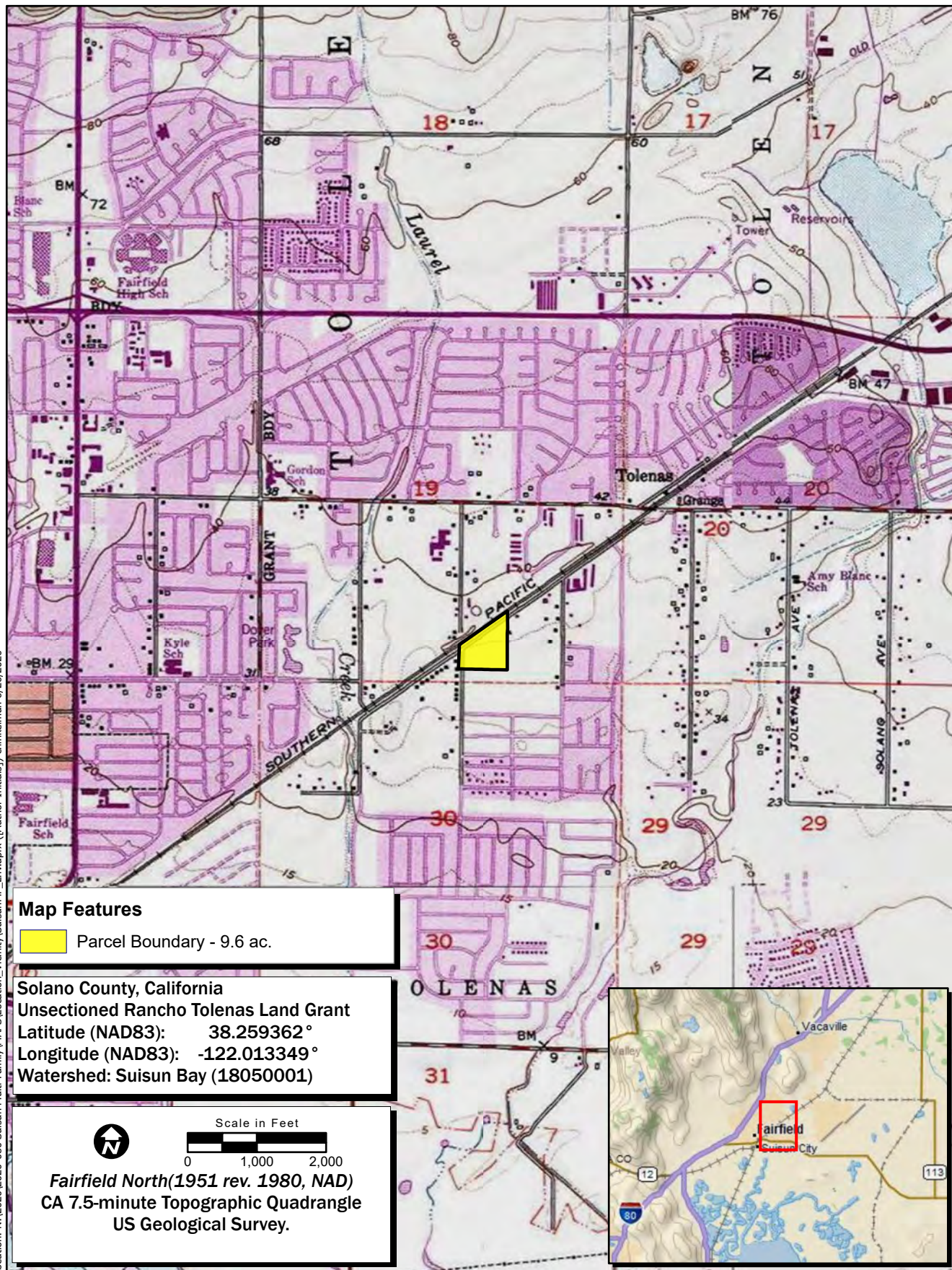
ECORP Consulting, Inc. has conducted a habitat assessment for the California tiger salamander (*Ambystoma californiense*) at the Suisun Multi-Family Project (Study Area) located in Suisun City, Solano County, California. The purpose of this assessment was to determine the potential for California tiger salamander habitat to occur on and adjacent to the Study Area. The ±9.6-acre Property is located at the intersection of Blossom Road and Railroad Avenue (Figure 1. *Property Location and Vicinity*). The Property corresponds to a portion of the unsectioned Rancho Tolenas Land Grant of the "Fairfield North, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1951, photo revised 1980). The approximate center of the Property corresponds to 38.259362° and -122.013349° within the Suisun Bay Watershed (Hydrologic Unit Code [HUC] 18050001) (Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016). The Property corresponds to Assessor Parcel Number 0037-130-010.

2.0 SPECIES DISTRIBUTION AND BIOLOGY

The California tiger salamander is a member of the family Ambystomatidae, the mole salamanders, which are named for their highly fossorial lifestyle (Halliday and Adler 1986). This salamander is generally terrestrial and most commonly found in annual grasslands, but it also occurs in oak woodlands (Stebbins 2003). Necessary habitat components include upland underground retreats and breeding ponds, which are used seasonally. Tiger salamanders spend most of their adult life within underground refugia such as burrows of California ground squirrel (*Otospermophilus beecheyi*). They emerge from retreats on humid or rainy nights to forage and make seasonal migratory movements to water. Breeding sites are generally ponded, ephemeral lentic features and include vernal pools, seasonal wetlands, and slow-moving fishless streams. California tiger salamanders breed in permanently inundated manmade ponds such as stock ponds and small reservoirs if predators (e.g., fish, crayfish, bullfrogs (*Lithobates catesbeianus*)) are absent.

Adult California tiger salamanders are generally crepuscular or nocturnal and can migrate distances up to 1.6 km from underground refugia to breeding ponds (U.S. Fish and Wildlife Service [USFWS] 2004). Breeding and egg-laying occurs between November and April following rainfall events (Petranka 1998). Eggs are laid singly or in small clumps on submerged or emergent vegetation or debris in shallow water (Jennings and Hayes 1994). Adult males may remain at breeding ponds for a few days following reproduction, though some individuals may stay for several weeks. Females typically leave breeding sites soon after egg laying. Larvae are completely aquatic and have external gills. They are carnivorous and feed upon aquatic invertebrates and the larvae of other amphibians. Tiger salamander larvae transform into juveniles during late spring or early summer, usually by July. The average larval period is four to five months (Petranka 1998).

Location: N:\2020\2020-080 Suisun Multi-Family\MAPS\Location_Vicinity\SuisunME LnVaprx (Author: Initials)-chinkelman 6/26/2020



Map Date: 6/26/2020

Service Layer Credits: USA_Topo_Maps: Copyright© 2013 National Geographic Society, i-cubed
 DeLorme World Basemap: Copyright(c) 2018 Garmin

Figure 1. Property Location and Vicinity

The historic range of the California tiger salamander extends through the Central Valley and mid-coastal areas from Sonoma County south to Santa Barbara County. This area includes the southern Coast Ranges and the west slope of the Sierra Nevada at elevations from sea level to approximately 3,280 feet (1,000 meters). The current range is greatly reduced and fragmented from the historic distribution (Shaffer and Trenham 2005).

The Central Valley Population of California tiger salamander is listed as threatened by the U.S. Fish and Wildlife Service as of August 4, 2004 (Federal Register Vol. 69, No. 149: 47212). The Santa Barbara County and Sonoma County distinct population segments, both of which are disjunct from the larger range of the salamander, are federally listed as endangered. As of August 19, 2010, the California tiger salamander is also considered a threatened species under the California Endangered Species Act throughout its range. Populations at the northern and southern edges of the historical distribution are extirpated, many populations within the interior of the range have been lost, and abundance has been reduced in many areas. Large areas of habitat conversion to agriculture and urban infrastructure have caused extirpations throughout Central California. Conversion of ephemeral breeding waters to perennial ponds and streams has allowed the introduction of predators and competitors including fish, crayfish (*Pacifastacus leniusculus*, *Procambarus clarkii*), American bullfrogs, and (in some locations) introduced tiger salamanders (*Ambystoma tigrinum*, *A. mavortium*) (USFWS 2017). Hybridization with introduced tiger salamanders is a major threat, and in some populations hybrid vigor is leading to landscape-scale conservation problems (Fitzpatrick and Shaffer 2007).

On August 23, 2005, USFWS published a final rule designating Critical Habitat for the central population of the California tiger salamander (USFWS 2005). Critical Habitat was designated in 19 counties within four geographic regions of the central population, for a total of ±199,109 acres (80,576 hectares). Critical habitat units were designated based on areas that were occupied by California tiger salamander at the time at the listing, as well as determination that the areas supported the three necessary Primary Constituent Elements (PCEs) necessary for California tiger salamander populations to persist over time. PCEs include 1) standing bodies of fresh water, inundated during winter, that hold water for a minimum of 12 weeks (breeding habitat); 2) upland habitat adjacent to breeding ponds that contain small animal burrows and other subterranean refugia in which tiger salamanders can seek protection and forage; and 3) upland dispersal habitat (corridors) through which California tiger salamanders move between sites and forage during amenable weather.

3.0 METHODS

3.1 Literature Search

Prior to the field site assessment, a review of the known records of the species in accordance with the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (Interim Guidance, USFWS and CDFW 2003) was conducted. The analysis included an evaluation of the project area in the context of the regional range of California tiger salamanders including designated Critical Habitat. The California Natural Diversity Database's (CNDDB's) Biogeographic Information and Observation System online mapping tool (CDFW 2020) was used to identify any records of California tiger salamanders within 3.1 miles (5 km) of the Study Area to further

place the Study Area in a regional perspective. In addition, aerial photography was reviewed to determine whether potential breeding habitat (lentic features, ponds) is present within 1.24 miles (2 km) of the Study Area (Google Earth 2020) based on the observed mobility of the species (USFWS and CDFW 2003).

3.2 Field Site Assessment

The field habitat assessment for California tiger salamanders was conducted on 22 June 2020 by ECORP biologist Eric Stitt (see Attachment A for resume). The field assessment was conducted by walking meandering transects throughout the Study Area while evaluating aquatic habitats and adjacent uplands for their potential to support breeding, foraging, and refugia or aestivation habitat. Habitat assessments were focused on identifying onsite aquatic habitats that could potentially pond water through the spring and early summer and on characterizing adjacent uplands surrounding such wetlands. The surrounding 1.2 mile-area was evaluated as best as possible to characterize land use, potential breeding habitat, uplands, and habitat continuity for dispersal and migration.

4.0 RESULTS

4.1 Environmental Setting

The Study Area is located within flat terrain situated at an elevational range of approximately 35 - 38 feet above mean sea level (MSL) in the southern Sacramento Valley subregion of California's Great Central Valley (Baldwin et al. 2012). The climate is Mediterranean, with cold, wet winters and hot, dry summers. The average winter low temperature for Grizzly Island in the vicinity of the Study Area is 34.4°F and the average summer high temperature is 87.8°F. Average annual precipitation is approximately 14.2 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2020). The Property consists primarily of annual grassland dominated by non-native annual grasses, including wild oat (*Avena* sp.), Italian ryegrass (*Festuca perennis*), and red brome (*Bromus madritensis* ssp. *rubens*). Other species observed within the grassland include wild radish (*Raphanus sativus*), winter vetch (*Vicia vilosa*), and morning glory (*Convolvulus arvensis*). One horticultural tree is present in the northeast corner of the site and a few coyote bush (*Baccharis pilularis*) are scattered along the southern boundary. A small gravel patch is present in the northwest corner and tire tracks were observed within the grassland adjacent to this area.

Aquatic resources within the Study Area include a total of approximately 0.38 acre of potential aquatic resources consisting of seasonal wetlands (Figure 2. *Aquatic Resources Assessment*). The seasonal wetlands were dominated by Italian ryegrass and Mediterranean barely (*Horedum marinum*). SW-01 was also dominated by creeping spikerush (*Eleocharis macrostachya*) and SW-02 also contained patches of prostrate knotweed (*Polygonum aviculare*) and hyssop loosestrife (*Lythrum hyssopifolium*).

The Study Area is infill: residential housing surrounds the site to the west, south, and east, and hard edges (Blossom Road, wooden fences and concrete walls) separate the housing developments from the site. Railroad Avenue and railroad tracks bound the site to the north. Representative site photographs are provided as Attachment B.



Waters Label	Sum of Acres
SW-01	0.017
SW-02	0.122
SW-03	0.009
SW-04	0.069
SW-05	0.156
SW-06	0.008
Grand Total	0.380

Map Features

- Parcel Boundary - 9.6 ac.
- Reference Coordinate (NAD83)

Sample Points

- Upland Point
- Waters Point

Waters Type

- Seasonal Wetland - 0.380 ac.

Photo Source: NAIp 2018
Boundary Source: Solano County Parcels
Delineator(s): Daniel Wong
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

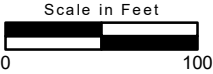
* Subject to U.S. Army Corps of Engineers verification. This exhibit depicts information and data produced in accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual, Arid West Region Version 2.0 as well as the Updated Map and Drawing Standards for the South Pacific Division Regulatory Program as amended on February 10, 2016, and conforms to Sacramento District specifications. However, feature boundaries have not been legally surveyed and may be subject to minor adjustments if more accurate locations are required.
* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.



ECORP: N120202020-080 Suisun Multi-Family\MAPS\Jurisdictional_Delineation\SuisunME_ARO_V2_20200701.mxd (KIT)-ktungquist 7/1/2020



Map Date: 7/1/2020
ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



DRAFT

Figure 2. Aquatic Resources Assessment

4.2 California Tiger Salamander Range and USFWS Designated Critical Habitat

The Study Area is generally located within the known range of California tiger salamander. However, the Study Area is not located within USFWS-designated critical habitat. The nearest USFWS-designated critical habitat unit is Central Valley Region Unit 2 (Jepson Prairie Unit) in Solano County, approximately 8.1 miles due east of the Study Area (CDFW 2020) (Figure 3: *California Tiger Salamander Critical Habitat and CNDDDB Search*). This 5,699-acre critical habitat unit is located east of Travis Air Force Base and south of the town of Dixon.

4.2.1 Documented Occurrences

There are no documented occurrences of California tiger salamanders within 3.1 miles of the Study Area (CDFW 2020) (Attachment C. CNDDDB Records for Solano County) (Figure 3). The nearest locality is Occurrence #889, located 3.4 miles from the Study Area. This is a 2006 record from 0.3 mile northeast of Vanden High School in Fairfield where three larvae were seined from a bermed pond. Next closest is Occurrence #828 approximately 3.5 miles northwest of the Study Area, northwest of Travis Air Force Base at which two larvae were documented in a pond in 2005. Other occurrences are all at least 3.6 miles east of the Study Area. Duck Slough provides a barrier between the site and known occurrences to the southeast, and no records occur to the north or west.

4.3 Onsite Habitat

4.3.1 Breeding Habitat

No potential breeding habitat occurs onsite. At the time of this habitat assessment (22 June 2020), all aquatic features were dry. A review of historic aerial photography (Google Earth 2020), indicates that all onsite waters are ephemeral and do not pond sufficiently to enable reproduction of California tiger salamanders.

4.3.2 Upland Habitat

The site provides marginal upland habitat (annual grassland) for California tiger salamanders. Very few (two) California ground squirrel burrows were documented onsite or at places surrounding the property (Figure 4. *Onsite California Ground Squirrel Burrows*). Notable during the site assessment was the very dense thatch accumulation throughout the site which is known to serve as a barrier to movement for California tiger salamanders (USFWS 2017 and references therein). The site is surrounded on all sides by development.

4.4 Offsite Habitat

The larger area within 1.24 miles (2 km) of the Study Area consists of a matrix of high density urban residential housing, parks, ruderal lots, rural housing, and other heavily altered land uses. No suitable breeding habitat occurs within 1.24 miles of the site. Only two ponds are apparent within this buffer on aerial imagery (Figure 5. *Offsite Aquatic Features*), and both are at Dover Park, a highly managed urban/residential park featuring turf grass and concrete walking paths. Both ponds are perennial.

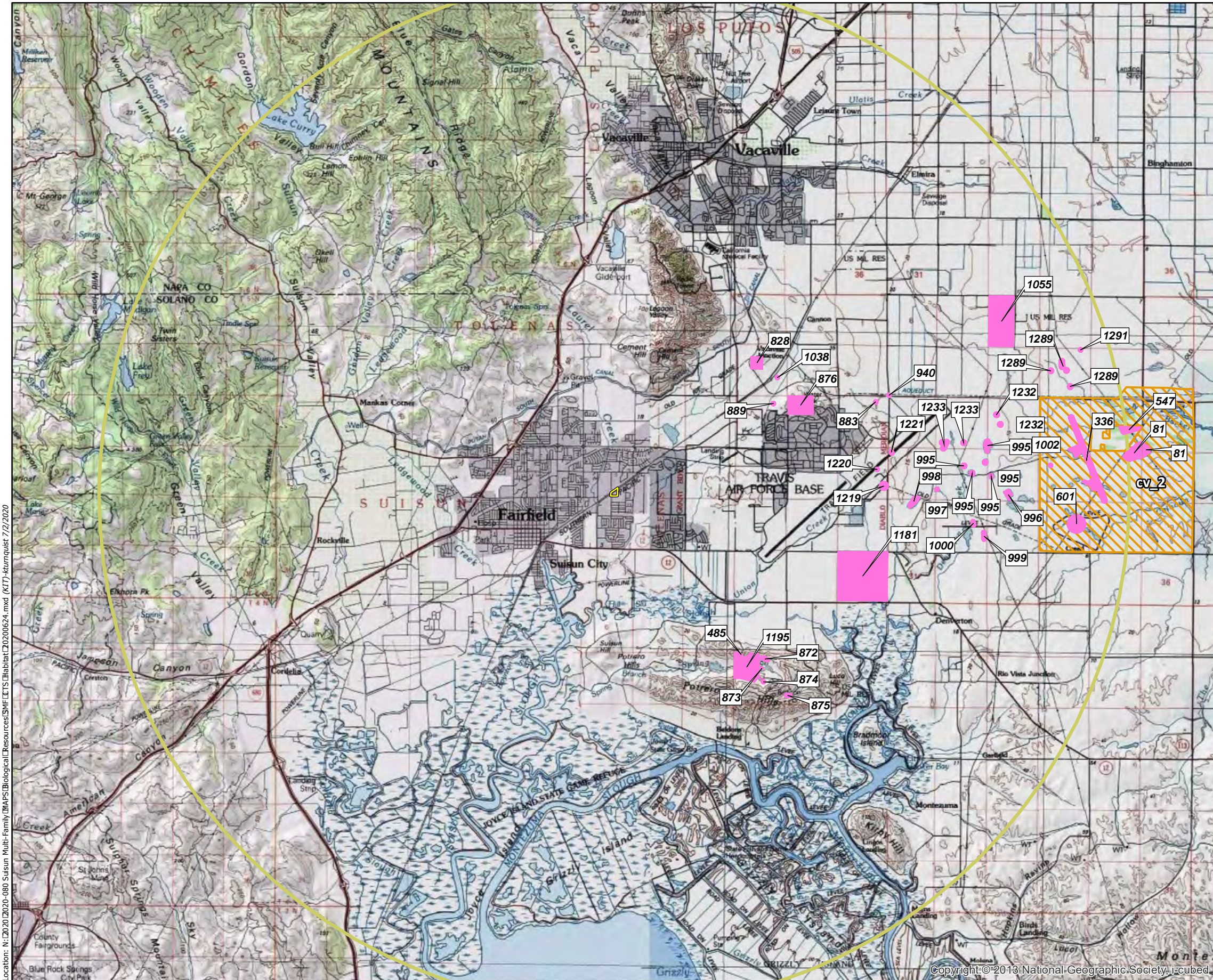


Figure 3.
California Tiger Salamander Critical
Habitat and CNDDDB Search

- Map Features**
- Parcel Boundary - 9.6 ac.
 - 10 Mile Buffer
 - CTS Habitat and Occurrences
 - CTS Element Occurrences
 - California Tiger Salamander Critical Habitat

CNDDDB version 06/2020. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDDB about a species or an area can never be used as proof that no special status species occur in an area.



¹ Project Boundary: Solano County Parcel Data
² CDFW California Natural Diversity Database (CNDDDB), (GIS Shapefile)
³ U. S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office
CNDDDB Occurrences Located on USGS 7.5' Quadrangles:



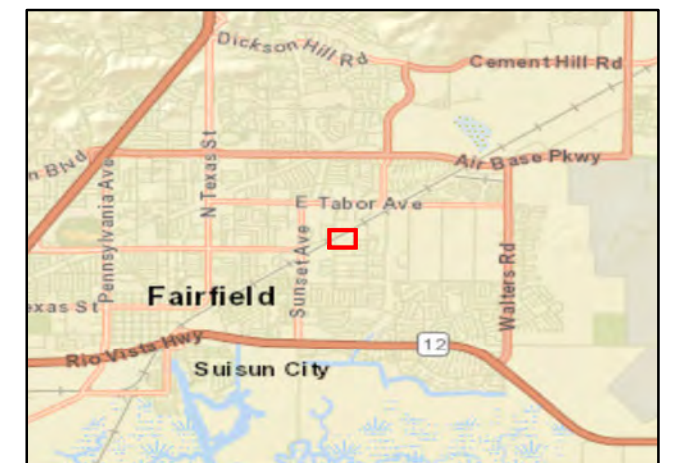
ECORP: N120202020-080 Suisun Multi-Family\MAPS\Biological Resources\SMF_BUOW_Results_20200615.mxd (KIT)-turnquist 7/1/2020



Map Features

-  Parcel Boundary - 9.6 ac.
-  California Ground Squirrel Burrow

Sources: NAIP 2018



Map Date: 7/1/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

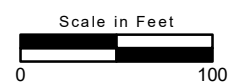
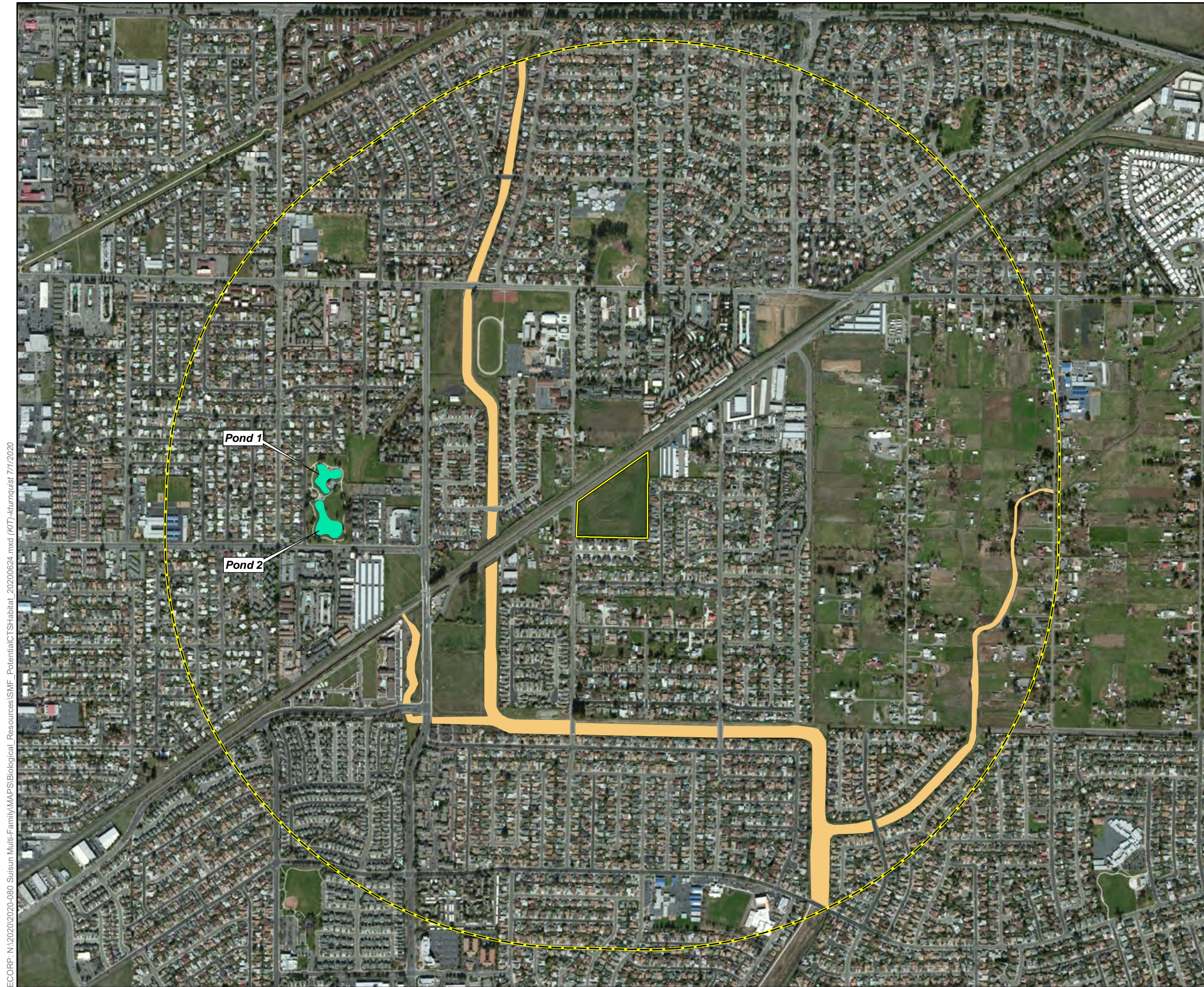


Figure 4. Onsite California Ground Squirrel Burrows

2020-080 Suisun Multi-Family



Map Features

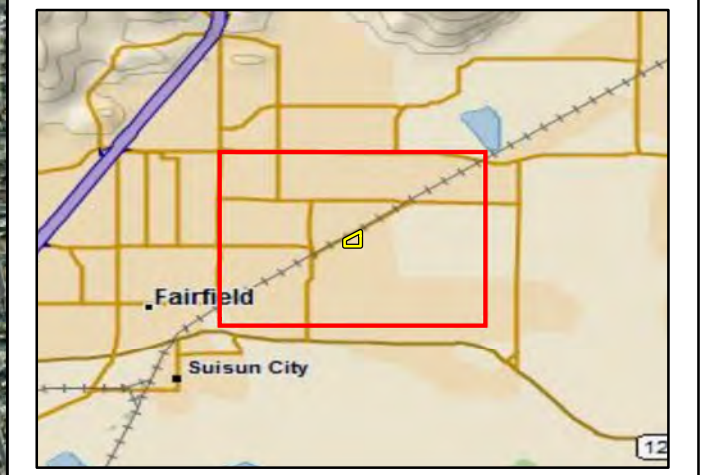
- Parcel Boundary - 9.6 ac.
- 1.24 km Buffer

Potential CTS Breeding Habitat

Waters Type

- Ditch
- Pond

Sources: Esri Wayback Imagery (2014-02-20)



ECORP: N120202020-080 Suisun Multi-Family\MAPS\Biological Resources\SWF_PotentialCTSHabitat_20200624.mxd (KIT)-turnquist 7/1/2020

A major urban ditch system conveys water through the area. The ditch is highly constrained by development, managed for stormwater, and perennial portions harbor bullfrogs and mosquitofish (*Gambusia affinis*). Lastly, landscape features surrounding the Study Area serve as barriers to dispersal from occupied habitat 3.4 miles northeast of the site.

5.0 CONCLUSION

The Study Area provides very marginal upland habitat for California tiger salamanders, and subterranean retreats are almost nonexistent. The site is isolated on all sides by urban infrastructure, and as such, is infill. No occurrences of California tiger salamanders occur within 3.1 miles (5 km) of the Study Area; the closest documented occurrences are located 3.4 miles northeast the property. There are no potential breeding habitats within 1.24 miles (2km) of the Study Area. The potential for California tiger salamanders to be on the subject property is very low.

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LIST OF ATTACHMENTS

Attachment A – Qualifications

Attachment B – Representative Site Photographs

Attachment C – California Natural Diversity Database Records

ATTACHMENT A

Qualifications

Eric Stitt

Senior Biologist/Herpetologist

Eric Stitt is a non-game wildlife ecologist with more than 25 years of experience (13 years with ECORP). Mr. Stitt has worked throughout California and the western states, and has provided biological services in support of transmission lines, gas pipelines, solar arrays, military lands, hydropower, wind power generation arrays, national parks and preserves, road and infrastructure projects; and for housing sector clients. Mr. Stitt is versed in vertebrate field inventory and survey techniques including herpetofauna visual encounter surveys; trapping of reptiles and amphibians; PIT-tagging; dip-net surveys of larval amphibians, and vernal pool branchiopods. Of particular interest to Mr. Stitt are the population and community biology, habitat relations, and biogeography of reptiles and amphibians. Mr. Stitt also focuses on problems related to invasive herpetofauna, conservation of biodiversity, and threatened and endangered non-game species. He is presently covered under permits for California red-legged frog, California tiger salamander, giant garter snake, vernal pool branchiopods, and salt-marsh harvest mouse.

Education

M.S., Wildlife and Fisheries Science, School of Natural Resources, University of Arizona, Tucson

M. S. thesis titled *Demography, Reproduction, and Movements of Desert Tortoises (Gopherus agassizii) in the Rincon Mountains, Arizona* (78 pps.)

B.S., Biology, California State University, Sacramento

Selected Registrations, Certifications, Permits and Affiliations

- CDFG Scientific Collecting Permit (SC-004168) to Eric W. Stitt (covers non-game reptiles, amphibians, invertebrates, and mammals; allows take of California species of concern by hand and trap; contains MOU's for federally listed species). Valid through 8-28-20.
- State of California Authorization to Collect Voucher Specimens of State-Listed Plants (Number 2081(a)-18-059-V). Valid until 12-31-2020.
- Yolo County HCP/NCCP Qualified Biologist. Valid through 12-31-2023.
- Level I surveyor for blunt-nosed leopard lizard (25 survey days experience).
- USFWS Recovery Permit (#TE-012973-11.3): (California tiger salamander, California red-legged frog, giant garter snake, salt-marsh harvest mouse, listed vernal pool branchiopods).
- USFWS Recovery Permit (#TE-022225-3): (California red-legged frog) (sole permittee).
- USFWS Recovery Permit (#TE-27460A-1): (mountain yellow-legged frog-southern California DPS).
- USFWS-Authorized Biologist for desert tortoise, Coachella Valley fringe-toed lizard, giant garter snake, Sierra Madre yellow-legged frog, California red-legged frog, arroyo toad.

Affiliations

- | | |
|---|-----------------------------|
| ■ Wildlife Society, Western Section, Sac-Shasta and Bay Area Chapters, member of Conservation Affairs Committee | ■ Herpetologist's League |
| ■ Society for the Study of Amphibians and Reptiles | ■ Natural Areas Association |
| | ■ Desert Tortoise Council |
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- Tucson Herpetological Society-Former Vice President and Book Review Coordinator
- Northern California Herpetological Society
- Horned Lizard Conservation Society
- California/Nevada Amphibian Population Task Force
- **Board Member/Treasurer-Save the Snakes**

Professional Experience

Santa Clara Valley Water District, Llagas Creek Realignment and Habitat Enhancement, Santa Clara County – (2020 - present). As a subconsultant to Sequoia Environmental and the Santa Clara Valley Water District, Mr. Stitt served as one of several ECORP designated NMFS and CDFW-approved fisheries biologists sanctioned to conduct a fish rescue and relocation within Lake Silveira (an 8-acre surface area manmade lake) and approximately 1600 meters of Upper Llagas Creek. Major elements of the Project include flood protection, geomorphic and creek stabilization, habitat enhancement, and maintenance features. Work included full dewatering of Lake Silveira and segments of Upper Llagas Creek. Prior to and during dewatering, Mr. Stitt captured, documented, and relocated fish using agency-approved methods for removal and capture of fish species included electrofishing, beach seining, fyke net traps, and use of Trammel nets. All native fish were relocated to a pre-determined and approved release location upstream of the Project. Native resident species encountered and relocated included Sacramento pikeminnow, Sacramento blackfish, Monterey sucker, Monterey roach, hitch, and riffle sculpin. No potentially occurring specials status fish species, including the anadromous South-Central California Coastal steelhead were observed. Mr. Stitt was also herpetofauna technical lead. Mr. Stitt implemented a turtle trapping effort and captured, marked and relocated western pond turtles from the project site. Red-eared sliders and other non-native turtles were removed from the population. Lastly, he conducted round-the-clock water quality monitoring for temperature, turbidity, pH, and dissolved oxygen.

31905 County Road 17, Yolo County – Woodland 17, LLC (2020 - present). Mr. Stitt was senior biologist on biological surveys and habitat assessment for California tiger salamander on this 100-acre site in Yolo County, California.

Millerton Lake State Recreation Area Accessibility Improvements – California State Parks (2020). California Department of Parks and Recreation (DPR) has planned improvements to eight sites within Millerton Lake SRA. At issue is proximity to known California tiger salamander occurrences, which may be impacted by project activities. Mr. Stitt was Authorized Biologist on this project. Conducted biological monitoring and daily sweeps on the project area and developed and implemented the worker awareness training.

Mistletoe Elementary School Expansion Project, Shasta County – Enterprise Elementary School District (2019 - present). Enterprise Elementary School District wishes to expand Mistletoe Elementary School to include a new gym, new soccer field, and new pick-up/drop-off facilities. Mr. Stitt was senior biologist on reconnaissance-level biological surveys to inform a biological resource assessment and CEQA compliance. Mr. Stitt performed fieldwork, queried databases, and collaborated on the final report.

Stirling City Pipeline Sewer Rehabilitation Project, Butte County – sub to Bennett Engineering (2019 - present). Mr. Stitt was senior biologist on biological surveys to inform a Biological Resource Assessment (BRA) and subsequent CEQA document. Mr. Stitt performed all fieldwork, queried databases, and drafted the final report.

Olancho-Cartago Kern County – Caltrans, sub to Parsons (2019 to present). Caltrans and the Federal Highway Administration are proposing to convert approximately 12.6 miles of the existing U.S. Highway 395 from a two-lane conventional highway into a four-lane expressway or partial conventional four-lane highway from post mile 29.9 to post mile 41.8 in Inyo County. The new facility will have four 12-foot lanes with a median of variable width. The project will also construct new concrete bridges to cross the Los Angeles Aqueduct and install concrete box culverts and smaller pipe culverts throughout the project limits to promote drainage. Mr. Stitt conducted protocol

burrowing owl and kit fox surveys throughout the new alignment. ECORP also provided environmental services in the form of surveys for bats, Swanson's Hawk, and rare plants. Several desert tortoises and signs were identified during the burrowing owl surveys.

High Desert/Middle River Power Solar Project, Desert Tortoise Surveys, San Bernardino County – Middle River Power, LLC (2019 – present). The High Desert Solar Project comprises approximately 330 acres of creosote bush scrub located in the Victor. The Project proposes to develop a solar field and associated gen-tie line on the 330-acre Project site located in the City of Victorville, San Bernardino County. In preparation for the development of the Project site, ECORP Consulting, Inc. completed desert tortoise (*Gopherus agassizii*) surveys. Numerous desert tortoises were documented, so a translocation plan was developed. Mr. Stitt assisted with follow up desert tortoise surveys and transmitter attachment on tortoises to be relocated.

Paskenta Tribal Community Building, Paskenta Band of Nomlaki Indians, Tehama County – sub to Haling and Associates (2019). Mr. Stitt was senior biologist on reconnaissance-level biological surveys to inform a biological resource assessment and CEQA compliance. Mr. Stitt performed all fieldwork, queried databases, and drafted the final report.

Pescadero Reclamation District 2058 Levee Critical Repair Project, San Joaquin County – Pescadero Reclamation District 2058 (2017). Mr. Stitt was responsible for carrying out biological resources investigations and ensuring conformity with San Joaquin Council of Governments (SJCOC) guidelines for a proposed levee rehabilitation project along Paradise Cut in Tracy, California. Duties included a reconnaissance biological survey, dedicated elderberry beetle surveys, and drafting incidental take and minimization measures (ITMM's).

Orland Truck Wash and Annexation Area Project, Glenn County – City of Orland (2019). Mr. Stitt was senior biologist on this project, responsible for carrying out biological resources investigations for the proposed truck wash facility and annexation area project. Mr. Stitt performed all biological reconnaissance surveys and helped inform the BRA planning document.

Oro Loma Sanitary District Pipeline Replacement Project, Alameda County – Sub to EKI (2019). Oro Loma Sanitary District is planning to replace aging infrastructure that is at or near failure. Specifically, they plan to replace sewer pipelines having repairable defects that result in water quality degradation and reduced availability of water recycling influent flows for future regional recycled water expansion. Implementation of the Proposed Project will improve service reliability and reduce customer service interruption risk. The Project will also improve sewer flows to allow customers and cleaning crews to use less fresh water and promote water conservation efforts. The Project would reduce system losses due to breaks or leakage by approximately 70 acre-feet per year that would be available for beneficial use. Installation will be completed mostly by pipe burst method. Mr. Stitt was senior biologist on the project, conducting all due diligence surveys and writing the BRA.

Gridley Waterline and Wastewater Project, Butte County – City of Gridley (2019). ECORP was retained by the City of Gridley to prepare environmental documentation for the Gridley waterline and wastewater replacement project. The proposed Project entails replacing approximately 2,800 linear feet of four- and six-inch forced main wastewater pipeline with a one 10-inch pipeline, installation of a lift station, relocation of a control box, and installation of a backup generator. The Project will abandon in-place some portions of the existing pipelines while removing others. ECORP determined baseline biological conditions on the Project site and ensured that Project development was consistent with the goals and requirements of the local regulatory setting. Mr. Stitt performed biological reconnaissance surveys, database queries, and compiled the final Biological Resources Assessment (BRA) for the project.

CalFire Badger Station, Tulare County - State of California Department of General Services, Real Estate Services Division (2019 – present). Mr. Stitt was lead biologist responsible for all preconstruction surveys prior to start of

construction of a new CalFire Badger Station. Demolition included all buildings, ground work, and contouring. Foothill yellow-legged frog, western pond turtle, and nesting birds were species of concern to be avoided during the project.

Fenston Ranch Mitigation Bank, Madera County – Sierra Foothill Conservancy (2019 to present). On behalf of the Sierra Foothill Conservancy, Mr. Stitt was lead California tiger salamander biologist on surveys on this 1,217-acre property. Surveys were conducted for tiger salamanders, vernal pool fairy shrimp, western spadefoot, Swainson's hawk, and burrowing owl. California tiger salamanders were documented in 19 features, and western spadefoot in 69 sites. Burrowing owls and red-tailed hawks were documented nesting on the site.

Jensen Property, Madera County – McCaffery Homes (2019 to present). Mr. Stitt is lead California tiger salamander biologist on surveys on this property. In the first survey effort in March, 2019, California tiger salamanders were documented in 5 features, and western spadefoot in numerous sites.

South Willows Commercial Center, Glenn County – sub to 4-Leaf Inc. (2018 to present). Mr. Stitt is project manager and authorized biologist on this biological resources monitoring project in Willows, California. Daily monitoring for giant garter snake is necessary, and preconstruction surveys for garter snakes and nesting birds were required. Mr. Stitt performed surveys, managed the project, and drafted compliance reports.

Natomas Place/The Alleys, Sacramento County – Lennar Communities (2018 to present). Mr. Stitt is project manager on this biological resources monitoring project. Twice yearly preconstruction surveys for giant garter snake, western burrowing owl, and other species are required for compliance with the Natomas Basin HCP. Mr. Stitt performs surveys, manages the projects, drafted and delivered the Worker Environmental Awareness Training, and drafts compliance reports.

Ledson Marsh Spillway Replacement Project, Annadel State Park – California State Parks (2018). California Department of Parks and Recreation repaired the spillway at Ledson Dam in Annadel State Park to preserve the habitat of Ledson Marsh and help protect and enhance a known breeding population of California red-legged frogs as well as other native and locally important species (e.g., Western pond turtle). Spillway improvements will protect the marsh in perpetuity by preserving the integrity of the dam structure while allowing DPR to both control invasive bullfrog predation of native species (i.e., California red-legged frogs) and reduce the occurrence of invasive aquatic plants, which are degrading the existing marsh. Per the USFWS BO and correspondences with DPR District biologists, permitted biologists were needed to capture, handle, and relocate red-legged frogs as encountered. Mr. Stitt was lead authorized monitor for California red-legged frog. Numerous adult and juvenile red-legged frogs were removed from the work area, along with California newts and rough-skinned newts, and no take of listed species occurred during the work.

Ritchey Creek Fish Passage Barrier Removal Project, Bothe Valley Napa State Park – California State Parks (2018). California Department of Parks and Recreation (DPR) will improve habitat and fish passage by removing an in-stream obstruction causing a fish passage barrier at the Ritchey Creek and Spring Road crossing and restoring a natural open bottom channel grade in the vicinity of the crossing. In addition, the project will remove a non-functioning culvert on a nearby unnamed gully located approximately 45 degrees north of the crossing that carries surface flow to Ritchey Creek. These improvements will enhance habitat for endangered salmonid and amphibian species, restore this reach of Ritchey Creek to natural stream channel grade, allow for natural hydrological events to redistribute stream materials in the project area, and reduce sedimentation associated with surface flow water currently resulting from non-functioning drainage structures. Vegetation removal and ground-disturbing activities associated with the removal of the fish barrier and construction could impact potentially occurring special status fish and amphibian species including Central Valley steelhead, foothill yellow-legged frog and California red-legged frog. Mr. Stitt was authorized amphibian biologist and performed preconstruction surveys for California red-legged frog and foothill yellow-legged frogs in preparation for the rebuild of the stream crossing upstream of picnic

and camping facilities. He performed daily monitoring, fish removal/rescue dewatering, and completed daily monitoring logs. More than 50 California giant salamanders plus riffle sculpin and trout were moved safely from the work area.

San Joaquin Council of Governments – San Joaquin County (2012 - present). Under ECORP's on-call contract with the San Joaquin Council of Governments (SJCOG), ECORP provides biological support services in support of the San Joaquin Multi-Species Habitat Conservation and Open Space Plan. Mr. Stitt has served as APM, field lead, and document reviewer on more than 20 task orders in Tracy, Lathrop, Stockton, Ripon, Lodi, and other municipalities within the plan coverage area. Species covered under the plan include giant garter snake, western burrowing owl, San Joaquin kit fox, California tiger salamander, western spadefoot, and others. Mr. Stitt has performed surveys and habitat assessments for all species and provided documentation and guidance to permittees.

Baseline P&R, Placer County – Lennar Homes (2018). Lennar Homes plans to grade and install utility infrastructure associated with the development of a residential subdivision in western Roseville, California. Mr. Stitt was project lead and surveyor on western spadefoot (*Spea hammondi*) surveys and compiled the final report.

Caltrans 02H6604, Nevada County – sub to Professional Tree Care (2018). ECORP is providing support services related to biological and cultural resources for this hazard tree removal project in Nevada County. Mr. Stitt was biological project coordinator and conducted preconstruction nesting bird surveys and wetland assessments of trees marked for removal.

Common Diversion Facility, Madera County – McCaffery Homes (2018 - present). ECORP was retained to conduct biological and cultural surveys and prepare regulatory permits for the Common Diversion Facility project located in Madera County. Mr. Stitt was task lead for a habitat assessment for California Tiger Salamander (*Ambystoma californiense*) on the project site and produced the written report. Mr. Stitt was authorized biologist on Phase 1 of the project, and conducted daily monitoring and gave worker awareness trainings to construction personnel.

California Department of Transportation District 9 U.S. Highway 395, Bridgeport Culverts Project, Mono County - Caltrans (2016). This CalTrans project repaired or replaced 44 culverts at 41 locations on HWY 395 between Post Miles (PM) 72.5 and 86.0, in Mono County. Mr. Stitt performed preconstruction sweeps and biological monitoring of the project impact areas, including a radius surrounding the impact areas. Mr. Stitt oversaw dewatering and fish removal/relocation, and cleared vegetation for removal.

Shirrtail Creek Foothill Yellow-legged Frog and Western Pond Turtle Monitoring Plan, Placer County - Foresthill Public Utility District, Foresthill (2018). The Foresthill Public Utility District proposed transferring 2000 acre feet of water to downstream recipients in late 2018, via Shirrtail Creek through Folsom Lake and into downstream conveyances. Sensitive special status species located in Shirrtail Creek included foothill yellow-legged frogs and western pond turtles. ECORP was retained to design and implement a monitoring study plan to monitor and mitigate impacts to those species if impacts were observed during the transfer. More than 1600 observations of foothill yellow-legged frog were made in eight surveys of two survey reaches. Dataloggers (*Thermochron ibuttons*) were deployed to record water and ambient temperatures, and standard hydrological monitoring transects were established to document flow conditions. No western pond turtles were documented in the survey reaches.

Main Street Bridge Replacement, Amador County – City of Sutter Creek, Sub to Dokken (2018). The City of Sutter Creek is proposing to replace the Main Street Bridge in Amador County, California. The new bridge will be constructed either in phases to allow access during construction or by utilizing a temporary detour slightly upstream. Of concern to Caltrans in the project area is the project's potential to negatively impact California red-legged frogs (*Rana draytonii*) and western pond turtles (*Actinemys marmorata*). As project manager and task lead,

Mr. Stitt performed a preconstruction survey for California red-legged frogs and western pond turtles and finalized a summary report of findings.

Tesoro Viejo Master Planned Community, Madera County – Tesoro Viejo Development Co. (2017 to present).

The Tesoro Viejo Master Planned Community project is a proposed development on an approximately 1,555-acre site (Project Site) in southern Madera County, California. ECORP prepared the Individual 404 permit application, 401 certification, and 1602 master lake and streambed alteration agreement for the Project. Mr. Stitt is an agency-approved biologist ensuring Section 7 protection of California tiger salamander and vernal pool fairy shrimp during construction build-out. Mr. Stitt also conducted numerous nesting bird surveys, California tiger salamander surveys, excavated ground squirrel burrows to their termination to translocate tiger salamanders, and provided compliance oversight for the project. Lastly, he conducted more than 200 Worker Awareness Trainings of personnel.

ATTACHMENT B

Representative Site Photographs



Photo 1. Looking west from near southwestern corner of property, June 22, 2020.



Photo 2. Looking west at seasonal wetland SW-06, June 22, 2020.



Photo 3. Looking north toward railroad tracks, June 22, 2020.



Photo 4. Looking southwest through the property, June 22, 2020.



ATTACHMENT C

California Natural Diversity Database Records

Suisun Multi Family
California Natural Diversity Database
Search Results

Scientific Name: Ambystoma californiense
Common Name: California tiger salamander

Occurrence #	Accuracy	Presence	Occurrence Type	Federal Listing	CA Listing	Global Rank	State Rank	Ecological	Trend	Threat	General Notes	PLSS	Last Update
889	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A MAN-MADE POND LOCATED ALONG THE WEST SIDE OF A RAISED RAILROAD TRACK BERM; POND IS ~40' X 20', WITH A MAXIMUM PONDING DEPTH OF ~2', AND THE WATER WAS MURKY. CRAWDADS AND MOSQUITO FISH WERE ALSO CAPTURED DURING SEINING.	Unknown	THREATENED BY FUTURE DEVELOPMENT OF THE AREA.	3 LARVAE WERE CAPTURED USING A SEINE ON 22 MAR 2006.	T05N, R01W, Sec. 15, NE (M)	20061004
828	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF NON-NATIVE GRASSLAND, WITH MAN-MADE POOLS AND SHALLOW, NATURAL POOLS.	Unknown		2 LARVAE OBSERVED IN A LARGE, MAN-MADE POOL ON 8 MAR 2005.	T05N, R01W, Sec. 10, NW (M)	20050328
876	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT WAS GRAZED ANNUAL GRASSLAND. PORTIONS DEVELOPED INTO NEW BASE HOUSING, WITH SOME OPEN SPACE REMAINING. BASINS ARE NOW LOCATED IN DESIGNATED OPEN SPACE PRESERVE WITH SMALL PERIMETER FENCE.	Unknown		1 DEAD ADULT OBSERVED ON 10 FEB 1999. 60+ LARVAE OBSERVED 21 MAR 2008. POND TURTLE & VERNAL POOL FAIRY SHRIMP ALSO OBSERVED.	T05N, R01W, Sec. 14, NW (M)	20080911
1038	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	"NON-NATIVE GRASSLAND WITH VERNAL POOLS."	Unknown		2 LARVAE OBSERVED ON 1 APR 2008. AREA PROPOSED AS A MITIGATION BANK.	T05N, R01W, Sec. 10, SE (M)	20080919
1195	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	THIS SITE REPRESENTS THE LANDFILL EXPANSION AREA & WILL BE DEVELOPED EXTIRPATING CTS. PERIMETER DRIFT FENCE, 3 DRIFT FENCE ARRAYS, & PIT FALL TRAPS HAVE BEEN USED TO CAPTURE & RELOCATE CTS TO ADJACENT CONSERVATION LANDS/PONDS.	Unknown	LANDFILL EXPANSION; THIS SITE WILL BE DEVELOPED. CTS ARE ACTIVELY BEING EXCLUDED/REMOVED; SOME CAPTURE MORTALITY.	ADULTS OBSERVED BEFORE 2012. 3 ADULTS CAPTURED/RELOCATED IN 2012. 20 ADS, 9 JUVENILES CAP/RELOC IN 2013. 199 ADULTS, 55 JUVS CAP/RELOC IN 2014. UP TO 15 ADULTS & 13 JUVS IN 2015. 73 ADS, 42 JUVS, 1910 LARVAE, 50 EGG MASSES IN 2017.	T04N, R01W, Sec. 10, NW (M)	20190128
485	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	QUARRY POND SURROUNDED BY GRAZED NON-NATIVE GRASSLAND. POND 1 IS W/IN THE LANDFILL EXPANSION BOUNDARY & WILL BE ELIMINATED. EXCLUSIONARY DRIFT FENCE PLANNED FOR 2015; MITIGATION PONDS TO N. OPEN SPACE TO THE N, E, & S ARE TO BE CONSERVED.	Unknown	THREATENED BY LANDFILL EXPANSION. POSSIBLE THREAT FROM CATTLE.	PRESENT JAN 1999. 6 ADULTS IN POND, AT BURROW, & UNDER DEBRIS IN JAN 2000. 47 LARVAE IN 2003. 7 LARVAE IN 2004. 77 LARVAE IN MAR & 38 IN MAY 2006. 9 LARVAE IN APR 2010. UP TO 16 IN 3 EFFORTS IN 2012. UP TO 386 IN 3 EFFORTS IN 2013.	T04N, R01W, Sec. 10, NW (M)	20150129
872	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTED OF GRAZED NON-NATIVE GRASSLAND SURROUNDED BY OPEN SPACE & A LANDFILL. THIS SITE IS JUST OUTSIDE OF THE POTRERO HILLS LANDFILL EXPANSION BOUNDARY & CURRENT EXCLUSIONARY DRIFT FENCE (POND 2 IS W/IN 75M OF FENCE).	Unknown	THREATENED BY LANDFILL EXPANSION, BUT THIS SITE IS OUTSIDE OF THE EXPANSION BOUNDARY ON LANDS THAT SHOULD BE CONSERVED.	ONE LARVA FOUND IN MAR 2000. EGGS FOUND EARLY IN 2001, BUT ONLY A FEW LARVAE FOUND BY MAR. LARVAE FOUND IN MAY 2006 (NUMBER NOT REPORTED). 14 LARVAE CAUGHT (SEINE) ON 30 APR 2010. 46 LARVAE FOUND IN MAR 2013.	T04N, R01W, Sec. 10, NE (M)	20150129
873	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT SURROUNDING POND CONSISTS OF GRAZED NON-NATIVE GRASSLAND; SURROUNDED BY OPEN SPACE AND A LANDFILL. THIS SITE IS JUST 50M OUTSIDE OF (EAST) THE POTRERO HILLS LANDFILL EXPANSION BOUNDARY & CURRENT EXCLUSIONARY DRIFT FENCE.	Unknown	THREATENED BY LANDFILL EXPANSION, BUT POND IS OUTSIDE OF EXPANSION ZONE AND WILL BE CONSERVED.	10'S - 100'S OF LARVAE FOUND IN MAR AND JUN 2000. NONE FOUND IN 2001. 261 LARVAE WERE CAPTURED ON 8 APR 2003. 5 LARVAE CAPTURED ON 28 MAR AND 31 ON 12 MAY 2006. 32 LARVAE IN APR 2010 (SEINE). UP TO 95 LARVAE CAPTURED IN 3 EFFORTS IN 2013.	T04N, R01W, Sec. 10, NE (M)	20150129
1181	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTED OF VERNAL POOLS AND SWALES SURROUNDED BY GRASSLANDS; MITIGATION BANK. SURROUNDING LAND USES WERE LIVESTOCK GRAZING AND TRAVIS AFB. BRANCHINECT LYNCHI, B. MESOVALLENSIS, AND LEPIDURUS PACKARDI ALSO KNOWN FROM AREA.	Unknown		2 JUVENILES OBSERVED ON 23 MAR 2010.	T05N, R01W, Sec. 36 (M)	20140923
874	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	SURROUNDING THE POND IS GRAZED NON-NATIVE GRASSLAND, OPEN SPACE, & A LANDFILL. POND 5, INCLUDING BUFFER, IS TO BE PROTECTED INTO PERPITUITY; POTRERO HILLS LANDFILL EXPANSION TO BE DEVELOPED 150M NW WHERE CTS ARE ACTIVELY BEING TRAPPED OUT.	Unknown	THREATENED BY A PROPOSED LANDFILL EXPANSION, BUT SITE OF POND 5 AND BUFFER TO BE CONSERVED.	10S-100S OF LARVAE MAR & JUN 2000. 1000S OF LARVAE 30 MAR 2001. 160 LARVAE 8 APR 2003. 118 LARVAE 14 MAY 2004. UP TO 134 LARVAE IN 2 EFFORTS IN 2006. 256 LARVAE IN 2010. UP TO 4 LARVAE IN 2 EFFORTS IN 2012. UP TO 649 IN 3 EFFORTS IN 2013.	T04N, R01W, Sec. 10, SE (M)	20150129

Scientific Name: Ambystoma californiense
Common Name: California tiger salamander

Suisun Multi Family California Natural Diversity Database Search Results													
Scientific Name: <i>Ambystoma californiense</i> Common Name: California tiger salamander													
Occurrence #	Accuracy	Presence	Occurrence Type	Federal Listing	CA Listing	Global Rank	State Rank	Ecological	Trend	Threat	General Notes	PLSS	Last Update
1220	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	SALAMANDER FOUND ON RUNWAY IN MOWED GRASSLAND. THE DATA SUBMITTER SELECTED "EXCELLENT" FOR "SITE CONDITION + POPULATION VIABILITY." THIS SEEMS SUSPECT; THERE APPEARS TO BE GOOD HABITAT TO THE EAST, BUT I DOUBT THE RUNWAY IS THAT GOOD.	Unknown		1 ADULT FOUND DEAD ON RUNWAY, 8 JUL 2015.	T05N, R01W, Sec. 24, NE (M)	20160209
875	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A LARGE STOCK POND THAT SUPPORTS LARGE NUMBERS OF LARVAE EVERY YEAR. SURROUNDING POND CONSISTS OF HEAVILY-GRAZED NON-NATIVE GRASSLAND; SURROUNDED BY OPEN SPACE AND A LANDFILL TO THE WEST.	Unknown	THREATENED BY A PROPOSED LANDFILL EXPANSION (NOT APPARENT IN 2014 AERIAL). POSSIBLE THREAT OF CATTLE.	600 LARVAE WERE CAPTURED ON 8 APR 2003. 130 LARVAE CAPTURED ON 14 MAY 2004. 64 LARVAE CAPTURED ON 12 MAY 2006. IN 2013, 55 LARVAE CAPTURED ON 5 MAR, 1005 LARVAE CAPTURED ON 28 MAR, & 169 LARVAE CAPTURED ON 24 APR.	T04N, R01W, Sec. 11, SW (M)	20140924
1219	40	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	FREQUENTLY MOWED GRASSLAND HABITAT DOMINATED BY DISTICHLIS SPICATA, VULPIA MYUROS, LOLIUM PERENNE, AND INVASIVE WEEDS. UNDERGROUND COMMUNICATION LINES WERE UNDER CONSTRUCTION NEARBY WHEN CTS WAS FOUND.	Unknown	CONSTRUCTION EXCAVATION, MOWING.	1 DEAD INDIVIDUAL FOUND ON 6 JUL 2015; DEATH ATTRIBUTED TO DEHYDRATION DURING DISPERSAL FROM NEARBY BREEDING PONDS.	T05N, R01W, Sec. 24, SE (M)	20160201
883	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A LARGE MAN-MADE POOL SURROUNDED BY NON-NATIVE GRASSLAND WITH A GENTLE MOUND AND SWALE TOPOGRAPHY. SHALLOW NATURAL POOLS AND AN INTERMITTENT STREAM ARE ALSO PRESENT NEARBY.	Unknown		1 LARVA OBSERVED ON 13 MAR 2006. 1 LARVA SEINED & RELEASED ON 30 MAY 2010.	T05N, R01W, Sec. 13, NE (M)	20160713
1221	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	SALAMANDERS FOUND ON RUNWAY IN MOWED GRASSLAND WITH LARGELY NON-NATIVE PLANTS. HIGH WINDS WERE HINDERING MOVEMENT OF THE INDIVIDUAL DETECTED IN 2009.	Unknown		1 ADULT MALE OBSERVED TRAVELING SOUTH ON 11 OCT 2009 AFTER FIRST STORM OF SEASON. 1 ADULT OBSERVED TRAVELING SSE TO NNW ON 29 JAN 2014.	T05N, R01E, Sec. 19, NW (M)	20160209
940	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	SHALLOW TURBID POOL AREA ALONG THE SOUTH SIDE OF THE RAILROAD TRACKS. NO VEGETATION OBSERVED. VERNAL POOLS/SEASONAL WETLANDS IN ADJACENT GRASSLANDS.	Unknown		1 ADULT OBSERVED BY D. CHRISTOPHER ROGERS DURING VERNAL POOL INVERTEBRATE SURVEY ON 29 NOV 2004. SPECIES NOT OBSERVED DURING SUBSEQUENT VISITS TO SITE; ANIMAL PRESUMED TO BE IN TRANSIT.	T05N, R01W, Sec. 12 (M)	20070226
998	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A VERNAL POOL.	Unknown		UNKNOWN NUMBER/LIFE STAGE OBSERVED ON 13 MAY 2002.	T05N, R01E, Sec. 30 (M)	20071031
997	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A VERNAL POOL.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED ON 13 MAY 2002.	T05N, R01E, Sec. 20, SW (M)	20071015
1233	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	PROPOSED (AS OF 2012) CONSERVATION BANK; 1290 ACRES INCLUDING MIMA MOUNDS & CREATED WETLANDS.	Unknown		LARVAE DETECTED IN 11 OF 15 FEATURES SAMPLED IN 2011 (4 MAPPED HERE, SEE ALSO OCC #995 & 1232).	T05N, R01E, Sec. 17, SW (M)	20160802
995	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	2002: VERNAL POOLS. 2011: PROPOSED (AS OF 2012) CONSERVATION BANK; 1,290 ACRES INCLUDING MIMA MOUNDS & CREATED WETLANDS.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED IN 2 POOLS ON 13 MAY 2002. LARVAE DETECTED IN 11 OF 15 FEATURES SAMPLED IN 2011 (4 MAPPED HERE, SEE ALSO ELEMENT OCCURRENCES #1232 & 1233).	T05N, R01E, Sec. 20 (M)	20160801
1000	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF VERNAL POOL.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED ON 15 FEB 2002.	T05N, R01E, Sec. 29 (M)	20071015
999	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF VERNAL POOLS.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED ON 15 FEB 2002.	T05N, R01E, Sec. 29, SE (M)	20071015
1232	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	PROPOSED (AS OF 2012) CONSERVATION BANK; 1290 ACRES INCLUDING MIMA MOUNDS & CREATED WETLANDS.	Unknown		LARVAE DETECTED IN 11 OF 15 FEATURES SAMPLED IN 2011 (2 MAPPED HERE, SEE ALSO OCC #995 & 1233).	T05N, R01E, Sec. 16, NW (M)	20160801
996	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A VERNAL POOL.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED ON 25 MAR 2002.	T05N, R01E, Sec. 21, SW (M)	20071016
1055	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A CONSTRUCTED POOL. POOL DEPTH WAS APPROXIMATELY 6 INCHES AT TIME OF OBSERVATION.	Unknown		2 LARVAE CAPTURED ON 27 APR 2006. THIS SITE IS PART OF A MITIGATION BANK.	T05N, R01E, Sec. 04, W (M)	20090501
1002	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A VERNAL POOL WITH AN IRREGULAR MARGIN.	Unknown		UNKNOWN NUMBER/LIFESTAGE OBSERVED ON 2 APR 2002.	T05N, R01E, Sec. 22 (M)	20071031

Suisun Multi Family
California Natural Diversity Database
Search Results

Scientific Name: Ambystoma californiense
Common Name: California tiger salamander

Occurrence #	Accuracy	Presence	Occurrence Type	Federal Listing	CA Listing	Global Rank	State Rank	Ecological	Trend	Threat	General Notes	PLSS	Last Update
1289	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	BREEDING POOLS IN VERNAL POOL MITIGATION BANK; REMAINED WET LONG ENOUGH IN 2015-2017 TO SUPPORT SUCCESSFUL METAMORPHOSIS; ALSO SUPPORT SEVERAL RARE & ENDANGERED BRANCHIOPODS. POOLS MAINLY TURBID CATTLE PONDS IN GRAZED ANNUAL GRASSLAND.	Unknown	CRAYFISH, OBSERVED IN AT LEAST POOLS 2 & 3 (2013-2016).	POOLS WERE DRY IN 2012. 100S OF LARVAE IN POOLS 2, 3, & 4, 2013. 100S OBS IN POOLS 1 & 3, 2 LARVAE IN POOL 2 IN 2016. TOTAL OF 100S OBS IN POOLS 1, 2, 3, 4, & 5, 2014. TOTAL OF 100S OBS IN POOLS 1, 2, & 3, 2017.	T05N, R01E, Sec. 10 (M)	20190410
601	50	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	VERNAL POOLS.	Unknown		SHAFFER SITES 73 AND 74. CTS OBSERVED 29 APR 1990.	T05N, R01E, Sec. 27 (M)	20020718
336	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF RESTORED VERNAL POOLS IN CENTRAL VALLEY GRASSLAND; PLAYA POOLS CONTAINING WATER INTO JUNE, WITH HIGH TURBIDITY DUE TO CONSTANT WIND CAUSING SUSPENSION OF FINE SEDIMENTS.	Unknown	POSSIBLE THREATS INCLUDE OVERGRAZING, CONVERSION TO CROPLAND, DEVELOPMENT.	CAS #187388-89 COLL 20 APR 1978. CAS #178428 COLL 19 FEB 1982. SHAFFER SITE #57 COLL 21 APR 1990. SHAFFER SITE #89 COLLECTED 11 MAR 1990. SHAFFER SITE #274 COLLECTED 3 MAY 1991. PLAYA-2: LARVAE OBS, 1995. OBSERVED, 13 MAY 2002.	T05N, R01E, Sec. 22 (M)	20050621
1291	10	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	BREEDING POOL UNDER EUCALYPTUS TREES IN VERNAL POOL MITIGATION BANK; POOLS MAINLY TURBID CATTLE PONDS IN GRAZED ANNUAL GRASSLAND.	Unknown	CRAYFISH (2013).	1 LARVA FOUND ON 19 APR 2012. NONE FOUND IN 2014. NOT SURVEYED, 2013 & 2016. NOT FOUND IN 2017.	T05N, R01E, Sec. 10, NE (M)	20190320
547	30	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3		Unknown		207 ADULTS CAPTURED IN 16, 33 FOOT DRIFT FENCE ARRAYS WITH A PIT FALL TRAP AT EACH END, BETWEEN 14 NOV 2006 & 26 FEB 2007. ARRAYS RUN PER USFWS SURVEY PROTOCOLS. CAS #178446, LARVA COLLECTED 2 APR 1983 BY D. MUTH & L. SPENCER (DFG).	T05N, R01E, Sec. 14 (M)	20070606
81	20	Presumed Extant	Natural/Native occurrence	Threatened	Threatened	G2G3	S2S3	HABITAT CONSISTS OF A LARGE VERNAL POOL. SHEEP GRAZING AND EXOTIC PLANTS PRESENT. BRANCHINECTA CONSERVATIO, LEPIDURUS PACKARDI, AND ELAPHRUS VIRIDIS ARE ALSO FOUND AT THIS SITE.	Unknown		UCD RECORD FEB 1972. SSC 714 (LARVA) 7 APR1973. 5 LARVAE TAKEN 9 APR 1998. 653 ADS/7749 JUVS OBS, 2005-06 IN 88 VISITS. 4483 JUVS CAPTURED (PITFALL TRAPS,DRIFT FENCES) MAY-JUN '05. 1640 CAPTURED IN PITFALL TRAPS OCT '06-MAR '07.	T05N, R01E, Sec. 23, NE (M)	20090127

- B5 – Dry Season Survey for Federally Listed Branchiopods



MEMORANDUM

TO: Ron Wu, FPA Multifamily, LLC
Russ Shaw, Real Estate Consultant
Tim Kihm, TK Consulting, Inc.

FROM: Mr. Peter Balfour, ECORP Consulting, Inc.

DATE: August 26, 2020

RE: Suisun Multi-Family Project-
Solano County, California - Dry Season Soil Analysis Results

INTRODUCTION

At the request of FPA Multifamily, LLC., ECORP Consulting, Inc. (ECORP) analyzed soil samples as part of a dry season survey for federally-listed large branchiopod species at the Suisun Multi-Family project site located in Solano County, California. ECORP received authorization to collect dry season soil samples via an email from the U.S. Fish and Wildlife Service (USFWS) dated August 24, 2020 (Service Reference Number 2020-TA-2695, Attachment A). Following authorization, ECORP collected and processed soil samples from 6 aquatic features on the property.

The purpose of the investigation was to determine the presence of eggs of large branchiopod species listed as threatened or endangered under the federal Endangered Species Act (e.g., vernal pool fairy shrimp or vernal pool tadpole shrimp). The soils were collected and analyzed under the authority of USFWS Recovery Permit No. TE-012973-12.1 (ECORP).

METHODS

Soil samples were collected on August 25, 2020 and were then processed following methods outlined in the Guidelines (USFWS 2017). In ECORP's laboratory, a brine solution was prepared by mixing table salt (NaCl) with lukewarm tap water in a large container. The soil material collected from each aquatic feature was placed into the brine solution, and worked by hand to break down soil structure. The organic material rising to the top of the brine solution was poured onto either a 710- or 600-micron-diameter-pore-size sieve stacked atop a 150-micron-diameter-pore-size sieve. The soil material was processed through the top sieve by flushing it with lukewarm tap water while gently rubbing it with a soft-bristle brush. The organic material retained from the 150-micron-diameter pore-size sieve was then rinsed gently with lukewarm tap water, and then removed and thinly distributed into plastic petri dishes.

Under the supervision of permitted biologist Peter Balfour, all sieved fractions were microscopically inspected for the presence of large branchiopod eggs.

RESULTS

ECORP collected and processed soil samples from all 6 aquatic features on the property. No eggs of large branchiopods were identified in any of the features.

REFERENCES

USFWS. 2017. Survey guidelines for the listed large branchiopods. Dated November 13, 2017.

ATTACHMENT A

U.S. Fish and Wildlife Service Authorization

Peter Balfour

From: Lantz, Samantha M <samantha_lantz@fws.gov>
Sent: Monday, August 24, 2020 9:00 AM
To: Peter Balfour
Cc: Markegard, Sarah I; Sosa, Samuel C
Subject: Fw: [EXTERNAL] Suisun Multi-Family Property-Request for survey authorization under permit # TE-012973-12.2

Peter Balfour,

You can consider this email authorization to conduct dry season surveys at the Suisun multi-family property in Solano County, as per your email request on August 21, 2020 . Please use Service reference number 2020-TA-2695 in all future correspondence regarding this survey, and include myself and Sam Sosa (cc-ed) when sending in the reports.

Remember to carry a copy of your permit while doing the work and to follow the terms and conditions, including the reporting requirements. Please let us know if the surveys are not performed as authorized, or if they are done by a different permittee under a separate authorization. This authorization does not include access to the property which must be arranged with the landowner or manager.

Thanks,

Sam

~~~~~

Samantha Lantz, PhD  
Fish and Wildlife Biologist  
USFWS, Sacramento Field Office  
Listing and Recovery Division  
2800 Cottage Way W-2605  
Sacramento, CA 95825-1888  
Phone: 916-414-6526  
Pronouns: she/her/hers

In an effort to slow the spread of the coronavirus (COVID-19), staff in the Sacramento Fish and Wildlife Office have implemented an aggressive telework schedule. At this time, we are responding to requests for information via email or phone as often as possible as we do not have the in-office capacity to support regular mail service. We appreciate your understanding.

---

**From:** Peter Balfour <PBalfour@ecorpconsulting.com>  
**Sent:** Friday, August 21, 2020 2:11 PM  
**To:** Markegard, Sarah I <sarah\_markegard@fws.gov>  
**Cc:** Lourdes Gonzalez-Peralta <lperalta@ecorpconsulting.com>; Theresa Johnson <theresaj@ecorpconsulting.com>;  
\*Project E-Mail <ProjectE-Mail@ecorpconsulting.com>  
**Subject:** [EXTERNAL] Suisun Multi-Family Property-Request for survey authorization under permit # TE-012973-12.2

|                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------|
| <p>This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------|

Good Afternoon Sarah,

On behalf of FPA Multifamily, LLC, we are requesting authorization (under ECORP permit TE-012973-12.2) to conduct a dry season survey of six features on the  $\pm 9.6$ -acre Suisun Multi-Family Project site located in Solano County, California. The Study Area is located south of Railroad Avenue and east of Blossom Road (Figure 1. *Property Location and Vicinity*). The Study Area corresponds to a portion of the Rancho Tolenas Land Grant of the "Fairfield North, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1980). The approximate center of the Study Area is located at NAD83 coordinates 38.259362° latitude and -122.013349° longitude within the Suisun Bay Watershed (Hydrologic Unit Code #18050001, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

A graphic depicting the features to be sampled is attached as Figure 2. Soils will be collected, processed, and analyzed pursuant to current USFWS guidelines. ECORP will prepare a summary of findings and submit a report to the Service pursuant to the requirements of our permit. Please let us know if you have any questions. We would like to collect samples as soon as possible. Thank you Sarah! I hope you are well.

Best Regards,

Pete

*Peter Balfour*

*Vice President /Principal Biologist*



***A Federal Small Business***

2525 Warren Drive, Rocklin, CA 95677

Ph: 916-782-9100 ♦ Fax: 916-782-9134

[pbalfour@ecorpconsulting.com](mailto:pbalfour@ecorpconsulting.com) ♦ [www.ecorpconsulting.com](http://www.ecorpconsulting.com)

## **ATTACHMENT C**

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Representative Site Photos

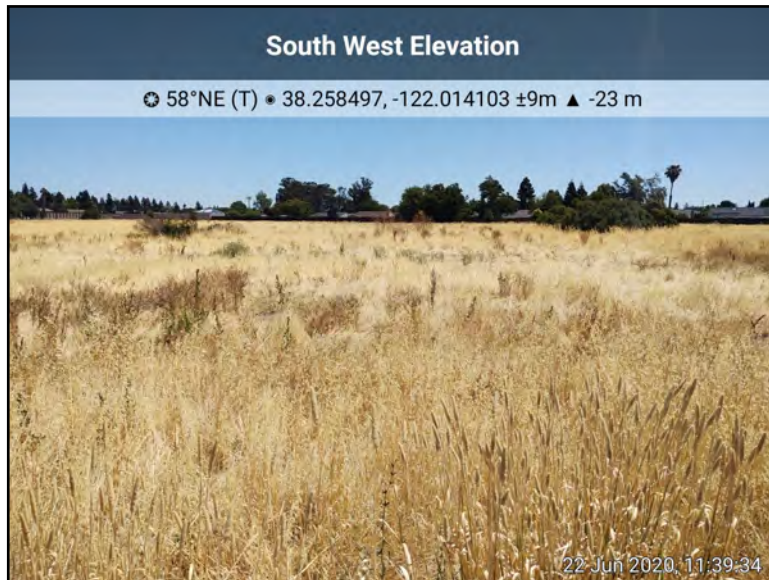


Photo 1. Representative photo of annual grassland. Photo taken June 22, 2020.

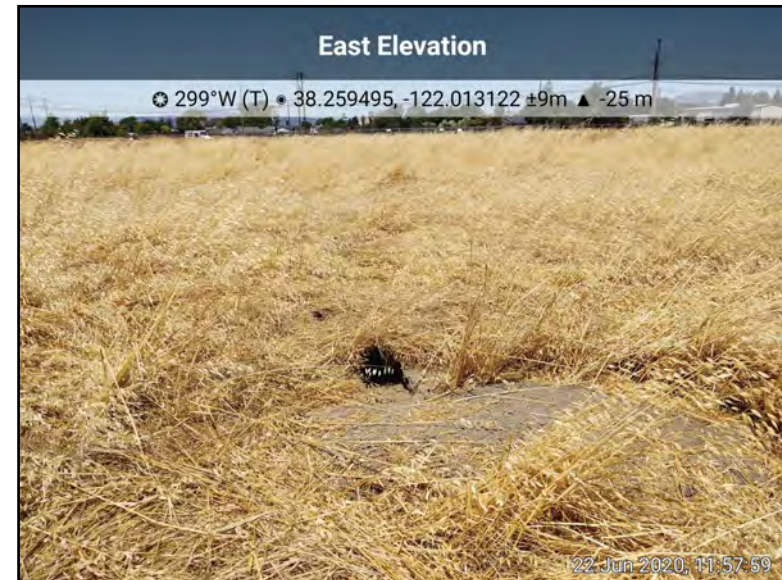


Photo 2. Representative photo of potential burrowing owl habitat. Photo taken June 22, 2020.



Photo 2. Representative photo of seasonal wetlands dominated by least spikerush. Photo taken June 22, 2020.



Photo 4. Representative photo of seasonal wetlands dominated by hyssop loosestrife. Photo taken June 22, 2020.



## **ATTACHMENT D**

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Preliminary Jurisdictional Determination



# PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

|                                |                        |             |                            |                                       |                                                                                                                                                                  |
|--------------------------------|------------------------|-------------|----------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| District Office                | San Francisco District | File/ORM #  | SPN-2020-00295             | PJD Date:                             | Aug 25, 2020                                                                                                                                                     |
| State                          | CA                     | City/County | Suisun City, Solano County | Name/Address of Person Requesting PJD | Todd Stark<br>Redwood Construction<br>2082 Michelson Drive 4th Floor<br>Irvine, CA 92612<br>TStark@redwoodconst.com<br>Agent: Theresa Johnson, ECORPS Consulting |
| Nearest Waterbody:             | Suisun Slough          |             |                            |                                       |                                                                                                                                                                  |
| Location: TRS, LatLong or UTM: | 38.259362, -122.013349 |             |                            |                                       |                                                                                                                                                                  |

|                                                                 |                                                                       |                                                                   |                                      |
|-----------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|
| Identify (Estimate) Amount of Waters in the Review Area:        | Name of Any Water Bodies on the Site Identified as Section 10 Waters: | Tidal:                                                            |                                      |
| Non-Wetland Waters:                                             |                                                                       | Non-Tidal:                                                        |                                      |
| linear ft                                                       | width                                                                 | acres                                                             |                                      |
| Stream Flow:                                                    |                                                                       |                                                                   |                                      |
| Wetlands:                                                       | 0.38                                                                  | acre(s)                                                           | Cowardin Class: Palustrine, emergent |
| <input checked="" type="checkbox"/> Office (Desk) Determination |                                                                       | <input type="checkbox"/> Field Determination: Date of Field Trip: |                                      |

**SUPPORTING DATA:** Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: ECORP Consulting for FPA Multifamily, LLC
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☐ U.S. Geological Survey map(s). Cite quad name:
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☒ Aerial (Name & Date): ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

**IMPORTANT NOTE:** The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager  
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD  
(REQUIRED, unless obtaining the signature is impracticable)

9/1/2020

## EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

# PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

## Appendix A - Sites

District Office  File/ORM #  PJD Date:   
State  City/County  Person Requesting PJD

| Site Number | Latitude  | Longitude   | Cowardin Class       | Est. Amount of Aquatic Resource in Review Area | Class of Aquatic Resource |
|-------------|-----------|-------------|----------------------|------------------------------------------------|---------------------------|
| SW-01       | 38.259362 | -122.013349 | Palustrine, emergent | 0.017                                          | Non-Section 10 wetland    |
| SW-02       |           |             | Palustrine, emergent | 0.122                                          | Non-Section 10 wetland    |
| SW-03       |           |             | Palustrine, emergent | 0.009                                          | Non-Section 10 wetland    |
| SW-04       |           |             | Marine               | 0.069                                          | Non-Section 10 wetland    |
| SW-05       |           |             | Palustrine, emergent | 0.156                                          | Non-Section 10 wetland    |
| SW-06       |           |             | Palustrine, emergent | 0.008                                          | Non-Section 10 wetland    |

Notes:



DEPARTMENT OF THE ARMY  
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
450 GOLDEN GATE AVENUE  
SAN FRANCISCO, CALIFORNIA 94102

August 26, 2020

Regulatory Division

Subject: File No. 2020-00295N

Todd Stark  
Redwood Construction  
2082 Michelson Drive 4th Floor  
Irvine, CA 92612  
[TStark@redwoodconst.com](mailto:TStark@redwoodconst.com)

Dear Mr. Stark:

This correspondence is in reference to your submittal of July 13, 2020, by Theresa Johnson on your behalf requesting a preliminary jurisdictional determination of the extent of navigable waters of the United States and waters of the United States occurring on an approximately 9.6 acre site located at the southeast intersection of Blossom Road and Railroad Avenue in Suisun City, Solano County, California (Lat/Long: 38.259362, -122.013349)

All proposed discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters, typically require Department of the Army authorization and the issuance of a permit under Section 404 of the Clean Water Act of 1972, as amended, 33 U.S.C. § 1344 *et seq.* Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary; and certain ephemeral streams in the arid West.}

The enclosed delineation map titled "SPN-2020-00295\_Wetland Delineation Map Suisun City Multifamily" in one sheet and date certified August 25, 2020 depicted on Corps' label, depicts the extent and location of wetlands within the boundary area of the site that **may be** subject to U.S. Army Corps of Engineers' regulatory authority under Section 404 of the Clean Water Act. This preliminary jurisdictional determination is based on a review of available digital photographic imagery and a review of other data included in your submittal. While this



preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 16-01, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*. You are requested to sign and date this form and return it to this office within two weeks of receipt.

You are advised that the preliminary jurisdictional determination may **not** be appealed through the U.S. Army Corps of Engineers' *Administrative Appeal Process*, as described in 33 C.F.R. pt. 331 (65 Fed. Reg. 16,486; Mar. 28, 2000). Under the provisions of 33 C.F.R. Section 331.5(b)(9), non-appealable actions include preliminary jurisdictional determinations since they are considered to be only advisory in nature and make no definitive conclusions on the jurisdictional status of the water bodies in question. However, you may request this office to provide an approved jurisdictional determination that precisely identifies the scope of jurisdictional waters on the site; an approved jurisdictional determination may be appealed through the *Administrative Appeal Process*. If you anticipate requesting an approved jurisdictional determination at some future date, you are advised not to engage in any on-site grading or other construction activity in the interim to avoid potential violations and penalties under Section 404 of the Clean Water Act. Finally, you may provide this office new information for further consideration and request a reevaluation of this preliminary jurisdictional determination.

You may refer any questions on this matter to Jayme Ohlhaver of my Regulatory staff by telephone at 415-503-6408 or by e-mail at [jayme.a.ohlhaver@usace.army.mil](mailto:jayme.a.ohlhaver@usace.army.mil). All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website:  
<http://www.spn.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,

A handwritten signature in cursive script that reads "Sahrye Cohen".

Digitally signed by  
COHEN.SAHRYE.E.1376728451  
Date: 2020.08.27 14:47:49 -07'00'

Sahrye Cohen  
North Branch Chief  
Regulatory Division

Enclosures

Copy Furnished (w/ encls):

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**Appendix E   CULTURAL RESOURCES INVENTORY REPORT  
(CONFIDENTIAL)**



## **Appendix F    GEOTECHNICAL ENGINEERING REPORT**







*Geotechnical Engineering Report*  
**SUISUN MULTI-FAMILY APARTMENTS**

WKA No. 12751.01

May 8, 2020

*Prepared for:*

FPA Multi-Family, LLC  
2082 Michelson Drive, 4<sup>th</sup> Floor  
Irvine, California 92612

*Preliminary Geotechnical Engineering Report*

**SUISUN MULTI-FAMILY APARTMENTS**

Suisun City, California

WKA No. 12751.01

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*Preliminary Geotechnical Engineering Report***SUISUN MULTI-FAMILY APARTMENTS**

Suisun City, California

WKA No. 12751.01

May 8, 2020

**INTRODUCTION**

As authorized, we have completed a preliminary study of the subsurface soil and groundwater conditions for the proposed multi-family development to be constructed southeast of the intersection of Blossom Road and Railroad Avenue in Suisun City, California (Figure 1). Our work has been performed in accordance with authorization from FPA Multi-Family L.L.C., and the scope of work outlined in our proposal letter dated March 19, 2020.

Purpose and Scope of Services

The purpose of this report has been to describe the nature and general engineering characteristics of the soil and groundwater conditions at the site, and to provide findings, conclusions and preliminary geotechnical recommendations regarding the feasibility of developing the site with a multi-family development. This report is preliminary in nature and describes the impacts of the soil and groundwater conditions on earthwork, buildings and pavement construction. This report is not intended for final design and does not include specific recommendations for site grading or building foundation/slab-on-grade construction. However, it does contain preliminary pavement design sections.

Our scope of services has included:

- A general site reconnaissance;
- Hand excavating and sampling two shallow borings to a maximum depth of approximately five feet below the existing ground surface;
- Review of aerial photographs;
- Review of available geologic literature pertaining to the property and a review of the Department of Agricultural Soils Conservation Service (SCS) Soil Survey for Solano County;
- Laboratory testing on bulk samples and drive samples of the soils collected during our field investigation to determine the engineering characteristics of the site materials.
- Engineering analysis; and,
- Preparation of this report.

### Supplemental Information

Supplemental information reviewed during the preparation of this report included the following reports:

- Wallace-Kuhl & Associates, 2010, *Test Pit Observation Report* prepared for the Villages of Fairfield, located about one-mile northeast of the site (WKA No. 7029.08, dated July 6, 2010); and,
- Wallace-Kuhl & Associates, 2017, *Geotechnical Engineering Report* prepared for the Fairfield High School Track and Field Improvements, located about 1½ miles north of the site (WKA No. 11258.01P, dated January 26, 2017).

### Figures and Attachments

A Vicinity Map showing the location of the site is presented in Figure 1. Figure 2 shows the approximate boring locations, and the approximate distribution of the Soils Conservation Service (SCS) soil types. The Logs of Soil Borings are presented in Figures 3 and 4. An explanation of the symbols and classification system used on the logs is included on Figure 5. Appendix A contains general information regarding our field investigation and information regarding the laboratory testing program.

### Proposed Development

We understand that the irregular-shaped property encompasses a total area of about nine acres and consists of one parcel identified as Solano County Assessor Parcel Number 0037-130-010. We understand that the property is currently vacant and undeveloped land.

Conceptual information provided suggests that the project will involve the construction of multi-family apartment buildings, single-story leasing office, and other associated buildings. We presume that the multi-family apartment buildings will be up to 3-stories in height and constructed of wood-framed walls with interior concrete slabs-on-grade lower floors. We also assume that the remaining structures will be wood-framed with interior concrete slabs-on-grade lower floors. Structural loads are anticipated to be light to moderately heavy based on this type of construction. Associated development common to multi-family properties typically include construction of underground utilities, landscaping, exterior flatwork, and asphalt concrete parking lots and drive aisles.

We also understand that the project is in its conceptual stages of design and that a design-level geotechnical report is not needed at this time.



## FINDINGS

### Historical Aerial Photograph Review

We reviewed historical aerial photographs of the site available from [Historicaerials.com](http://Historicaerials.com) and the Google Earth websites from the years 1948 through 2018. In 1948, an unimproved road is visible in the northeast portion of the site originating from Railroad Avenue south into the property to two, long and thin rectangular structures. The remainder of the property is vacant and undeveloped. By 1968, the unimproved road is still visible; however, the rectangular-shaped structures have been razed. Between 1968 and the end of 2005, the site remained vacant and undeveloped. At the end of 2005, residential construction adjacent to the southern property line is visible and the north-central and southern portions of the site appear to have been disturbed or cleared of vegetation, used as a construction staging area, and/or received fill from the construction the residential development to the south of the site. With the exception of periodic discing for weed abatement, the site has remained vacant and undeveloped from 2005 up to the present day.

### Site Description

The subject property is located southeast of the intersection of Blossom Road and Railroad Avenue in Suisun City, California (Figure 1). The site is bounded to the north by Railroad Avenue; to the east and south by residential development; and, to the west by Blossom Avenue. Topography across the site is relatively flat with an average surface elevation of approximately +30 feet relative to the North American Vertical Datum of 1988 based on the USGS 7.5-Minute *Topographic Map of the Fairfield North Quadrangle*, dated 2018.

At the time of our field explorations on April 22, 2020, the site was undeveloped and covered with a dense growth of volunteer grass and weeds. One mature tree was observed in the east quadrant of the site. Chain link fencing was observed along the northern and western borders of the site.

### Site Geology

The subject property is located within the Great Valley geomorphic province of California. The geology in the Great Valley is characterized by thick sequences of alluvial and flood plain deposits consisting of sedimentary material derived from the Coast Ranges to the west and the Sierra Nevada mountain range to the east. According to the Preliminary *Geologic Map of*



*Solano County and Parts of Napa, Contra Costa, Marin, and Yolo Counties, California*<sup>1</sup>, the subject site is predominantly underlain by Quaternary-aged alluvium deposits of sand, gravel, silt, and clay irregularly interstratified and commonly unconsolidated deposited by present day streams and river systems that drain the Coast Ranges, Klamath Mountains, and Sierra Nevada. This is consistent with the on-site soils encountered during our recent field explorations of the site.

#### Soil Conservation Survey Soil Conditions

Review of the U.S. Department of Agriculture, SCS *Soil Survey of Solano County, California* indicates the near-surface soils across the subject property consist of one soil type, the "Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes." The approximate distribution of the soil type; as mapped by the SCS, is shown in Figure 2. The Antioch-San Ysidro complex, is described by the SCS as the following.

- Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes: Typically, the surface layer of the Antioch is a loam from 0 to 25 inches. The subsoil is a brown clay from 25 to 60 inches and the substratum to a depth of 60 to 72 inches is a loam. The surface layer of the San Ysidro is a sandy loam from 0 to 25 inches, changing to a clay loam from 25 to 35 inches. The subsoil is a sandy clay loam between 35 to 54 inches and the substratum from 54 to 68 inches is a stratified sandy loam to clay loam.

The SCS soil descriptions are generally consistent with the subsurface conditions encountered at the boring locations.

#### Soil Conditions

The hand augered borings indicate the surface and near-surface soils generally consisted of a layer of sandy silt to a depth up to about 1½ feet below the existing surface grades. Silty fat clay was encountered below the surface silts from a depth of about 1½ to four feet. Sandy clays were encountered from a depth of about four feet up to the maximum explored depth of about five feet below existing site grades.

For soil conditions at specific hand auger boring locations, please refer to the Logs of Borings presented on Figures 3 and 4.

---

<sup>1</sup> J.D. Sims, K.F. Fox Jr., J.A. Bartow, and E.J. Helley, 1973, *Geologic Map of Solano County and Parts of Napa, Contra Costa, Marin, and Yolo Counties, California*.





### Groundwater

Groundwater was not encountered within the borings hand augered on April 22, 2020, to the maximum depth explored of about five feet below existing site grades.

Review of historical groundwater data compiled from February of 1972 to November of 2014 by the Department of Water Resources (DWR) for well 382626N1220149W001, which is located about 1150 feet north of the site indicates groundwater elevations have fluctuated from a low elevation of approximately +12.99 feet relative to mean sea level (msl) in April of 1973, or about 29.6 feet below the ground surface at the well location, to a high elevation of about +40.39 feet msl in March of 1983, or about 2.2 feet below the ground surface at the well location.

We also reviewed available groundwater data from other studies prepared by our firm for sites near the subject property. In July of 2010, groundwater was encountered at depths ranging from 8 to 12 feet below existing grades (WKA, 2010). In 2017, groundwater was measured at about 14½ feet below the existing ground surface at the Fairfield High School (WKA, 2017).

## **CONCLUSIONS**

### Building Support

In our opinion, the undisturbed native soils are capable of supporting the proposed apartment and office buildings. Engineered fill that is properly placed and compacted during earthwork also would be suitable to support the proposed structures and pavements. The upper 6 to 12 inches of surface soil are in a relatively loose conditions and would require processing and compaction prior to site development.

### 2019 California Building Code Seismic Design Parameters

The 2019 CBC references the *American Society of Civil Engineers (ASCE), Minimum Design Loads and Associated Criteria for Buildings and Other Structures 7-16*. To assist with the structural design of the project, we have provided seismic design parameters for the 2019 CBC which have been determined based on the site location and the web interface developed by the Structural Engineers Association of California (SEAOC) and the Office of Statewide Health Planning and Development (OSHDP) (<https://seismicmaps.org>).

Since  $S_1$  is greater than 0.2g, the 2019 CBC coefficient values  $F_v$ ,  $S_{M1}$ , and  $S_{D1}$  presented in Table 1 below are valid for this project, provided the requirements in Exception Note No. 2 in



Section 11.4.8 of ASCE 7-16 apply, specifically if  $T \leq 1.5 \times T_s$ . If not, a site-specific ground motion hazard analysis is required.

The following seismic design parameters summarized in Table 1 may be used for preliminary seismic design of proposed structures.

| <b>TABLE 1</b><br><b>2019 CBC/ASCE 7-16 SEISMIC DESIGN PARAMETERS</b> |                           |                          |                          |         |
|-----------------------------------------------------------------------|---------------------------|--------------------------|--------------------------|---------|
| Latitude: 38.2594° N<br>Longitude: 122.0136° W                        | ASCE 7-16<br>Table/Figure | 2019<br>CBC Table/Figure | Factor/<br>Coefficient   | Value   |
| Short-Period MCE at<br>0.2 seconds                                    | Figure 22-1               | Figure 1613.3.1(1)       | $S_s$                    | 1.554 g |
| 1.0 second Period MCE                                                 | Figure 22-2               | Figure 1613.3.1(2)       | $S_1$                    | 0.543 g |
| Soil Class                                                            | Table 20.3-1              | Section 1613.3.2         | Site Class               | D       |
| Site Coefficient                                                      | Table 11.4-1              | Table 1613.3.3(1)        | $F_a$                    | 1.0     |
| Site Coefficient                                                      | Table 11.4-2              | Table 1613.3.3(2)        | $F_v$                    | 1.757   |
| Adjusted MCE Spectral<br>Response Parameters                          | Equation 11.4-1           | Equation 16-37           | $S_{MS}$                 | 1.554 g |
|                                                                       | Equation 11.4-2           | Equation 16-38           | $S_{M1}$                 | 0.954 g |
| Design Spectral<br>Acceleration Parameters                            | Equation 11.4-3           | Equation 16-39           | $S_{DS}$                 | 1.036 g |
|                                                                       | Equation 11.4-4           | Equation 16-40           | $S_{D1}$                 | 0.636 g |
| Seismic Design Category                                               | Table 11.6-1              | Section 1613.3.5(1)      | Risk Category<br>I to IV | D       |
|                                                                       | Table 11.6-2              | Section 1613.3.5(2)      | Risk Category<br>I to IV | D       |

Notes:  $MCE_R$  = Risk-Targeted Maximum Considered Earthquake; g = gravity

\* = The value is valid provided the requirements in Exception Note No. 2 in Section 11.4.8 of ASCE 7-16 are met. If not, a site-specific ground motion hazard analysis is required.

#### Liquefaction Potential

A site-specific liquefaction analysis was beyond the scope of services for this study. To our knowledge, there have been no reported instances of liquefaction having occurred within the Sacramento area during the major earthquake events of 1892 (Vacaville-Winters), 1906 (San Francisco), 1989 (Loma Prieta) and the 2014 (American Canyon). In our opinion, structures constructed in accordance with the recommendations provided herein and the 2019 CBC will be





sufficient to prevent significant damage from the low likelihood of liquefaction settlements at the site.

#### Excavation Conditions

The soils at the site are anticipated to be excavatable with conventional earthwork and trenching equipment. Standard size backhoes and excavators should be suitable to excavate foundation and shallow utility trenches at this site.

Foundation excavations and the upper five feet of utility trenches should stand at near vertical inclinations, unless saturated soil conditions are encountered. Utility trench excavations deeper than five feet should be sloped or braced to conform to current California Occupational Safety and Health Administration (Cal/OSHA) requirements.

Excavated materials should not be stockpiled directly adjacent to an open excavation to prevent surcharge loading of the excavation sidewalls. Excessive truck and equipment traffic should be avoided near excavations. If material is stored or heavy equipment is stationed and/or operated near an excavation, a shoring system must be designed to resist the additional pressure due to the superimposed loads.

#### Soil Expansion Potential

Laboratory test results on near-surface clays indicate these materials possess high expansion potential when tested in accordance with ASTM D4829 test method (Figure A1). Additional laboratory tests performed on a composite sample of near-surface clay indicate the sample possessed high plasticity when subjected to Atterberg Limits tests in accordance with ASTM D4318 test method (Figure A2). Based on the results of the laboratory testing and our experience in the area, we conclude the native clays are capable of exerting significant expansion pressures on building foundations, interior floor slabs and exterior flatwork.

Based on the presence of the presence of highly expansive clays at the site, recommendations to mitigate the effects of the expansive clays will be required in a design level geotechnical report once final site grades are established. Mitigation measures will likely be required if final site grades will expose the clayey subgrade or of the clayey soils are within the upper 12 to 18 inches of final building pad, exterior flatwork, or pavement subgrades.



#### Foundation Support

In our opinion, the native soils are capable of supporting the anticipated construction provided the structures are designed to resist the anticipated expansion pressures at the site and the near-surface soils are properly recompacted and engineered fill is properly placed and compacted during earthwork. Structures planned where expansive clayey soils are encountered within the upper 12 to 18 inches of the final building pad subgrade will require specific recommendations to mitigate the effects of the expansive soils. Mitigation measures may include deepening foundations, pre-saturation, post-tension (PT) construction, and/or removal of the expansive clays and replacement with non-expansive engineered fill.

#### Pavement Subgrade Quality

Laboratory test results indicate the near-surface clays are poor quality materials for support of asphalt concrete pavements and will require thicker pavement sections to compensate for the lower strength of the soils. Laboratory tests indicate the near surface clays possess a Resistance ("R") value of 5 when tested in accordance with California Test 301 (Figure A3).

Based on previous experience in the area, we anticipate that the treatment of on-site surface and near-surface clay soils with high-calcium or dolomitic quicklime can be a very effective and economical method to increase the subgrade quality of clayey soils to support pavements; reduce the moisture content of near-saturated soils, enabling construction to proceed during or shortly after the rainy season; and, to reduce the expansive characteristics of clayey soils. Proper lime-treatment of the near-surface clayey soils in pavement areas would substantially increase the life-cycle of the pavement by reducing the risk of post-construction differential movement of the subgrade soils.

#### Material Suitability for Engineered Fill Construction

The on-site soils are considered suitable for use as engineered fill, provided they do not contain significant vegetation, debris or rubble, and are at appropriate moisture contents to allow for proper compaction.

#### Groundwater and Seasonal Moisture

Our review of available groundwater information from within the vicinity of the site, indicates that the static groundwater table should not adversely affect design or construction of the proposed development. Although the static groundwater table should not impact future development, perched water above relatively impermeable soil layers should be anticipated. The chances of



encountering perched water are greater during and shortly after the rainy season. Seepage in utility excavations (if encountered) could probably be removed from utility excavations by pumps without major dewatering efforts.

Infiltrating surface run-off water from seasonal moisture during the winter and spring months may create saturated surface soil conditions due to the impervious nature of the underlying clay soils. It is probable that grading operations attempted following the onset of winter rains and prior to prolonged drying periods will be hampered by high soil moisture contents. Such soils, intended for use as engineered fill, will require a prolonged period of dry weather and/or considerable aeration to reach a moisture content suitable to achieve proper compaction.

#### Preliminary Soil Corrosion Potential

One sample of near-surface soil was submitted to Sunland Analytical Lab of Rancho Cordova, California, for testing to determine pH, chloride and sulfate concentrations, and minimum resistivity to help evaluate the potential for corrosive attack upon buried concrete. The results of the corrosivity testing are summarized below in Table 2. Copies of the test reports are presented in Figures A4 and A5.

| <b>TABLE 2</b>                  |                      |                       |
|---------------------------------|----------------------|-----------------------|
| <b>SOIL CORROSIVITY TESTING</b> |                      |                       |
| Analyte                         | Test Method          | Sample Identification |
|                                 |                      | D1 (1½'-4')           |
| pH                              | CA DOT 643 Modified* | 5.95                  |
| Minimum Resistivity             | CA DOT 643 Modified* | 830 Ω-cm              |
| Chloride                        | CA DOT 422           | 56.0 ppm              |
| Sulfate                         | CA DOT 417           | 89.9 ppm              |
| Sulfate – SO <sub>4</sub>       | ASTM D-516m          | 87.9 mg/kg            |

Notes: \* = Small cell method; Ω-cm = Ohm-centimeters; ppm = Parts per million; mg/kg= milligrams per kilogram

The California Department of Transportation Corrosion and Structural Concrete Field Investigation Branch, 2018 Corrosion Guidelines (Version 3), considers a site to be corrosive to foundation elements if one or more of the following conditions exists for the representative soil and/or water samples taken: has a chloride concentration greater than or equal to 500 ppm, sulfate concentration greater than or equal to 1500 ppm, or the pH is 5.5 or less. Based on this criterion, the on-site soils tested are not considered corrosive to steel reinforcement properly embedded within Portland cement concrete (PCC), although the low resistivity value suggests to soils would be corrosive to unprotected buried metal.



Table 19.3.1.1 – Exposure Categories and Classes, of American Concrete Institute (ACI) 318-19, Section 19.3 – Concrete Design and Durability Requirements, as referenced in Section 1904.1 of the 2019 CBC, indicates the severity of sulfate exposure for the samples tested is Exposure Class S0 (water-soluble sulfate concentration in contact with concrete is low and injurious sulfate attack is not a concern). The project structural engineer should evaluate the requirements of ACI 318-19 and determine their applicability to the site.

Wallace-Kuhl & Associates are not corrosion engineers. Therefore, if it is desired to further define the soil corrosion potential at the site, a corrosion engineer should be consulted.

## **PRELIMINARY RECOMMENDATIONS**

### Site Clearing and Grading Considerations

Future geotechnical engineering investigations should be performed to develop site-specific grading recommendations.

Site clearing would include removal of surface and subsurface structures that may remain on-site, as well as the removal of deleterious debris and surface organics. Tree removal generally includes the entire rootball and all roots larger than ½-inch in diameter. Excavations and depressions resulting from the removal of these items must be backfilled with engineered fill.

Removal of surface organics would depend on the condition and quantity of the organics at the time grading is to begin. Discing of the organics may be suitable for construction, if the organic concentrations are not too heavy at the time of grading. Stripping of the organics likely would be required if organic concentrations are very thick, with strippings being completely removed from the site or used only in landscape areas.

Loose, soft, organically contaminated, or saturated soils encountered during site preparation are not considered suitable for support of future improvements. Removal of these materials to expose firm, undisturbed native soils, and backfilling with engineered fill will be required.

Areas designated to receive fill and at-grade areas, and those areas that previously supported structures are typically ripped and cross-ripped to a depth of about 12 inches, thoroughly moisture conditioned, and uniformly compacted. Standard fill construction and compaction procedures, including uniform moisture conditioning, placement of fill in six-inch lifts and compaction to at least 90 percent of the maximum dry density, would be suitable for support of the planned structures.



Typically only native soils (in lieu of select sand backfill) are recommended for use as backfill for utility trenches located within building footprints and extend at least five feet beyond the perimeter foundation to minimize water transmission beneath the homes. Utility trench backfill is generally thoroughly moisture conditioned to at least the optimum moisture content and mechanically compacted.

Due to the potential expansion characteristics of the native clay soils, the upper 12 to 18 inches of the final subgrade below the building footprints and at-grade structures, including exterior flatwork, may either be pre-saturated, chemically amended, or replaced with imported non-expansive engineered fill.

#### Foundation Design and Floor Slab Support

Our preliminary evaluation of the geotechnical aspects of the project suggests the underlying clay soils possess high expansion characteristics. Based on these results, typical foundations for structures constructed on expansive soils would consist of deepened, heavily-reinforced conventional foundations or post-tensioned slab systems. Deepened conventional foundations typically would be at least 18 inches deep and contain at least four No. 4 rebar, two each placed top and bottom. Minimum foundation widths of 12 inches for continuous foundation and 18 inches wide for isolated spread foundations would be applicable.

Post-tension slabs are typically 10-inches thick with deepened edges. We anticipate bearing capacities on the order of 1500 to 2500 pounds per square foot (psf) for dead plus live load would be applicable for foundations bearing in recompacted native materials, engineered fill, or a combination of these materials. Post-tensioned foundation systems are considered to be the least risky of these systems with regard to future foundation movement.

Interior concrete slab-on-grade floors used in conjunction with conventional foundations would be suitable for this site, provided slabs are properly designed and constructed with regard to reinforcement and moisture vapor penetration resistance. Proper reinforcement of slab-on-grade and moisture conditioning (i.e. pre-saturation) of upper 12 inches of subgrade soils prior to concrete placement will be particularly crucial due to the on-site expansive soils.

Final foundation design will depend on the final site grades relative to the expansive clay soils and should be determined in a design level report once additional information regarding the proposed development becomes available.



Preliminary Pavement Sections

Based upon the laboratory test results and our experience in the area, we have calculated the following alternate pavement sections based on the anticipated traffic conditions at the site. The procedures used for design are in general conformance with Chapters 600 to 670 of the *California Highway Design Manual, Sixth Edition*. An R-value of five was used for untreated native clay subgrades. If the site is chemically amended as noted in this report, an R-value of 40 is considered appropriate for design of on-site pavements.

| <b>TABLE 3</b><br><b>PAVEMENT DESIGN ALTERNATIVES</b> |                                                                    |                                           |                                          |                                                    |                                          |
|-------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|------------------------------------------|----------------------------------------------------|------------------------------------------|
| Traffic Index (TI)                                    | Pavement Use                                                       | Untreated Subgrades<br>R-value = 5        |                                          | Lime-Treated Subgrades<br>Soils(a)<br>R-value = 40 |                                          |
|                                                       |                                                                    | Type B<br>Asphalt<br>Concrete<br>(inches) | Class 2<br>Aggregate<br>Base<br>(inches) | Type B<br>Asphalt<br>Concrete<br>(inches)          | Class 2<br>Aggregate<br>Base<br>(inches) |
| 4.5                                                   | Automobile<br>Parking                                              | 2½*                                       | 10                                       | 2½*                                                | 4                                        |
|                                                       |                                                                    | 3*                                        | 9                                        | 3*                                                 | 4                                        |
| 6.5                                                   | Drive Aisles,<br>Moderate Truck<br>Traffic and<br>Entry/Exit Drive | 3                                         | 17                                       | 3                                                  | 9                                        |
|                                                       |                                                                    | 4*                                        | 15                                       | 4*                                                 | 7                                        |

Notes: \* Asphalt concrete thickness includes the Caltrans safety factor.

(a) Based on minimum 12 inches lime treated soil (R-value=40)

We emphasize that the performance of a pavement is critically dependent upon uniform compaction of the subgrade soils, as well as all engineered fill and utility trench backfill within the limits of the pavements. Materials used for pavement construction should conform to the appropriate sections of the most recent editions of the Caltrans Standard Specifications and local standards, latest editions.

The native clay soils are anticipated to react well with the addition of quicklime (high-calcium or dolomitic) and could enhance the support characteristics of the subgrade and allow for a reduction in the aggregate base section. Additional testing should be performed during construction to verify that the design parameters are achieved in the field. Samples of the field-mixed soil and lime should be collected and tested for a minimum R-value of 40, when tested in





accordance with California Test 301. This additional testing will either verify the design parameters, or provide the opportunity to modify the pavement sections or spread rate based upon the test results. For estimating purposes only, we recommend a minimum spread rate of at least five pounds of quicklime per square foot of mixing depth (at least 12 inches).

Efficient drainage of all surface water to avoid infiltration and saturation of the supporting aggregate base and subgrade soils is important to the performance of pavements. Where drop inlets or other surface drainage features are to be constructed, we strongly recommend that weep holes be provided at the base/subgrade level to allow free drainage of collected water.

#### Future Geotechnical Engineering Studies

Prior to final design and the commencement of site grading, a detailed geotechnical investigation of this property must be conducted that includes additional test borings or test pits with soil sampling, laboratory testing and additional engineering evaluation. The final report should present geotechnical engineering conclusions and specific recommendations regarding site preparation, foundation alternates, floor support, site drainage and pavement design. When the project reaches this stage of development, we would be pleased to provide a separate cost estimate for these services.

### **LIMITATIONS**


The proceeding sections of this report should be considered a general overview of the geotechnical engineering aspects of site development. Our recommendations are based upon the information provided regarding the proposed project, combined with our analysis of site conditions revealed by the field exploration and laboratory testing programs. We have used our best engineering judgment based upon the information provided and the data generated from our investigation. This report has been prepared in substantial compliance with generally accepted geotechnical engineering practices that exist in the area of the project at the time the report was prepared. No warranty, either express or implied, is provided.



We appreciate this opportunity to be of service. Please contact our office at (916) 372-1434 if you have any questions regarding this report or the geotechnical aspects of site development.

Wallace – Kuhl & Associates

  
Joe Follettie  
Staff Engineer

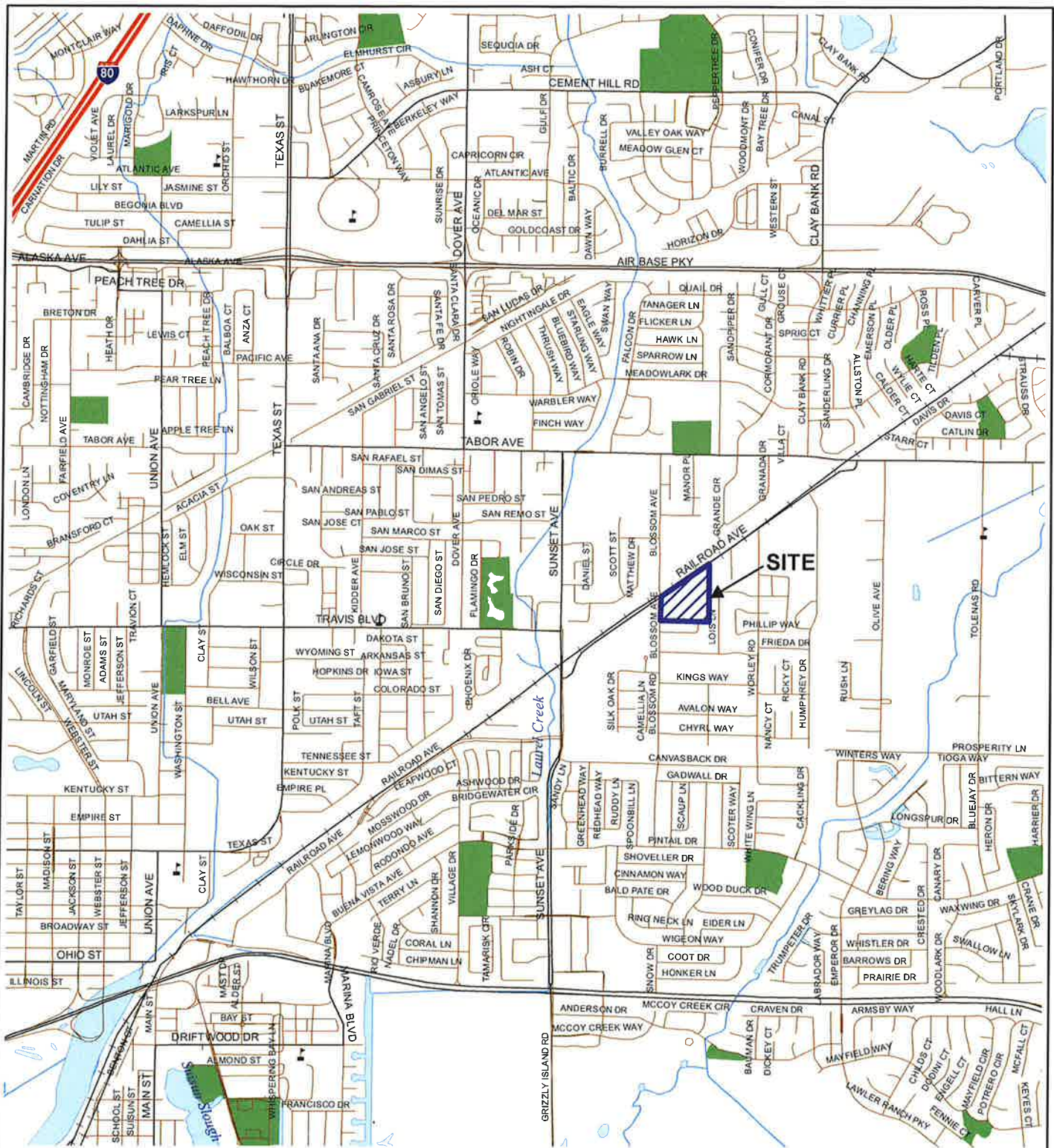
  
Michael M. Watari  
Senior Engineer



GJF:MMW:/gjf







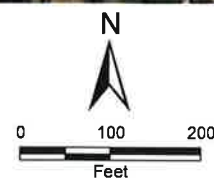
Aerial imagery provided by Esri.  
 Projection: NAD 83, California State Plane, Zone II.



**VICINITY MAP**  
**SUISUN MULTI-FAMILY APARTMENTS**  
 Suisun City, California

| FIGURE 1         |         |
|------------------|---------|
| DRAWN BY         | RWO     |
| CHECKED BY       | GJF     |
| PROJECT MGR      | MMW     |
| DATE             | 05/2020 |
| WKA NO. 12751.01 |         |





## SITE PLAN

## SUISUN MULTI-FAMILY APARTMENTS

Suisun City, California

## FIGURE 2

|             |         |
|-------------|---------|
| DRAWN BY    | RWO     |
| CHECKED BY  | GJF     |
| PROJECT MGR | MMW     |
| DATE        | 05/2020 |

WKA NO. 12751.01

**Project: Suisun Multi-Family Apartments**  
**Project Location: Fairfield, California**  
**WKA Number: 12751.01**

## LOG OF SOIL BORING D1

Sheet 1 of 1

|                                                               |                                                                          |                                                     |
|---------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------|
| Date(s) Drilled<br><b>4/21/20</b>                             | Logged By<br><b>GJF</b>                                                  | Checked By<br><b>MMW</b>                            |
| Drilling Method<br><b>Hand Auger</b>                          | Drilling Contractor<br><b>WKA</b>                                        | Total Depth of Drill Hole<br><b>5.0 feet</b>        |
| Drill Rig Type                                                | Diameter(s) of Hole, inches<br><b>4</b>                                  | Approx. Surface Elevation, ft MSL                   |
| Groundwater Depth (Elevation), feet<br><b>not encountered</b> | Sampling Method(s)<br><b>2.0" Modified California with 6-inch sleeve</b> | Drill Hole Backfill<br><b>soil cuttings</b>         |
| Remarks                                                       |                                                                          | Driving Method and Drop<br><b>10lb Slide Hammer</b> |

| ELEVATION, feet | DEPTH, feet | GRAPHIC LOG | ENGINEERING CLASSIFICATION AND DESCRIPTION                                                                | SAMPLE DATA |                |                 | TEST DATA           |                      |                                      |
|-----------------|-------------|-------------|-----------------------------------------------------------------------------------------------------------|-------------|----------------|-----------------|---------------------|----------------------|--------------------------------------|
|                 |             |             |                                                                                                           | SAMPLE      | SAMPLE NUMBER  | NUMBER OF BLOWS | MOISTURE CONTENT, % | DRY UNIT WEIGHT, pcf | ADDITIONAL TESTS                     |
|                 |             |             | Brown, moist, fine sandy SILT (ML)                                                                        |             |                |                 |                     |                      |                                      |
|                 |             |             | Brown, moist, silty CLAY (CH)                                                                             |             | D1-11<br>D1-21 |                 | 4.8<br>3.4          | 88<br>90             | E<br>P<br>I<br>R<br>V<br>C<br>O<br>R |
|                 |             |             | Orange brown, moist, fine sandy CLAY (CL)                                                                 |             | D1-31          |                 | 14.0                | 111                  |                                      |
| 5               |             |             | Boring was terminated at about 5 feet below the existing ground surface. Groundwater was not encountered. |             |                |                 |                     |                      |                                      |

BORING LOG\_12751.01\_SUISUN MULTI-FAMILY APARTMENTS.GPJ WKA.GDT 5/14/20 9:07 AM

**Project: Suisun Multi-Family Apartments**  
**Project Location: Fairfield, California**  
**WKA Number: 12751.01**

## LOG OF SOIL BORING D2

Sheet 1 of 1

|                                                               |                                                                          |                                                     |
|---------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------|
| Date(s) Drilled<br><b>4/14/20</b>                             | Logged By<br><b>GJF</b>                                                  | Checked By<br><b>MMW</b>                            |
| Drilling Method<br><b>Hand Auger</b>                          | Drilling Contractor<br><b>WKA</b>                                        | Total Depth of Drill Hole<br><b>5.0 feet</b>        |
| Drill Rig Type                                                | Diameter(s) of Hole, inches<br><b>4</b>                                  | Approx. Surface Elevation, ft MSL                   |
| Groundwater Depth [Elevation], feet<br><b>not encountered</b> | Sampling Method(s)<br><b>2.0" Modified California with 6-inch sleeve</b> | Drill Hole Backfill<br><b>soil cuttings</b>         |
| Remarks                                                       |                                                                          | Driving Method and Drop<br><b>10lb Slide Hammer</b> |

| ELEVATION, feet | DEPTH, feet | GRAPHIC LOG | ENGINEERING CLASSIFICATION AND DESCRIPTION                                                                | SAMPLE DATA |               | TEST DATA       |                     |                      |
|-----------------|-------------|-------------|-----------------------------------------------------------------------------------------------------------|-------------|---------------|-----------------|---------------------|----------------------|
|                 |             |             |                                                                                                           | SAMPLE      | SAMPLE NUMBER | NUMBER OF BLOWS | MOISTURE CONTENT, % | DRY UNIT WEIGHT, pcf |
|                 |             |             | Brown, moist, fine sandy SILT (ML)                                                                        |             | D2-11         |                 | 6.6                 | 79                   |
|                 |             |             | Brown, moist, silty CLAY (CH)                                                                             |             | D2-21         |                 | 24.0                | 91                   |
|                 |             |             | Orange brown, moist, fine sandy CLAY (CL)                                                                 |             |               |                 |                     |                      |
|                 | 5           |             | Boring was terminated at about 5 feet below the existing ground surface. Groundwater was not encountered. |             |               |                 |                     |                      |

BORING LOG 12751.01 SUISUN MULTI-FAMILY APARTMENTS.GPJ WKA GDT 5/4/20 9:07 AM

# UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487)

| MAJOR DIVISIONS                                                         |                                                                                                | USCS <sup>4</sup> | CODE | CHARACTERISTICS                                                                                     |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------|------|-----------------------------------------------------------------------------------------------------|
| COARSE GRAINED SOILS<br>(More than 50% of soil<br>> no. 200 sieve size) | <u>GRAVELS</u> <sup>1</sup><br><br>(More than 50% of<br>coarse fraction ><br>no. 4 sieve size) | GW                |      | Well-graded gravels or gravel - sand mixtures, trace or no fines                                    |
|                                                                         |                                                                                                | GP                |      | Poorly graded gravels or gravel - sand mixtures, trace or no fines                                  |
|                                                                         |                                                                                                | GM                |      | Silty gravels, gravel - sand - silt mixtures, containing little to some fines <sup>2</sup>          |
|                                                                         |                                                                                                | GC                |      | Clayey gravels, gravel - sand - clay mixtures, containing little to some fines <sup>2</sup>         |
|                                                                         | <u>SANDS</u> <sup>1</sup><br><br>(50% or more of<br>coarse fraction <<br>no. 4 sieve size)     | SW                |      | Well-graded sands or sand - gravel mixtures, trace or no fines                                      |
|                                                                         |                                                                                                | SP                |      | Poorly graded sands or sand - gravel mixtures, trace or no fines                                    |
|                                                                         |                                                                                                | SM                |      | Silty sands, sand - gravel - silt mixtures, containing little to some fines <sup>2</sup>            |
|                                                                         |                                                                                                | SC                |      | Clayey sands, sand - gravel - clay mixtures, containing little to some fines <sup>2</sup>           |
| FINE GRAINED SOILS<br>(50% or more of soil<br>< no. 200 sieve size)     | <u>SILTS &amp; CLAYS</u><br><br><u>LL &lt; 50</u>                                              | ML                |      | Inorganic silts, gravely silts, and sandy silts that are non-plastic or with low plasticity         |
|                                                                         |                                                                                                | CL                |      | Inorganic lean clays, gravely lean clays, sandy lean clays of low to medium plasticity <sup>3</sup> |
|                                                                         |                                                                                                | OL                |      | Organic silts, organic lean clays, and organic silty clays                                          |
|                                                                         | <u>SILTS &amp; CLAYS</u><br><br><u>LL ≥ 50</u>                                                 | MH                |      | Inorganic elastic silts, gravely elastic silts, and sandy elastic silts                             |
|                                                                         |                                                                                                | CH                |      | Inorganic fat clays, gravely fat clays, sandy fat clays of medium to high plasticity                |
|                                                                         |                                                                                                | OH                |      | Organic fat clays, gravely fat clays, sandy fat clays of medium to high plasticity                  |
| HIGHLY ORGANIC SOILS                                                    |                                                                                                | PT                |      | Peat                                                                                                |
| ROCK                                                                    |                                                                                                | RX                |      | Rocks, weathered to fresh                                                                           |
| FILL                                                                    |                                                                                                | FILL              |      | Artificially placed fill material                                                                   |

## OTHER SYMBOLS

|                                            |                                                         |
|--------------------------------------------|---------------------------------------------------------|
|                                            | = Drive Sample: 2-1/2" O.D. Modified California sampler |
|                                            | = Drive Sampler: no recovery                            |
|                                            | = SPT Sampler                                           |
|                                            | = Initial Water Level                                   |
|                                            | = Final Water Level                                     |
|                                            | = Estimated or gradational material change line         |
|                                            | = Observed material change line                         |
| <b>Laboratory Tests</b>                    |                                                         |
| CR = Corrosion                             |                                                         |
| PI = Plasticity Index                      |                                                         |
| EI = Expansion Index                       |                                                         |
| UCC = Unconfined Compression Test (TSF)    |                                                         |
| TR = Triaxial Compression Test             |                                                         |
| GR = Gradational Analysis (Sieve/Hydro)    |                                                         |
| FC = Wash (Fines Content)                  |                                                         |
| PP = Pocket Penetrometer Test (TSF)        |                                                         |
| PID = Photo Ionization Detector Test (PPM) |                                                         |
| RV = Resistance ("R") Value                |                                                         |

REF = Refusal (>50 blows in 6 inches)

## GRAIN SIZE CLASSIFICATION

| CLASSIFICATION                   | RANGE OF GRAIN SIZES        |                           |
|----------------------------------|-----------------------------|---------------------------|
|                                  | U.S. Standard Sieve Size    | Grain Size in Millimeters |
| BOULDERS (b)                     | Above 12"                   | Above 300                 |
| COBBLES (c)                      | 12" to 3"                   | 300 to 75                 |
| GRAVEL (g)<br>coarse<br>fine     | 3" to No. 4                 | 75 to 4.75                |
|                                  | 3" to 3/4"<br>3/4" to No. 4 | 75 to 19<br>19 to 4.75    |
| SAND<br>coarse<br>medium<br>fine | No. 4 to No. 200            | 4.75 to 0.075             |
|                                  | No. 4 to No. 10             | 4.75 to 2.00              |
|                                  | No. 10 to No. 40            | 2.00 to 0.425             |
|                                  | No. 40 to No. 200           | 0.425 to 0.075            |
| SILT & CLAY                      | Below No. 200               | Below 0.075               |

Trace - Less than 5 percent

Few - 5 to 10 percent

Little - 15 to 25 percent

Some - 35 to 45 percent

Mostly - 50 to 100 percent

\* Percents as given in ASTM D2488

### NOTES:

- Coarse grained soils containing 5% to 12% fines, use dual classification symbol (ex. SP-SM).
- If fines classify as CL-ML (4<PI<7), use dual symbol (ex. SC-SM).
- Silty Clays, use dual symbol (CL-ML).
- Borderline soils with uncertain classification list both classifications (ex. CL/ML).



## UNIFIED SOIL CLASSIFICATION SYSTEM

### SUISUN MULTI-FAMILY APARTMENTS

Suisun City, California

## FIGURE 5

|                  |         |
|------------------|---------|
| DRAWN BY         | RWO     |
| CHECKED BY       | GJF     |
| PROJECT MGR      | MMW     |
| DATE             | 05/2020 |
| WKA NO. 12751.01 |         |

**APPENDIX A**  
**General Project Information, Laboratory Testing and Results**





## APPENDIX A

### A. GENERAL INFORMATION

The performance of a preliminary geotechnical engineering study for the proposed multi-family development to be constructed southeast of the intersection of Blossom Road and Railroad Avenue in Suisun City, California was authorized by Mr. Russ Shaw on March 19, 2020. Authorization was for an investigation as described in our proposal letter dated March 19, 2020, sent to our client FPA Multi-Family L.L.C., c/o Mr. Russ Shaw, whose mailing address is 2082 Michelson Drive, 4<sup>th</sup> Floor, in Irvine, California, 92612; telephone (415) 249-6194.

In performing this study, we made reference to a document titled Multi-Family Offering Memorandum, prepared by Kidder Mathews.

### B. FIELD EXPLORATION

Two hand auger borings were performed on April 22, 2020, at the approximate locations indicated in Figure 2. The borings were advanced to a maximum depth of approximately five feet below existing site grades by utilizing four-inch diameter hand auger.

At various lithology changes, relatively undisturbed soil samples were recovered with a 2½-inch O.D., 2-inch I.D. sampler driven by a 10-pound, hand-operated slide hammer. The samples were retained in 2-inch-diameter by 6-inch-long, thin-walled, brass tubes contained within the sampler. Immediately after recovery, the soils in the tubes were visually classified by the field engineer and the ends of the tubes were sealed to preserve the natural moisture contents. Bulk samples of the soil also were collected at various depths within the borings. All samples were taken to our laboratory for additional soil classification and selection of samples for testing.

The Logs of Soil Borings, Figures 3 and 4, contain descriptions of the soils encountered in each boring. A Boring Legend explaining the Unified Soil Classification System and the symbols used on the logs is contained on Figure 5.

### C. LABORATORY TESTING

One composite of two near-surface soil samples was subjected to Expansion Index testing (ASTM D4829). The results of the test are presented in Figure A1.

One composite of the near-surface soil samples was tested to determine the Atterberg limits (ASTM D4318). The results of the test are presented in Figure A2.



One composite sample of anticipated pavement subgrade soil was subjected to Resistance-value ("R") testing in accordance with California Test 301. The results of the R-value test, which were used in the pavement design, are presented in Figure A3.

One sample of near-surface soil was submitted to Sunland Analytical for corrosivity testing in accordance with California Test (CT) No. 643 (Modified Small Cell), CT 417, CT 422, and ASTM D516m. Copies of the analytical results are presented in Figures A4 and A5.





# EXPANSION INDEX TEST RESULTS

ASTM D4829

MATERIAL DESCRIPTION: Brown, silty fat clay

LOCATION: D1 + D2

| <u>Sample<br/>Depth</u> | <u>Pre-Test<br/>Moisture (%)</u> | <u>Post-Test<br/>Moisture (%)</u> | <u>Dry Density<br/>(pcf)</u> | <u>Expansion<br/>Index</u> |
|-------------------------|----------------------------------|-----------------------------------|------------------------------|----------------------------|
| 1.5' - 4'               | 13.0                             | 31.9                              | 97                           | <b>98</b>                  |

## CLASSIFICATION OF EXPANSIVE SOIL \*

| EXPANSION INDEX | POTENTIAL EXPANSION |
|-----------------|---------------------|
| 0 - 20          | Very Low            |
| 21 - 50         | Low                 |
| 51 - 90         | Medium              |
| <b>91 - 130</b> | <b>High</b>         |
| Above 130       | Very High           |

\* From ASTM D4829, Table 1

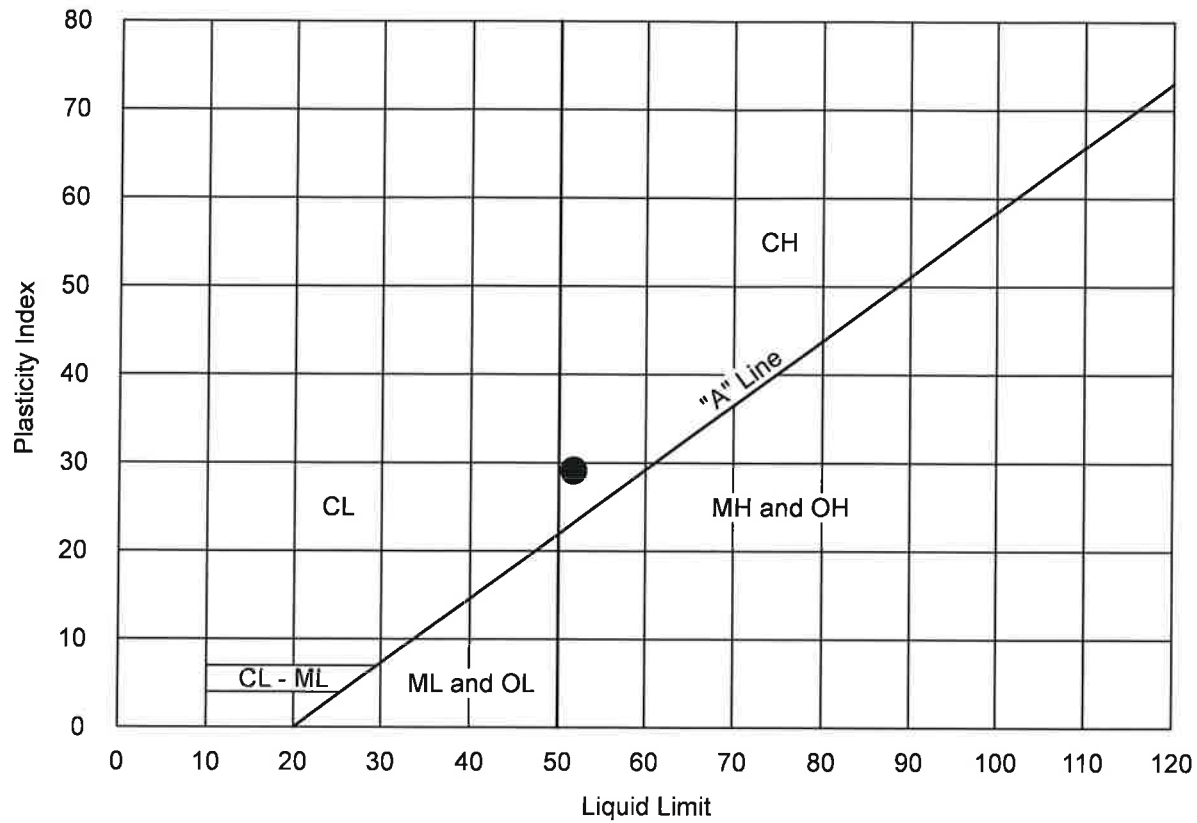


**EXPANSION INDEX**  
**SUISUN MULTI-FAMILY APARTMENTS**  
Suisun City, California

| FIGURE A1               |         |
|-------------------------|---------|
| DRAWN BY                | RWO     |
| CHECKED BY              | GJF     |
| PROJECT MGR             | MMW     |
| DATE                    | 05/2020 |
| <b>WKA NO. 12751.01</b> |         |

# ATTERBERG LIMITS

ASTM D4318



| KEY SYMBOL | LOCATION | SAMPLE DEPTH | NATURAL WATER CONTENT (%) | ATTERBERG LIMITS |                      | PASSING No. 200 SIEVE (%) | UNIFIED SOIL CLASSIFICATION SYMBOL |
|------------|----------|--------------|---------------------------|------------------|----------------------|---------------------------|------------------------------------|
|            |          |              |                           | LIQUID LIMIT (%) | PLASTICITY INDEX (%) |                           |                                    |
| ●          | D1 + D2  | 1.5'-4.0'    | ---                       | 52               | 29                   | ---                       | CH                                 |

# RESISTANCE VALUE TEST RESULTS

(California Test 301)

MATERIAL DESCRIPTION: Brown, silty fat clay

LOCATION: D1 + D2 (1.5' - 4')

| Specimen<br>No. | Dry Unit<br>Weight<br>(pcf) | Moisture<br>@ Compaction (%) | Exudation<br>Pressure<br>(psi) | Expansion             |       | R<br>Value |
|-----------------|-----------------------------|------------------------------|--------------------------------|-----------------------|-------|------------|
|                 |                             |                              |                                | (dial, inches x 1000) | (psf) |            |
| 1               | 109                         | 18.1                         | 523                            | 147                   | 637   | *          |

\* Sample extruded, therefore R-Value = 5



WallaceKuhl  
& ASSOCIATES

## RESISTANCE VALUE TEST RESULTS

SUISUN MULTI-FAMILY APARTMENTS

Suisun City, California

FIGURE A3

|             |         |
|-------------|---------|
| DRAWN BY    | RWO     |
| CHECKED BY  | GJF     |
| PROJECT MGR | MMW     |
| DATE        | 05/2020 |

WKA NO. 12751.01



## Sunland Analytical

11419 Sunrise Gold Circle, #10  
Rancho Cordova, CA 95742  
(916) 852-8557

Date Reported 04/29/2020

Date Submitted 04/22/2020

To: Joe Follettie  
Wallace-Kuhl & Assoc.  
3050 Industrial Blvd.  
West Sacramento, CA 95691

From: Gene Oliphant, Ph.D. \ Randy Horney  
General Manager \ Lab Manager

The reported analysis was requested for the following location:  
Location : 12751.01 Site ID : D1@1.5-4FT.  
Thank you for your business.

\* For future reference to this analysis please use SUN # 81965-171278.

### EVALUATION FOR SOIL CORROSION

|                     |                     |            |
|---------------------|---------------------|------------|
| Soil pH             | 5.95                |            |
| Minimum Resistivity | 0.83 ohm-cm (x1000) |            |
| Chloride            | 56.0 ppm            | 00.00560 % |
| Sulfate             | 89.9 ppm            | 00.00899 % |

### METHODS

pH and Min. Resistivity CA DOT Test #643  
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m



**CORROSION TEST RESULTS**  
  
SUISUN MULTI-FAMILY APARTMENTS  
  
Suisun City, California

| FIGURE A4        |         |
|------------------|---------|
| DRAWN BY         | RWO     |
| CHECKED BY       | GJF     |
| PROJECT MGR      | MMW     |
| DATE             | 05/2020 |
| WKA NO. 12751.01 |         |



## Sunland Analytical

11419 Sunrise Gold Circle, #10  
Rancho Cordova, CA 95742  
(916) 852-8557

Date Reported 04/29/2020

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To: Joe Follettie  
Wallace-Kuhl & Assoc.  
3050 Industrial Blvd.  
West Sacramento, CA 95691

From: Gene Oliphant, Ph.D. \ Randy Horney  
General Manager \ Lab Manager

The reported analysis was requested for the following location:  
Location : 12751.01 Site ID : D1@1.5-4FT.  
Thank you for your business.

\* For future reference to this analysis please use SUN # 81965-171279.

### Extractable Sulfate in Water

| Type of TEST | Result | Units |
|--------------|--------|-------|
| Sulfate-SO4  | 87.9   | mg/kg |

### METHODS

ASTM D-516m from sat.paste extract-reported based on dry wt.



**CORROSION TEST RESULTS**  
**SUISUN MULTI-FAMILY APARTMENTS**  
Suisun City, California

| FIGURE A5        |         |
|------------------|---------|
| DRAWN BY         | RWO     |
| CHECKED BY       | GJF     |
| PROJECT MGR      | MMW     |
| DATE             | 05/2020 |
| WKA NO. 12751.01 |         |

## **Appendix G PHASE I ENVIRONMENTAL SITE ASSESSMENT**





# AEI Consultants

May 7, 2020

## PHASE I ENVIRONMENTAL SITE ASSESSMENT

### Property Information:

Blossom Avenue and Railroad Avenue  
Suisun City, Solano County, California 94585

### Project Information:

AEI Project No. 421808  
Client Reference No. PO 001

### Prepared For:

FPA Multifamily, LLC  
2082 Michelson Drive 4th Floor  
Irvine, California 92612

### Prepared By:

AEI Consultants  
2500 Caminio Diablo  
Walnut Creek, California 94597

Environmental  
Due Diligence

Building Assessments

Site Investigation  
& Remediation

Energy Performance  
& Benchmarking

Industrial Hygiene

Construction  
Risk Management

Zoning Analysis  
Reports & ALTA  
Surveys

National Presence

Regional Focus

Local Solutions





May 7, 2020

Todd Stark  
FPA Multifamily, LLC  
2082 Michelson Drive 4th Floor  
Irvine, California 92612

**Subject: Phase I Environmental Site Assessment**

Blossom Avenue and Railroad Avenue  
Suisun City, California 94585  
AEI Project No. 421808  
Client Reference No. PO 001

Dear Todd Stark:

AEI Consultants is pleased to provide the *Phase I Environmental Site Assessment* of the above referenced property. This assessment was authorized and performed in accordance with the scope of services engaged.

We appreciate the opportunity to provide services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (925) 746-6044 or [efrench@aeiconsultants.com](mailto:efrench@aeiconsultants.com).

Sincerely,

Elizabeth French  
Business Development Manager  
AEI Consultants

## PROJECT SUMMARY

---

**Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California 94585**  
**AEI Project No. 421808**

| Report Section |                                          | REC | CREC | HREC | OEC | Recommended Action                |
|----------------|------------------------------------------|-----|------|------|-----|-----------------------------------|
| 1.0            | Introduction                             |     |      |      |     | None                              |
| 2.0            | Site and Vicinity Description            |     |      |      |     | None                              |
| 3.0            | Historical Review of Site and Vicinity   | ✓   |      |      |     | Phase II Subsurface Investigation |
| 4.0            | Regulatory Agency Records Review         |     |      |      |     | None                              |
| 5.0            | Regulatory Database Records Review       |     |      |      |     | None                              |
| 6.0            | Interviews and User Provided Information |     |      |      |     | None                              |
| 7.0            | Site Reconnaissance                      |     |      |      |     | None                              |
| 8.1            | Asbestos-Containing Building Materials   |     |      |      |     | None                              |
| 8.2            | Lead-Based Paint                         |     |      |      |     | None                              |
| 8.3            | Radon                                    |     |      |      |     | None                              |
| 8.4            | Mold                                     |     |      |      |     | None                              |



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## EXECUTIVE SUMMARY

AEI Consultants (AEI) was retained by FPA Multifamily, LLC to conduct a Phase I ESA in conformance with AEI's contract and the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

Pertinent subject property information is noted below:

| PROPERTY INFORMATION                 |                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------|
| Site Address(es)                     | Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California 94585 |
| Property ID (APN or Block/Lot)       | 0037-130-010                                                                     |
| Location                             | Southeast corner of the intersection of Blossom Avenue and Railroad Avenue       |
| Property Type                        | Vacant Land                                                                      |
| SITE AND BUILDING INFORMATION        |                                                                                  |
| Approximate Site Acreage/Source      | 9.09/Solano County Assessor                                                      |
| Number of Buildings                  | None                                                                             |
| Building Construction Date(s)/Source | N/A                                                                              |
| Building Square Footage (SF)/Source  | N/A                                                                              |
| Number of Floors/Stories             | N/A                                                                              |
| Basement or Subgrade Area(s)         | None identified                                                                  |
| Number of Units                      | N/A                                                                              |
| Additional Improvements              | N/A                                                                              |
| On-site Occupant(s)                  | Vacant                                                                           |
| Current On-site Operations/Use       | None identified                                                                  |
| Current Use of Hazardous Substances  | None identified                                                                  |
| REGULATORY INFORMATION               |                                                                                  |
| Regulatory Database Listing(s)       | None identified                                                                  |

A chronological summary of historical subject property information is as follows:

| Date Range | Subject Property Description and Occupancy (Historical Addresses) | Source(s)                                                                        |
|------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1902       | Unimproved land                                                   | Historical topographic map                                                       |
| 1903-1936  | Unknown use/Data failure; refer to <a href="#">Section 1.6.1</a>  | Sources consulted: Aerial photographs, historical topographic maps, Sanborn maps |
| 1937-1968  | Agricultural land and agricultural structures (no street address) | Aerial photographs, historical topographic maps                                  |



| Date Range   | Subject Property Description and Occupancy<br>(Historical Addresses) | Source(s)                                                         |
|--------------|----------------------------------------------------------------------|-------------------------------------------------------------------|
| 1974-Present | Vacant land (no street address)                                      | Aerial photographs, historical topographic maps, site observation |

The immediately surrounding properties consist of the following:

| Direction    | Tenant/Use (Address)                                                                                                                                 | Regulatory Database Listing(s) |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| <b>North</b> | Railroad Avenue and railway, followed by:<br>Single Family Residences (1695, 1712, & 1748 Blossom Avenue);<br>Multifamily Residences (Grande Circle) | None identified                |
| <b>East</b>  | Self-Storage Facility (513 Railroad Avenue);<br>Single Family Residences (1312-30 Lois Lane)                                                         | None identified                |
| <b>South</b> | Single Family Residences (400-440 Amber Drive, 1317 Amber Drive)                                                                                     | None identified                |
| <b>West</b>  | Single Family Residences (1332-48 Blossom Avenue)                                                                                                    | None identified                |

If the surrounding properties are listed in the regulatory database, please refer to [Section 5.1](#) for discussion.

## FINDINGS

Recognized Environmental Condition (REC) is defined by the ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

- Based on a review of aerial photographs, the subject property was historically used for agricultural purposes. There is potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, were used on site, and that the subject property has been impacted by the use of such agricultural chemicals. AEI understands that the subject property is slated for residential redevelopment. Consequently, AEI recommends the performance of on-site sampling to determine if the subject property has been significantly impacted in connection with the historical agricultural use for the protection of the construction workers and future occupants of the subject property.

Controlled Recognized Environmental Condition (CREC) is defined by the ASTM Standard Practice E1527-13 as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- AEI did not identify evidence of CRECs during the course of this assessment.



Historical Recognized Environmental Condition (HREC) is defined by the ASTM Standard Practice E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

- AEI did not identify evidence of HRECs during the course of this assessment.

Other Environmental Considerations (OEC) warrant discussion, but do not qualify as RECs as defined by the ASTM Standard Practice E1527-13. These include, but are not limited to, de minimis conditions and/or environmental considerations such as the presence of ACMs, LBP, radon, mold, and lead in drinking water, which can affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the subject property.

- AEI did not identify evidence of Other Environmental Considerations during the course of this assessment.

### **CONCLUSIONS, OPINIONS, AND RECOMMENDATIONS**

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) of Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California, the *subject property*. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

AEI did not identify evidence of RECs or CRECs in connection with the property except for those previously identified in the Findings section. AEI recommends the following:

- Phase II Subsurface Investigation





## 1.0 INTRODUCTION

---

This report documents the methods and findings of the Phase I Environmental Site Assessment performed in conformance with AEI's contract and scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California ([Appendix A: Figures](#) and [Appendix B: Property Photographs](#)).

### 1.1 SCOPE OF WORK

The purpose of the Phase I ESA is to assist the client in identifying potential RECs, in accordance with ASTM E1527-13, associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property. Property assessment activities focused on: 1) a review of federal, state, tribal, and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

### 1.2 ADDITIONAL SERVICES

Other Environmental Considerations such as ACMs, LBP, lead in drinking water, radon, mold, and wetlands can result in business environmental risks for property owners which may disrupt current or planned operations or cash flow and are generally beyond the scope of a Phase I assessment as defined by ASTM E1527-13. Based upon the agreed-on scope of services this ESA did not include subsurface or other invasive assessments, business environmental risks, or other services not specifically identified and discussed herein.

### 1.3 SIGNIFICANT ASSUMPTIONS

The following assumptions are made by AEI in this report. AEI relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews. It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

Groundwater flow, unless otherwise specified by on-site well data or well data from the subject property or nearby sites, is inferred from contour information depicted on the USGS topographic maps. AEI assumes the property has been correctly and accurately identified by the client, designated representative of the client, property contact, property owner, and property owner's representatives.



## 1.4 LIMITATIONS

Property conditions, as well as local, state, tribal, and federal regulations can change significantly over time. Therefore, the recommendations and conclusions presented as a result of this assessment apply strictly to the environmental regulations and property conditions existing at the time the assessment was performed. Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the property. AEI makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices applicable at the time and location of the assessment.

Considerations identified by ASTM as beyond the scope of a Phase I ESA that may affect business environmental risk at a given property include the following: ACMs, radon, LBP, lead in drinking water, wetlands, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, mold, and high voltage lines. These environmental issues or conditions may warrant assessment based on the type of the property transaction; however, they are considered non-scope issues under ASTM Standard Practice E1527-13.

If requested by the client, these non-scope issues are discussed herein. Otherwise, the purpose of this assessment is solely to satisfy one of the requirements for qualification of the innocent landowner defense, contiguous property owner or bona fide prospective purchaser under CERCLA. ASTM Standard Practice E1527-13 and the United States EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) constitute the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in:

1. 42 U.S.C. § 9601(35)(B), referenced in the ASTM Standard Practice E1527-13.
2. Sections 101(35)(B) (ii) and (iii) of CERCLA and referenced in the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).
3. 42 U.S.C. § 9601(40) and 42 U.S.C. § 9607(q).

The Phase I Environmental Site Assessment is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants that may affect the property. Neither is the assessment intended to assure clear title to the property in question. The sole purpose of assessment into property title records is to ascertain a historical basis of prior land use. All findings, conclusions, and recommendations stated in this report are based upon facts, circumstances, and industry-accepted procedures for such services as they existed at the time this report was prepared (i.e., federal, state, and local laws, rules, regulations, market conditions, economic conditions, political climate, and other applicable matters). All findings, conclusions, and recommendations stated in this report are based on the data and information provided, current subject property use, and observations and conditions that existed on the date and time of the property reconnaissance.

Responses received from local, state, or federal agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.



AEI's limited radon screening, if included, is intended to provide a preliminary screening to evaluate the potential presence of elevated radon concentrations at the site. The proposed scope is not intended to define the full extent of the presence of radon at the subject property. As such, the results should be used for lending purposes only. The recommendations and conclusions presented as a result of the limited preliminary radon screening apply strictly to the property conditions existing at the time the sampling was performed. The sample analytical results are only valid for the time, place, and condition of the site at the time of collection and AEI does not warrant that the results will be repeatable or are representative of past or future conditions.

### **1.5 LIMITING CONDITIONS/DEVIATIONS**

The performance of this assessment was limited by the following:

- While additional assessments may have been conducted on the subject property, these documents must be provided for AEI's review in order for the information to be summarized/included in this report. Please refer to [Section 6.3](#) for a summary of previous reports and other documentation provided to AEI during this assessment.
- The User did not complete the ASTM User Questionnaire or provide the User information to AEI. AEI assumes that qualification for the LLPs is being established by the User in documentation outside of this assessment.
- On May 1, 2020, the Suisun City Fire (SCFD), Building (SCBD), and Planning Departments (SCPD) were contacted for information on the subject property. Due to the time frame of this assessment and the current conditions associated with the outbreak of COVID-19, the SCFD, SCBD, and SCPD are temporarily closed and the date in which the agencies will reopen is unknown. As a result, records at the agencies were not available for review. However, based on the quality of information obtained from other sources including the Solano County Environmental Management Department and historical sources, this limitation is not expected to significantly alter the findings of this assessment.
- Contact information for the subject property owner and key site manager was not provided during this assessment. Based on information obtained from other sources, including the Solano County Environmental Management Department and historical sources, this limiting condition is not expected to alter the overall findings of this assessment.
- Due to a fence prohibiting subject property access, AEI was unable to traverse the site. However, AEI was able to observe most areas of the subject property from outside the fence. Due to the fence, size of the property, and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation and features may be present that were not observed during AEI's site inspection. Based on the quality of information obtained from other sources, this limitation is not expected to alter the overall findings of this assessment.

### **1.6 DATA FAILURE AND DATA GAPS**

According to ASTM E1527-13, data gaps occur when the Environmental Professional is unable to obtain information required by the Standard, despite good faith efforts to gather such information. Pursuant to ASTM E1527-13, only significant data gaps, defined as those that affect the ability of the Environmental Professional to identify RECs, need to be documented.

Data failure is one type of data gap. According to ASTM E1527-13, data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met. Pursuant to ASTM E1527-13, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier, or periods of five years or greater.

### 1.6.1 DATA FAILURE

The following data failure was identified during the course of this assessment:

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data Failure</b>                  | Historical sources were not obtained at five-year intervals dating back to first developed use. AEI was not able to track the history of the subject property between the years 1903 and 1936 as none of the historical sources utilized as part of this assessment covered this time period. In the 1902 topographic map, the subject property appeared unimproved. In the 1937 aerial photograph, the subject property was developed as agricultural land and associated agricultural structures along the eastern side of the subject property. Thus, it is assumed that during this time period the subject property would have been agriculturally developed, if not unimproved. Therefore, this data failure is not expected to significantly alter the findings of this assessment. |
| <b>Information/Sources Consulted</b> | Sanborn fire insurance maps, aerial photographs, agency records, city directories, historical topographic maps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### 1.6.2 SIGNIFICANT DATA GAPS

AEI did not identify significant data gaps which affected our ability to identify RECs.

## 1.7 RELIANCE

All reports, both verbal and written, are for the benefit of FPA Multifamily, LLC. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's contract and Terms and Conditions executed by FPA Multifamily, LLC on April 17, 2020. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

## 2.0 SITE AND VICINITY DESCRIPTION

### 2.1 SITE LOCATION AND DESCRIPTION

| PROPERTY INFORMATION                 |                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------|
| Site Address(es)                     | Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California 94585 |
| Property ID (APN or Block/Lot)       | 0037-130-010                                                                     |
| Location                             | Southeast corner of the intersection of Blossom Avenue and Railroad Avenue       |
| Property Type                        | Vacant Land                                                                      |
| SITE AND BUILDING INFORMATION        |                                                                                  |
| Approximate Site Acreage/Source      | 9.09/Solano County Assessor                                                      |
| Number of Buildings                  | None                                                                             |
| Building Construction Date(s)/Source | N/A                                                                              |
| Building Square Footage (SF)/Source  | N/A                                                                              |
| Number of Floors/Stories             | N/A                                                                              |
| Basement or Subgrade Area(s)         | None identified                                                                  |
| Number of Units                      | N/A                                                                              |
| Additional Improvements              | N/A                                                                              |
| On-site Occupant(s)                  | Vacant                                                                           |
| Current On-site Operations/Use       | None identified                                                                  |
| Current Use of Hazardous Substances  | None identified                                                                  |
| REGULATORY INFORMATION               |                                                                                  |
| Regulatory Database Listing(s)       | None identified                                                                  |

### 2.2 ON-SITE UTILITIES

No utilities are connected to the subject property at this time. However, water services are provided by Suisun-Solano Water Authority, sewer services are provided by the Fairfield-Suisun Sewer District, and PG&E provides natural gas and electricity to the general vicinity.

### 2.3 SITE AND VICINITY CHARACTERISTICS

The subject property is located in a mixed residential and commercial area of Suisun City, California. The immediately surrounding properties consist of the following:

| Direction | Tenant/Use (Address)                                                                                                                                 | Regulatory Database Listing(s) |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| North     | Railroad Avenue and railway, followed by:<br>Single Family Residences (1695, 1712, & 1748 Blossom Avenue);<br>Multifamily Residences (Grande Circle) | None identified                |
| East      | Self-Storage Facility (513 Railroad Avenue);<br>Single Family Residences (1312-30 Lois Lane)                                                         | None identified                |
| South     | Single Family Residences (400-440 Amber Drive, 1317 Amber Drive)                                                                                     | None identified                |

| Direction | Tenant/Use (Address)                              | Regulatory Database Listing(s) |
|-----------|---------------------------------------------------|--------------------------------|
| West      | Single Family Residences (1332-48 Blossom Avenue) | None identified                |

If the surrounding properties are listed in the regulatory database, please refer to [Section 5.1](#) for discussion.

## 2.4 PHYSICAL SETTING

|                                                                          |                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Geologic Unit:<br/>Description/Source</b>                             | Qoal: Older alluvium, mainly flood-plain and alluvial fan deposits of adjacent to mountainous areas; sand, gravel, silt, and clay irregularly interstratified, commonly unconsolidated, age Holocene/USGS and United States Department of the Interior                                                                 |
| <b>Soil Series:<br/>Description/Source</b>                               | Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes: loam from 0 to 25 inches, clay from 25 to 60 inches, and loam from 60 to 72 inches. The capacity of the most limiting layer to transmit water is very low to moderately low and the depth to the water table is more than 80 inches/USDA Soil Survey |
| <b>Groundwater Flow<br/>Direction/Source</b>                             | South and southwest/Groundwater monitoring data obtained from the State Water Resources Board Geotracker database for a nearby site at 1600 North Texas Street (located approximately 1.0 mile west of the subject property)                                                                                           |
| <b>Estimated Depth to<br/>Groundwater/<br/>Source</b>                    | 2.26 to 13.69 feet bgs/Groundwater monitoring data obtained from the State Water Resources Board Geotracker database for a nearby site at 1600 North Texas Street (located approximately 1.0 mile west of the subject property)                                                                                        |
| <b>Surface waters on<br/>the subject property<br/>or adjoining sites</b> | None                                                                                                                                                                                                                                                                                                                   |

Note: Groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water pumping wells. Depth and gradient of the water table can change seasonally in response to variation in precipitation and recharge, and over time, in response to urban development such as storm water controls, impervious surfaces, pumping wells, cleanup activities, dewatering, seawater intrusion barrier projects near the coast, and other factors.



### 3.0 HISTORICAL REVIEW OF SITE AND VICINITY

Reasonably ascertainable standard historical sources as outlined in ASTM Standard E1527-13 were used to determine previous uses and occupancies of the subject property that are likely to have led to RECs in connection with the subject property. A chronological summary of historical data found, including but not limited to aerial photographs, historical city directories, Sanborn fire insurance maps, and agency records, is as follows:

| Date Range   | Subject Property Description and Occupancy<br>(Historical Addresses) | Source(s)                                                                        |
|--------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1902         | Unimproved land                                                      | Historical topographic map                                                       |
| 1903-1936    | Unknown use/Data failure; refer to <a href="#">Section 1.6.1</a>     | Sources consulted: Aerial photographs, historical topographic maps, Sanborn maps |
| 1937-1968    | Agricultural land and agricultural structures (no street address)    | Aerial photographs, historical topographic maps                                  |
| 1974-Present | Vacant land (no street address)                                      | Aerial photographs, historical topographic maps, site observation                |

Based on a review of aerial photographs, the subject property was historically used for agricultural purposes. There is potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, were used on site, and that the subject property has been impacted by the use of such agricultural chemicals. AEI understands that the subject property is slated for residential redevelopment. Consequently, AEI recommends the performance of on-site sampling to determine if the subject property has been significantly impacted in connection with the historical agricultural use for the protection of the construction workers and future occupants of the subject property.

If available, copies of historical sources are provided in [Appendix D](#).

#### 3.1 AERIAL PHOTOGRAPHS

AEI reviewed aerial photographs of the subject property and surrounding area. A search was made of the EDR collection of aerial photographs. Aerial photographs were reviewed for the following years:

| Year(s) | Subject Property Description                                                                    | Adjoining Site Descriptions                                                                                                                                                                                      |
|---------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1937    | Agricultural land with agricultural structures appearing on the eastern portion of the property | NORTH: Roadway and railway followed by unimproved agricultural land<br>EAST: Unimproved agricultural land<br>SOUTH: Unimproved agricultural land<br>WEST: Roadway followed by residential/agricultural buildings |





| Year(s)                         | Subject Property Description                                       | Adjoining Site Descriptions                                                                                                                                                                                                        |
|---------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1947,<br>1952                   | No significant changes                                             | NORTH: No significant changes except residential/agricultural buildings are present<br>EAST: No significant changes<br>SOUTH: No significant changes<br>WEST: Roadway followed by the current residences                           |
| 1968                            | No significant changes except the structures are no longer present | NORTH: Roadway, followed by unimproved land, and residences<br>EAST: No significant changes except a structure is present on the northern portion of the property<br>SOUTH: No significant changes<br>WEST: No significant changes |
| 1974                            | Vacant land as it appears today                                    | NORTH: No significant changes<br>EAST: No significant changes<br>SOUTH: Vacant land<br>WEST: No significant changes                                                                                                                |
| 1982                            | No significant changes                                             | NORTH: No significant changes<br>EAST: No significant changes except the structure is no longer present<br>SOUTH: No significant changes<br>WEST: No significant changes                                                           |
| 1984                            | No significant changes                                             | NORTH: No significant changes<br>EAST: Unimproved land with evidence of construction activities present<br>SOUTH: No significant changes<br>WEST: No significant changes                                                           |
| 1993                            | No significant changes                                             | NORTH: No significant changes<br>EAST: Unimproved land current residences<br>SOUTH: No significant changes<br>WEST: No significant changes                                                                                         |
| 2006,<br>2009,<br>2012,<br>2016 | No significant changes                                             | NORTH: No significant changes except additional residences are present<br>EAST: Portion of the current self storage facility and residences<br>SOUTH: Current residences are present<br>WEST: No significant changes               |

Refer to Section 3.0 for further discussion pertaining to the environmental significance of the historical agricultural use of the subject property.

### 3.2 SANBORN FIRE INSURANCE MAPS

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. A search was made of the EDR collection of Sanborn Fire Insurance maps.

Sanborn map coverage was not available for the subject property.





### 3.3 CITY DIRECTORIES

Since the subject property has never been developed, no physical address has been provided to or identified by AEI during the course of this assessment. Based on the lack of physical address, a search of city directories for the subject property was not feasible.

### 3.4 HISTORICAL TOPOGRAPHIC MAPS

A search of historical topographic maps was conducted for the subject property utilizing USGS. Topographic maps were reviewed for the following years:

| Year(s)                | Subject Property Description                                                  | Adjoining Site Descriptions                                                                                                                                                           |
|------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1902                   | No features depicted                                                          | No features depicted except the current railway is depicted to the north of the subject property                                                                                      |
| 1942                   | Small drive and structure are depicted on the eastern portion of the property | NORTH: Railroad Avenue and railway followed by small structures<br>EAST: No features depicted<br>SOUTH: No features depicted<br>WEST: Blossom Avenue followed by no features depicted |
| 1947,<br>1949          | No features depicted                                                          | No features depicted except the current railway is depicted to the north of the subject property                                                                                      |
| 1951                   | Two buildings are depicted on the eastern portion of the property             | NORTH: Railroad Avenue and railway followed by small structures<br>EAST: Small building<br>SOUTH: No features depicted<br>WEST: Blossom Avenue followed by the current buildings      |
| 1958,<br>1962,<br>1964 | No features depicted                                                          | No features depicted except the current railway is depicted to the north of the subject property                                                                                      |
| 1968,<br>1973,<br>1980 | No features depicted                                                          | NORTH: Railroad Avenue and railway followed by the current buildings<br>EAST: Small building<br>SOUTH: No features depicted<br>WEST: Blossom Avenue followed by the current buildings |
| 1983                   | Located within "built up area"                                                | Located within "built up area" and the current railway is depicted to the north of the subject property                                                                               |

AEI did not identify potential environmental concerns in association with the historical use of the subject property during the historic topographic map review.

Due to copyright restrictions, copies of the historical topographic maps reviewed are not included in the appendices, but can be viewed online at <https://livingatlas.arcgis.com/topoexplorer/index.html>.

### **3.5 CHAIN OF TITLE**

Based on the quality of information obtained from other sources, a chain of title search was not performed as part of this assessment.



## 4.0 REGULATORY AGENCY RECORDS REVIEW

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous substance use, storage, and/or unauthorized releases that may have impacted the subject property. In addition, information pertaining to AULs, defined as legal or physical restrictions, or limitations on the use of, or access to, a site or facility, is requested.

### 4.1 LOCAL ENVIRONMENTAL HEALTH DEPARTMENT AND/OR STATE ENVIRONMENTAL AGENCY

| Agency                                                       | Date Contacted | Method of Contact | Name & Title of Contact                     | Agency Response    |
|--------------------------------------------------------------|----------------|-------------------|---------------------------------------------|--------------------|
| Solano County Department of Environmental Management (SCDEM) | April 30, 2020 | Email             | Alisha Seay, Environmental Health Assistant | No records on file |

### 4.2 FIRE DEPARTMENT

| Agency                             | Date Contacted | Method of Contact | Name & Title of Contact | Agency Response                                                                                                                              |
|------------------------------------|----------------|-------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Suisun City Fire Department (SCFD) | May 1, 2020    | Office visit      | N/A                     | Due to the current conditions associated with the outbreak of COVID-19, the agency is temporarily closed to the public, refer to Section 1.5 |

### 4.3 BUILDING DEPARTMENT

| Agency                                 | Date Contacted | Method of Contact | Name & Title of Contact | Agency Response                                                                                                                              |
|----------------------------------------|----------------|-------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Suisun City Building Department (SCBD) | May 1, 2020    | Office visit      | N/A                     | Due to the current conditions associated with the outbreak of COVID-19, the agency is temporarily closed to the public, refer to Section 1.5 |

### 4.4 PLANNING DEPARTMENT

| Agency                                 | Date Contacted | Method of Contact | Name & Title of Contact | Agency Response                                                                                                                              |
|----------------------------------------|----------------|-------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Suisun City Planning Department (SCPD) | May 1, 2020    | Office visit      | N/A                     | Due to the current conditions associated with the outbreak of COVID-19, the agency is temporarily closed to the public, refer to Section 1.5 |



#### 4.5 ASSESSOR'S OFFICE

| Agency                          | Date Contacted | Method of Contact | Name & Title of Contact | Agency Response                         |
|---------------------------------|----------------|-------------------|-------------------------|-----------------------------------------|
| Solano County Assessor's Office | April 22, 2020 | Website           | N/A                     | Information obtained is discussed below |

#### Records Summary

|                                |              |
|--------------------------------|--------------|
| <b>APN</b>                     | 0037-130-010 |
| <b>Acreage</b>                 | 9.09 acres   |
| <b>Construction Date</b>       | N/A          |
| <b>Building Square Footage</b> | N/A          |
| <b>Current Owner</b>           | Not provided |
| <b>Additional Information</b>  | N/A          |

#### 4.6 OTHER AGENCIES SEARCHED

| Agency                                                                                  | Date Contacted | Method of Contact | Name & Title of Contact | Agency Response    |
|-----------------------------------------------------------------------------------------|----------------|-------------------|-------------------------|--------------------|
| CA State Water Resources Control Board (SWRCB) GeoTracker                               | May 5, 2020    | Website           | N/A                     | No records on file |
| CA Department of Toxic Substances Control (DTSC) Hazardous Waste Tracking System (HWTS) | May 5, 2020    | Website           | N/A                     | No records on file |
| CA DTSC EnviroStor                                                                      | May 5, 2020    | Website           | N/A                     | No records on file |

#### 4.7 OIL AND GAS WELLS

| Agency                                                  | Date Referenced | Resource   | Oil or gas wells located within 500 feet of the subject property |
|---------------------------------------------------------|-----------------|------------|------------------------------------------------------------------|
| California Geologic Energy Management Division (CalGEM) | May 5, 2020     | CalGEM Map | No                                                               |

#### 4.8 OIL AND GAS PIPELINES

| Agency                                  | Date Referenced | Resource               | Pipelines located within 500 feet of the subject property |
|-----------------------------------------|-----------------|------------------------|-----------------------------------------------------------|
| National Pipeline Mapping System (NPMS) | May 5, 2020     | NPMS Public Map Viewer | Information obtained is discussed below                   |

According to observed signage and information obtained from the NPMS Public Map Viewer, a permanently abandoned underground natural gas pipeline is located along Railroad Avenue to the north of the subject property; see Figure 2 and/or NPMS map in appendices. No stressed vegetation or olfactory indications of a release were observed in the vicinity of the pipeline and no records of past releases or violations associated with this pipeline were identified within the regulatory database. Due to its current status and former contents, the natural gas pipeline is not



expected to represent a potential threat to soil or groundwater conditions at the subject property. Based on this information, the pipeline does not appear to represent a significant environmental concern to the subject property at this time.

According to information obtained from the NPMS Public Map Viewer, an active underground petroleum pipeline operated by Kinder Morgan is located along Railroad Avenue to the north of the subject property; see Figure 2 and/or NPMS map in appendices. A written request for additional information regarding the petroleum pipeline was submitted to Mr. Patrick Riban of Kinder Morgan on May 5, 2020. Due to the time frame of this assessment, Mr. Riban was unable to provide the requested information. No stressed vegetation was observed near the pipeline during AEI's reconnaissance reported no known environmental concerns associated with the pipeline. Releases from this pipeline (other than those caused by a third party) would be the responsibility of the operator. Based on this information, and the lack of a documented release identified in the regulatory database, no further action regarding the pipeline is warranted at this time.

#### **4.9 STATE ENVIRONMENTAL SUPERLIENS**

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state environmental superliens.

#### **4.10 STATE PROPERTY TRANSFER LAWS**

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state property transfer laws.



## 5.0 REGULATORY DATABASE RECORDS REVIEW

AEI contracted EDR to conduct a search of publicly available information from federal, state, tribal, and local databases containing known and suspected sites of environmental contamination and sites of potential environmental significance. Data gathered during the current regulatory database search is compiled by EDR into one regulatory database report. Location information for listed sites is designated using geocoded information provided by federal, state, or local agencies and commonly used mapping databases with the exception of "Orphan" sites. Due to poor or inadequate address information, Orphan sites are identified but not geocoded/mapped by EDR, rather, information is provided based upon vicinity zip codes, city name, and state. The number of listed sites identified within the approximate minimum search distance from the federal and state environmental records database listings specified in ASTM Standard E1527-13 is summarized in Section 5.1, along with the total number of Orphan sites. A copy of the regulatory database report, which includes detailed descriptions of the databases noted below, is included in [Appendix C](#) of this report.

In determining if a listed site is a potential environmental concern to the subject property, AEI generally applies the following criteria to classify the site as lower potential environmental concern: 1) the site only holds an operating permit (which does not imply a release), 2) the site's distance from, and/or topographic position relative to, the subject property, and/or 3) the site has recently been granted "No Further Action" by the appropriate regulatory agency.

Regulatory database listings associated with the subject property, adjoining site(s) and/or nearby sites of concern that were determined to warrant additional discussion are identified and further discussed in Section 5.1.

### 5.1 RECORDS SUMMARY

| Database                              | Search Distance (Miles) | Listings Within Search Distance | Subject Property | Adjoining Site(s) | Other Nearby Sites of Concern |
|---------------------------------------|-------------------------|---------------------------------|------------------|-------------------|-------------------------------|
| NPL                                   | 1.0                     | 0                               |                  |                   |                               |
| DELISTED NPL                          | 0.5                     | 0                               |                  |                   |                               |
| SEMS/CERCLIS                          | 0.5                     | 0                               |                  |                   |                               |
| SEMS-ARCHIVE/CERCLIS NFRAP            | 0.5                     | 0                               |                  |                   |                               |
| RCRA CORRACTS                         | 1.0                     | 0                               |                  |                   |                               |
| RCRA-TSDF                             | 0.5                     | 0                               |                  |                   |                               |
| RCRA LQG, SQG, CESQGs, NLR            | SP/ADJ                  | 0                               |                  |                   |                               |
| US ENG CONTROLS                       | SP                      | 0                               |                  |                   |                               |
| US INST CONTROLS                      | SP                      | 0                               |                  |                   |                               |
| ERNS                                  | SP                      | 0                               |                  |                   |                               |
| STATE/TRIBAL HWS                      | 1.0                     | 0                               |                  |                   |                               |
| STATE/TRIBAL SWLF                     | 0.5                     | 0                               |                  |                   |                               |
| STATE/TRIBAL REGISTERED STORAGE TANKS | SP/ADJ                  | 0                               |                  |                   |                               |
| STATE/TRIBAL LUST                     | 0.5                     | 0                               |                  |                   |                               |



| Database                                | Search Distance (Miles) | Listings Within Search Distance | Subject Property | Adjoining Site(s) | Other Nearby Sites of Concern |
|-----------------------------------------|-------------------------|---------------------------------|------------------|-------------------|-------------------------------|
| STATE/TRIBAL EC and IC                  | SP                      | 0                               |                  |                   |                               |
| STATE/TRIBAL VCP                        | 0.5                     | 0                               |                  |                   |                               |
| STATE/TRIBAL BROWNFIELD                 | 0.5                     | 0                               |                  |                   |                               |
| ORPHAN                                  | N/A                     | 0                               |                  |                   |                               |
| ADDITIONAL ENVIRONMENTAL RECORD SOURCES | SP/ADJ                  | 0                               |                  |                   |                               |

## 5.2 VAPOR MIGRATION

AEI reviewed reasonably ascertainable information for the subject and nearby properties, including a regulatory database, files for nearby release sites, and/or historical documentation, to determine if potential vapor-phase migration concerns may be present which could impact the subject property.

Based on a review of available resources as documented in this report, AEI did not identify significant on-site concerns and/or regulated listings from nearby sites which suggest that a vapor-phase migration concern currently exists at the subject property.



## 6.0 INTERVIEWS AND USER PROVIDED INFORMATION

### 6.1 INTERVIEWS

Pursuant to ASTM E1527-13, the following interviews were performed during this assessment in order to obtain information indicating RECs in connection with the subject property.

#### 6.1.1 OWNER AND KEY SITE MANAGER

| Relation to Property       | Name         | Date Interviewed | Method of Contact | Year First Associated w/ Property | Notes                                                  |
|----------------------------|--------------|------------------|-------------------|-----------------------------------|--------------------------------------------------------|
| Owner/Owner Representative | Not provided | N/A              | N/A               | N/A                               | Contact information not provided; refer to Section 1.5 |
| Key Site Manager           | Not provided | N/A              | N/A               | N/A                               | Contact information not provided; refer to Section 1.5 |

#### 6.1.2 PAST OWNERS, OPERATORS, AND OCCUPANTS

AEI did not attempt to interview past owners, operators, and occupants of the subject property because information from these sources would likely be duplicative of information already obtained from other sources.

#### 6.1.3 INTERVIEW WITH OTHERS

Information obtained during interviews with local government officials is incorporated into the appropriate segments of this report.

### 6.2 USER PROVIDED INFORMATION

User provided information is intended to help identify the possibility of RECs in connection with the subject property. According to ASTM E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), certain items should be researched by the prospective landowner or grantee, and the results of such inquiries may be provided to the Environmental Professional. The responsibility for qualifying for LLPs by conducting the inquiries ultimately rests with the User, and providing the information to the Environmental Professional would be prudent if such information is available.

The User did not complete the ASTM User Questionnaire or provide the User information to AEI. AEI assumes that qualification for the LLPs is being established by the User in documentation outside of this assessment.

| Question                                                                                                                                                                                                                                                                                                    | Response/Comment         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>1. Environmental liens that are filed or recorded against the property (40 CFR 312.25)</b><br><br>Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law? | Information not provided |





| Question                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Response/<br>Comment     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <p><b>2. Activity and use limitations that are in place on the property or that have been filed or recorded against the property (40 CFR 312.26(a)(1)(v) and vi)).</b></p> <p>Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?</p>                                                                                                                                                                                              | Information not provided |
| <p><b>3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).</b></p> <p>Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?</p>                                                                                                                                                                                                                            | Information not provided |
| <p><b>4. Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).</b></p> <p>Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?</p>                                                                                                                                                                                                                                                            | Information not provided |
| <p><b>5. Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).</b></p> <p>Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:</p> <p>(a) Do you know the past uses of the property?</p> <p>(b) Do you know of specific chemicals that are present or once were present at the property?</p> <p>(c) Do you know of spills or other chemical releases that have taken place at the property?</p> <p>(d) Do you know of any environmental cleanups that have taken place at the property?</p> | Information not provided |
| <p><b>6. The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).</b></p> <p>Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?</p>                                                                                                                                                                                                                                                                                                        | Information not provided |

### 6.3 PREVIOUS REPORTS AND OTHER PROVIDED DOCUMENTATION

No prior reports or other relevant documentation in association with the subject property was made available to AEI during the course of this assessment.

### 6.4 ENVIRONMENTAL LIEN SEARCH

In accordance with our approved scope of services, an environmental lien search was not performed as part of this assessment.



## 7.0 SITE RECONNAISSANCE

|                                                        |                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Site Reconnaissance Date</b>                        | May 1, 2020                                                                                                                                                                                                                                                                                                     |
| <b>AEI Site Assessor(s)</b>                            | Kathryn Smith                                                                                                                                                                                                                                                                                                   |
| <b>Property Escort(s)/ Relationship(s) to Property</b> | No property escort                                                                                                                                                                                                                                                                                              |
| <b>Units/Areas Observed</b>                            | Due to a fence prohibiting subject property access, AEI was unable to traverse the site. However, AEI was able to observe most areas of the subject property from outside the fence                                                                                                                             |
| <b>Area(s) not accessed and reason(s)</b>              | Due to the fence, size of the property, and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation and features may be present that were not observed during AEI's site inspection.<br><br>Refer to Section 1.5 for discussion of limiting condition(s) |
| <b>Other Physical Constraints</b>                      | None                                                                                                                                                                                                                                                                                                            |

### *Reconnaissance Findings Summary*

| <b>Feature</b>                                                                                  | <b>Observed on Subject Property (see Section 7.1)</b> | <b>Observed on Adjoining Property (see Section 7.2)</b> |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|
| Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use |                                                       |                                                         |
| Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)      |                                                       |                                                         |
| Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use        |                                                       |                                                         |
| Unidentified Substance Containers                                                               |                                                       |                                                         |
| Electrical or Mechanical Equipment Likely to Contain Fluids                                     |                                                       | ✓                                                       |
| Interior Stains or Corrosion                                                                    |                                                       |                                                         |
| Strong, Pungent, or Noxious Odors                                                               |                                                       |                                                         |
| Pools of Liquid                                                                                 |                                                       |                                                         |
| Drains, Sumps, and Clarifiers                                                                   |                                                       | ✓                                                       |
| Pits, Ponds, and Lagoons                                                                        |                                                       |                                                         |
| Stained Soil or Pavement                                                                        |                                                       |                                                         |
| Stressed Vegetation                                                                             |                                                       |                                                         |
| Solid Waste Disposal or Evidence of Fill Materials                                              |                                                       |                                                         |
| Waste Water Discharges                                                                          |                                                       |                                                         |
| Wells                                                                                           |                                                       |                                                         |
| Septic Systems                                                                                  |                                                       |                                                         |
| Biomedical Wastes                                                                               |                                                       |                                                         |
| Other                                                                                           |                                                       | ✓                                                       |

### 7.1 SUBJECT PROPERTY RECONNAISSANCE FINDINGS

During the site reconnaissance, AEI did not observe any of the items listed in the above Reconnaissance Findings Summary table.



## **7.2 ADJOINING PROPERTY RECONNAISSANCE FINDINGS**

During the site reconnaissance, AEI observed the items listed in the above Reconnaissance Findings Summary table, which are further discussed below.

### **7.2.1 ELECTRICAL OR MECHANICAL EQUIPMENT LIKELY TO CONTAIN FLUIDS**

Toxic PCBs were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered "Non-PCB"; between 50 and 500 ppm is considered "PCB-Contaminated"; and >500 ppm is considered "PCB-Containing." Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

#### *Transformers*

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Several pole-mounted transformers were observed on the adjoining sites during the site reconnaissance. No spills, staining, or leaks were observed on or around the transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern.

### **7.2.2 DRAINS, SUMPS, AND CLARIFIERS**

Several storm drains were observed in the adjoining roadways. AEI did not observe evidence of hazardous substances or petroleum products in the vicinity of the drains. Based on the use of the drains solely for storm water runoff, the presence of the drains is not expected to represent a significant environmental concern.

### **7.2.3 OTHER**

Railroad tracks are located across Railroad Avenue adjoining to the north of the subject property. Railroad tracks and spurs represent environmental concerns due to the historical application of oils containing PCBs, herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material. The railroad tracks located adjoining to the north of the subject property are surrounded by gravel. Based on the presence of gravel, the use of oils, arsenic, and herbicides associated with weed or pest control is expected to be minimal, and therefore does not represent a significant environmental concern.



## **8.0 NON-ASTM SERVICES**

---

### **8.1 ASBESTOS-CONTAINING BUILDING MATERIALS**

The subject property is currently vacant land or lacks structures. Consequently, no building components containing suspect asbestos containing materials were identified during the site inspection.

### **8.2 LEAD-BASED PAINT**

The subject property is currently vacant land or lacks structures. Consequently, AEI did not observe building components likely to contain suspect LBP during the site reconnaissance.

### **8.3 RADON**

Radon is a naturally-occurring, odorless, and invisible gas. Natural radon levels vary and are closely related to geologic formations. Radon may enter buildings through basement sumps or other openings.

Radon sampling was not requested as part of this assessment. According to the California Department of Health Services Radon Database, 10 tests were conducted for radon levels in the subject property zip code (94585) in 2016. All of these tests indicated that radon levels were below the action level of 4.0 pCi/L set forth by the US EPA. Therefore, radon is not expected to represent a significant environmental concern.

### **8.4 MOLD**

The subject property is currently vacant land or lacks structures. Consequently, mold was not addressed as part of this assessment.



## 9.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

---

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR Part 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:



Kathryn Smith  
Project Manager

Reviewed By:



Candace Quinn  
Senior Author

## 10.0 REFERENCES

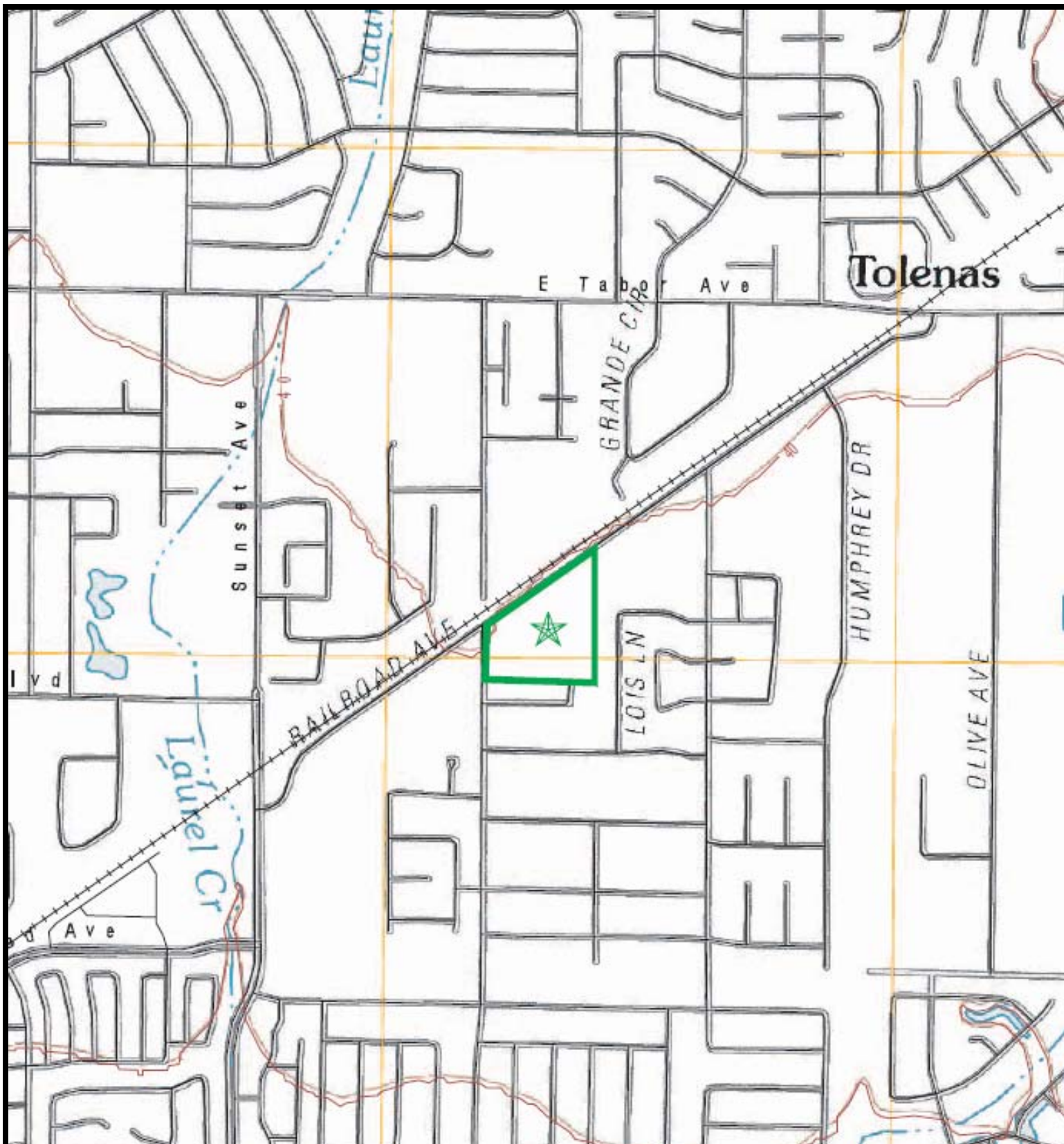
| Item                                  | Date(s)                   | Source                                                                                                                                                                                                   |
|---------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soils Information                     | Accessed May 2020         | USDA Web Soil Survey<br><a href="http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx">http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</a>                                                |
| Topographic Map                       | 2012                      | USGS, Fairfield North                                                                                                                                                                                    |
| Depth to Groundwater Information      | April 16, 1997            | Groundwater monitoring data obtained from the State Water Resources Board Geotracker database for a nearby site at 1600 North Texas Street (located approximately 1.0 mile west of the subject property) |
| Aerial Photographs                    | 1937-2016 (non-inclusive) | EDR                                                                                                                                                                                                      |
| Sanborn Map Report/Search             | Searched April 22, 2020   | EDR                                                                                                                                                                                                      |
| Historical Topographic Maps           | 1902-1983 (non-inclusive) | USGS Topographic Map Explorer<br><a href="https://livingatlas.arcgis.com/topoexplorer/index.html">https://livingatlas.arcgis.com/topoexplorer/index.html</a>                                             |
| Environmental Health Department       | April 30, 2020            | Solano County Department of Environmental Management                                                                                                                                                     |
| Fire Department                       | May 1, 2020               | Suisun City Fire Department                                                                                                                                                                              |
| Building Department                   | May 1, 2020               | Suisun City Building Department                                                                                                                                                                          |
| Planning Department                   | May 1, 2020               | Suisun City Planning Department                                                                                                                                                                          |
| Assessor's Information and Parcel Map | April 22, 2020            | Solano County Assessor's Office                                                                                                                                                                          |
| Other Agencies Searched               | May 5, 2020               | SWRCB GeoTracker, DTSC HWTS, and DTSC EnviroStor                                                                                                                                                         |
| Oil and Gas Wells                     | May 5, 2020               | California Geologic Energy Management Division                                                                                                                                                           |
| Oil and Gas Pipelines                 | May 5, 2020               | NPMS Public Map Viewer<br><a href="https://www.npms.phmsa.dot.gov/PublicViewer/composite.jsf">https://www.npms.phmsa.dot.gov/PublicViewer/composite.jsf</a>                                              |
| Regulatory Database Report            | April 22, 2020            | EDR                                                                                                                                                                                                      |
| Radon Zone Information                | February 2016             | California Department of Public Health (CDPH) California Indoor Radon Levels                                                                                                                             |



# **APPENDIX A**

## **FIGURES**





Legend

Approximate Property Boundary —

Source: USGS Topographic Map *Fairfield North, California (2012)*



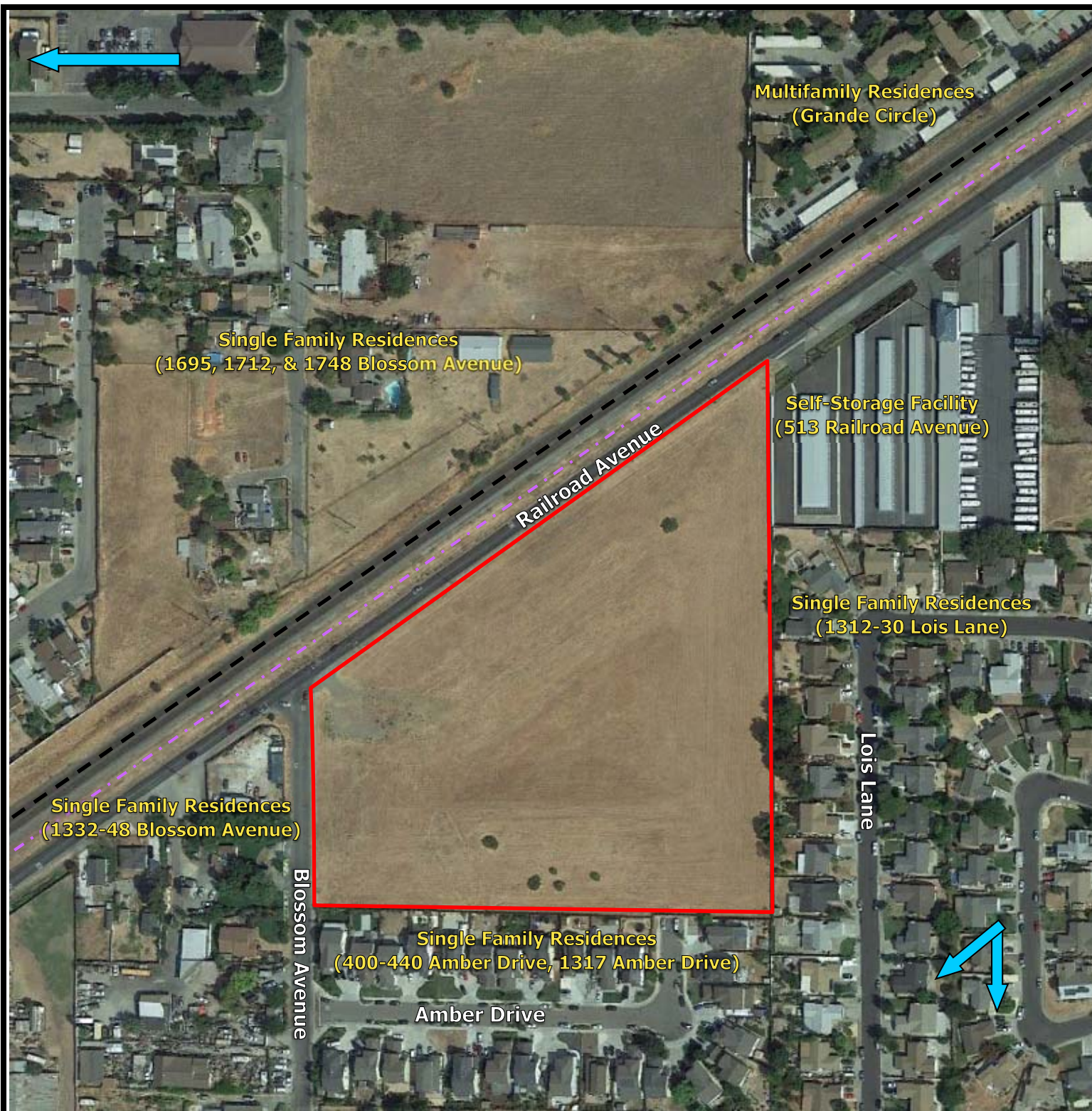
## Figure 1: TOPOGRAPHIC MAP

Blossom Avenue and Railroad Avenue, Suisun City, CA 94585


Project Number: 421808


**AEI**  
Consultants





#### Legend

Estimated Groundwater Flow Direction  Subterranean Natural Gas/Petroleum Pipeline - - - -

Approximate Property Boundary  - - - -

Railway - - - -



## Figure 2: SITE MAP

Blossom Avenue and Railroad Avenue, Suisun City, CA 94585  
Project Number: 421808

**AEI**  
Consultants

# **APPENDIX B**

## **PROPERTY PHOTOGRAPHS**





1. Subject property from the northwest



2. North portion of the subject property from the northwest





3. North portion of the subject property from the northeast



4. Subject property from the northeast





5. East portion of the subject property from the northeast



6. East portion of the subject property from the southeast





7. Subject property from the southeast



8. South portion of the subject property from the southeast



9. South portion of the subject property from the southwest



10. Subject property from the southwest





11. West portion of the subject property from the northwest



12. North adjoining residences (1695, 1712, & 1748 Blossom Avenue)





13. North adjoining railway



14. East adjoining self-storage facility ( 513 Railroad Avenue)



15. East adjoining residences (1312-30 Lois Lane)



16. South adjoining residences (400-440 Amber Drive, 1317 Amber Drive)





17. West adjoining residences (1332-48 Blossom Avenue)

# **APPENDIX C**

## **REGULATORY DATABASE**

**421808**

Blossom Road and Railroad Avenue  
Suisun City, CA 94585

Inquiry Number: 6047054.2s  
April 22, 2020

## The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

BLOSSOM ROAD AND RAILROAD AVENUE  
SUISUN CITY, CA 94585

#### COORDINATES

Latitude (North): 38.2593580 - 38° 15' 33.68"  
Longitude (West): 122.0133520 - 122° 0' 48.06"  
Universal Transverse Mercator: Zone 10  
UTM X (Meters): 586322.2  
UTM Y (Meters): 4234846.0  
Elevation: 37 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5602112 FAIRFIELD NORTH, CA  
Version Date: 2012  
  
Northeast Map: 5619708 ELMIRA, CA  
Version Date: 2012  
  
Southeast Map: 5629050 DENVERTON, CA  
Version Date: 2012  
  
Southwest Map: 5602114 FAIRFIELD SOUTH, CA  
Version Date: 2012

### AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140606  
Source: USDA

# MAPPED SITES SUMMARY

Target Property Address:  
BLOSSOM ROAD AND RAILROAD AVENUE  
SUISUN CITY, CA 94533

Click on Map ID to see full detail.

| MAP ID             | SITE NAME            | ADDRESS              | DATABASE ACRONYMS    | RELATIVE ELEVATION | DIST (ft. & mi.)<br>DIRECTION |
|--------------------|----------------------|----------------------|----------------------|--------------------|-------------------------------|
| <a href="#">A1</a> | BILL BEATH FAIRFIELD | 405 RAILROAD AVE UNI | RCRA NonGen / NLR    | Lower              | 772, 0.146, SW                |
| <a href="#">A2</a> | FREON FREE           | 409-D RAILROAD AVENU | RCRA-LQG             | Lower              | 847, 0.160, SW                |
| <a href="#">A3</a> | FREON FREE           | 409 RAILROAD AVE., # | AST                  | Lower              | 847, 0.160, SW                |
| <a href="#">4</a>  | RAILROAD AVENUE AUTO | 605 RAILROAD AVE STE | CERS HAZ WASTE, CERS | Higher             | 1166, 0.221, NE               |



## EXECUTIVE SUMMARY

### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

### STANDARD ENVIRONMENTAL RECORDS

#### ***Federal NPL site list***

NPL..... National Priority List  
Proposed NPL..... Proposed National Priority List Sites  
NPL LIENS..... Federal Superfund Liens

#### ***Federal Delisted NPL site list***

Delisted NPL..... National Priority List Deletions

#### ***Federal CERCLIS list***

FEDERAL FACILITY..... Federal Facility Site Information listing  
SEMS..... Superfund Enterprise Management System

#### ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

#### ***Federal RCRA CORRACTS facilities list***

CORRACTS..... Corrective Action Report

#### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

#### ***Federal RCRA generators list***

RCRA-SQG..... RCRA - Small Quantity Generators  
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

#### ***Federal institutional controls / engineering controls registries***

LUCIS..... Land Use Control Information System  
US ENG CONTROLS..... Engineering Controls Sites List

## EXECUTIVE SUMMARY

US INST CONTROLS..... Institutional Controls Sites List

### ***Federal ERNS list***

ERNS..... Emergency Response Notification System

### ***State- and tribal - equivalent NPL***

RESPONSE..... State Response Sites

### ***State- and tribal - equivalent CERCLIS***

ENVIROSTOR..... EnviroStor Database

### ***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF..... Solid Waste Information System

### ***State and tribal leaking storage tank lists***

LUST..... Geotracker's Leaking Underground Fuel Tank Report

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

CPS-SLIC..... Statewide SLIC Cases

### ***State and tribal registered storage tank lists***

FEMA UST..... Underground Storage Tank Listing

UST..... Active UST Facilities

INDIAN UST..... Underground Storage Tanks on Indian Land

### ***State and tribal voluntary cleanup sites***

INDIAN VCP..... Voluntary Cleanup Priority Listing

VCP..... Voluntary Cleanup Program Properties

### ***State and tribal Brownfields sites***

BROWNFIELDS..... Considered Brownfields Sites Listing

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### ***Local Brownfield lists***

US BROWNFIELDS..... A Listing of Brownfields Sites

### ***Local Lists of Landfill / Solid Waste Disposal Sites***

WMUDS/SWAT..... Waste Management Unit Database

SWRCY..... Recycler Database

HAULERS..... Registered Waste Tire Haulers Listing

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

## EXECUTIVE SUMMARY

### ***Local Lists of Hazardous waste / Contaminated Sites***

|                     |                                                   |
|---------------------|---------------------------------------------------|
| US HIST CDL.....    | Delisted National Clandestine Laboratory Register |
| HIST Cal-Sites..... | Historical Calsites Database                      |
| SCH.....            | School Property Evaluation Program                |
| CDL.....            | Clandestine Drug Labs                             |
| Toxic Pits.....     | Toxic Pits Cleanup Act Sites                      |
| US CDL.....         | National Clandestine Laboratory Register          |
| PFAS.....           | PFAS Contamination Site Location Listing          |

### ***Local Lists of Registered Storage Tanks***

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| SWEEPS UST..... | SWEEPS UST Listing                                     |
| HIST UST.....   | Hazardous Substance Storage Container Database         |
| CERS TANKS..... | California Environmental Reporting System (CERS) Tanks |
| CA FID UST..... | Facility Inventory Database                            |

### ***Local Land Records***

|              |                             |
|--------------|-----------------------------|
| LIENS.....   | Environmental Liens Listing |
| LIENS 2..... | CERCLA Lien Information     |
| DEED.....    | Deed Restriction Listing    |

### ***Records of Emergency Release Reports***

|                |                                                      |
|----------------|------------------------------------------------------|
| HMIRS.....     | Hazardous Materials Information Reporting System     |
| CHMIRS.....    | California Hazardous Material Incident Report System |
| LDS.....       | Land Disposal Sites Listing                          |
| MCS.....       | Military Cleanup Sites Listing                       |
| SPILLS 90..... | SPILLS 90 data from FirstSearch                      |

### ***Other Ascertainable Records***

|                       |                                                                                                                             |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------|
| FUDS.....             | Formerly Used Defense Sites                                                                                                 |
| DOD.....              | Department of Defense Sites                                                                                                 |
| SCRD DRYCLEANERS..... | State Coalition for Remediation of Drycleaners Listing                                                                      |
| US FIN ASSUR.....     | Financial Assurance Information                                                                                             |
| EPA WATCH LIST.....   | EPA WATCH LIST                                                                                                              |
| 2020 COR ACTION.....  | 2020 Corrective Action Program List                                                                                         |
| TSCA.....             | Toxic Substances Control Act                                                                                                |
| TRIS.....             | Toxic Chemical Release Inventory System                                                                                     |
| SSTS.....             | Section 7 Tracking Systems                                                                                                  |
| ROD.....              | Records Of Decision                                                                                                         |
| RMP.....              | Risk Management Plans                                                                                                       |
| RAATS.....            | RCRA Administrative Action Tracking System                                                                                  |
| PRP.....              | Potentially Responsible Parties                                                                                             |
| PADS.....             | PCB Activity Database System                                                                                                |
| ICIS.....             | Integrated Compliance Information System                                                                                    |
| FTTS.....             | FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) |
| MLTS.....             | Material Licensing Tracking System                                                                                          |
| COAL ASH DOE.....     | Steam-Electric Plant Operation Data                                                                                         |
| COAL ASH EPA.....     | Coal Combustion Residues Surface Impoundments List                                                                          |
| PCB TRANSFORMER.....  | PCB Transformer Registration Database                                                                                       |

## EXECUTIVE SUMMARY

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| RADINFO.....             | Radiation Information Database                             |
| HIST FTTS.....           | FIFRA/TSCA Tracking System Administrative Case Listing     |
| DOT OPS.....             | Incident and Accident Data                                 |
| CONSENT.....             | Superfund (CERCLA) Consent Decrees                         |
| INDIAN RESERV.....       | Indian Reservations                                        |
| FUSRAP.....              | Formerly Utilized Sites Remedial Action Program            |
| UMTRA.....               | Uranium Mill Tailings Sites                                |
| LEAD SMELTERS.....       | Lead Smelter Sites                                         |
| US AIRS.....             | Aerometric Information Retrieval System Facility Subsystem |
| US MINES.....            | Mines Master Index File                                    |
| ABANDONED MINES.....     | Abandoned Mines                                            |
| FINDS.....               | Facility Index System/Facility Registry System             |
| ECHO.....                | Enforcement & Compliance History Information               |
| DOCKET HWC.....          | Hazardous Waste Compliance Docket Listing                  |
| UXO.....                 | Unexploded Ordnance Sites                                  |
| FUELS PROGRAM.....       | EPA Fuels Program Registered Listing                       |
| CA BOND EXP. PLAN.....   | Bond Expenditure Plan                                      |
| Cortese.....             | "Cortese" Hazardous Waste & Substances Sites List          |
| CUPA Listings.....       | CUPA Resources List                                        |
| DRYCLEANERS.....         | Cleaner Facilities                                         |
| EMI.....                 | Emissions Inventory Data                                   |
| ENF.....                 | Enforcement Action Listing                                 |
| Financial Assurance..... | Financial Assurance Information Listing                    |
| HAZNET.....              | Facility and Manifest Data                                 |
| ICE.....                 | ICE                                                        |
| HIST CORTESE.....        | Hazardous Waste & Substance Site List                      |
| HWP.....                 | EnviroStor Permitted Facilities Listing                    |
| HWT.....                 | Registered Hazardous Waste Transporter Database            |
| MINES.....               | Mines Site Location Listing                                |
| MWMP.....                | Medical Waste Management Program Listing                   |
| NPDES.....               | NPDES Permits Listing                                      |
| PEST LIC.....            | Pesticide Regulation Licenses Listing                      |
| PROC.....                | Certified Processors Database                              |
| Notify 65.....           | Proposition 65 Records                                     |
| UIC.....                 | UIC Listing                                                |
| UIC GEO.....             | UIC GEO (GEOTRACKER)                                       |
| WASTEWATER PITS.....     | Oil Wastewater Pits Listing                                |
| WDS.....                 | Waste Discharge System                                     |
| WIP.....                 | Well Investigation Program Case List                       |
| MILITARY PRIV SITES..... | MILITARY PRIV SITES (GEOTRACKER)                           |
| PROJECT.....             | PROJECT (GEOTRACKER)                                       |
| WDR.....                 | Waste Discharge Requirements Listing                       |
| CIWQS.....               | California Integrated Water Quality System                 |
| CERS.....                | CERS                                                       |
| NON-CASE INFO.....       | NON-CASE INFO (GEOTRACKER)                                 |
| OTHER OIL GAS.....       | OTHER OIL & GAS (GEOTRACKER)                               |
| PROD WATER PONDS.....    | PROD WATER PONDS (GEOTRACKER)                              |
| SAMPLING POINT.....      | SAMPLING POINT (GEOTRACKER)                                |
| WELL STIM PROJ.....      | Well Stimulation Project (GEOTRACKER)                      |
| HWTS.....                | Hazardous Waste Tracking System                            |
| MINES MRDS.....          | Mineral Resources Data System                              |

### **EDR HIGH RISK HISTORICAL RECORDS**

#### ***EDR Exclusive Records***

EDR MGP..... EDR Proprietary Manufactured Gas Plants

## EXECUTIVE SUMMARY

EDR Hist Auto..... EDR Exclusive Historical Auto Stations  
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

RGA LF..... Recovered Government Archive Solid Waste Facilities List  
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### STANDARD ENVIRONMENTAL RECORDS

#### ***Federal RCRA generators list***

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/16/2019 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

| <u>Lower Elevation</u>              | <u>Address</u>       | <u>Direction / Distance</u> | <u>Map ID</u> | <u>Page</u> |
|-------------------------------------|----------------------|-----------------------------|---------------|-------------|
| FREON FREE<br>EPA ID:: CAL000216556 | 409-D RAILROAD AVENU | SW 1/8 - 1/4 (0.160 mi.)    | A2            | 10          |

#### ***State and tribal registered storage tank lists***

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

| <u>Lower Elevation</u>                                              | <u>Address</u>       | <u>Direction / Distance</u> | <u>Map ID</u> | <u>Page</u> |
|---------------------------------------------------------------------|----------------------|-----------------------------|---------------|-------------|
| FREON FREE<br>Database: AST, Date of Government Version: 07/06/2016 | 409 RAILROAD AVE., # | SW 1/8 - 1/4 (0.160 mi.)    | A3            | 12          |

## EXECUTIVE SUMMARY

### ADDITIONAL ENVIRONMENTAL RECORDS

#### ***Local Lists of Hazardous waste / Contaminated Sites***

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 01/21/2020 has revealed that there is 1 CERS HAZ WASTE site within approximately 0.25 miles of the target property.

| <u>Equal/Higher Elevation</u> | <u>Address</u>       | <u>Direction / Distance</u> | <u>Map ID</u> | <u>Page</u> |
|-------------------------------|----------------------|-----------------------------|---------------|-------------|
| RAILROAD AVENUE AUTO          | 605 RAILROAD AVE STE | NE 1/8 - 1/4 (0.221 mi.)    | 4             | 12          |

#### ***Other Ascertainable Records***

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/16/2019 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

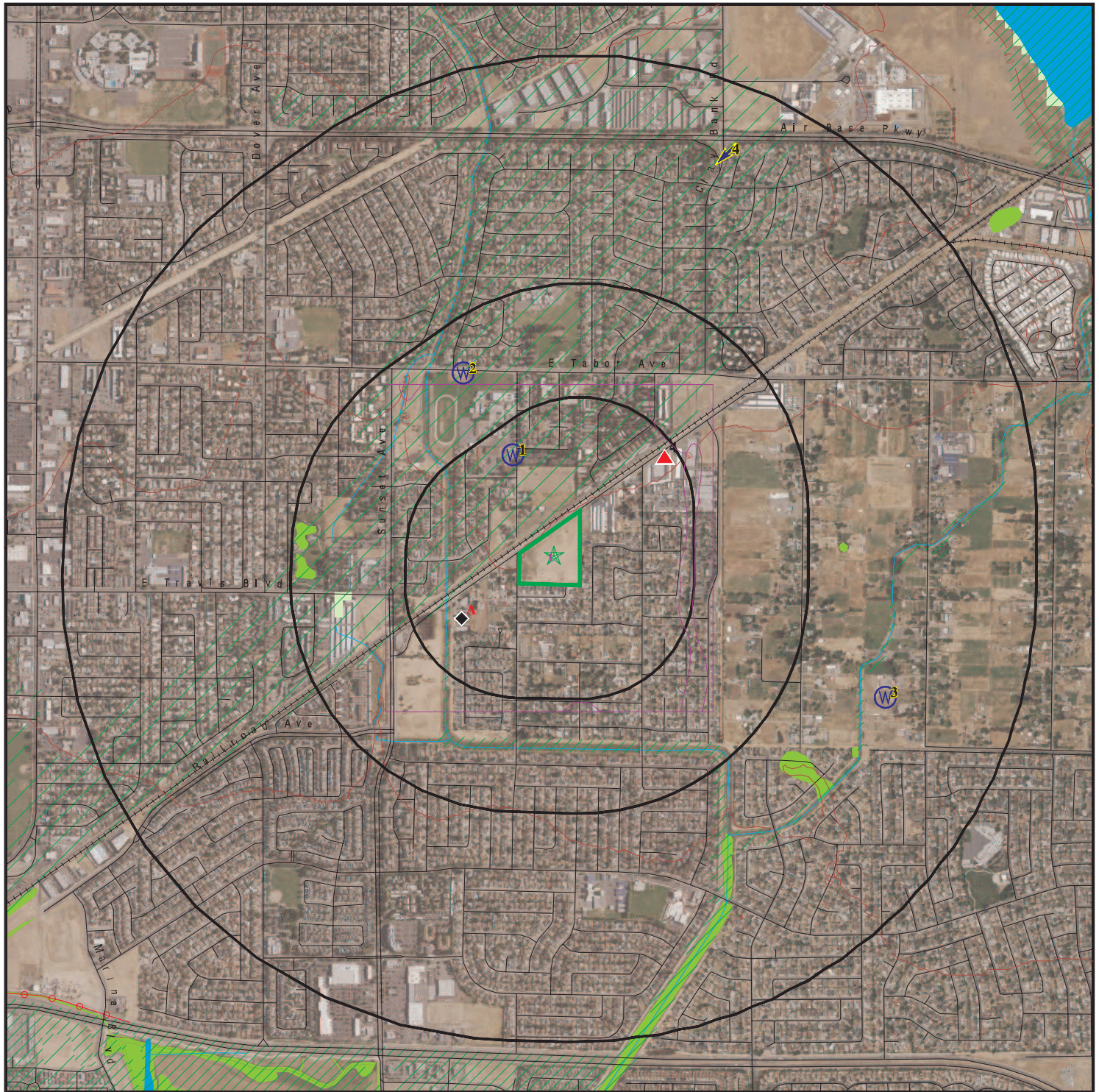
| <u>Lower Elevation</u>                        | <u>Address</u>       | <u>Direction / Distance</u> | <u>Map ID</u> | <u>Page</u> |
|-----------------------------------------------|----------------------|-----------------------------|---------------|-------------|
| BILL BEATH FAIRFIELD<br>EPA ID:: CAL000206195 | 405 RAILROAD AVE UNI | SW 1/8 - 1/4 (0.146 mi.)    | A1            | 9           |

## EXECUTIVE SUMMARY

There were no unmapped sites in this report.



# OVERVIEW MAP - 6047054.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

0 1/4 1/2 1 Miles



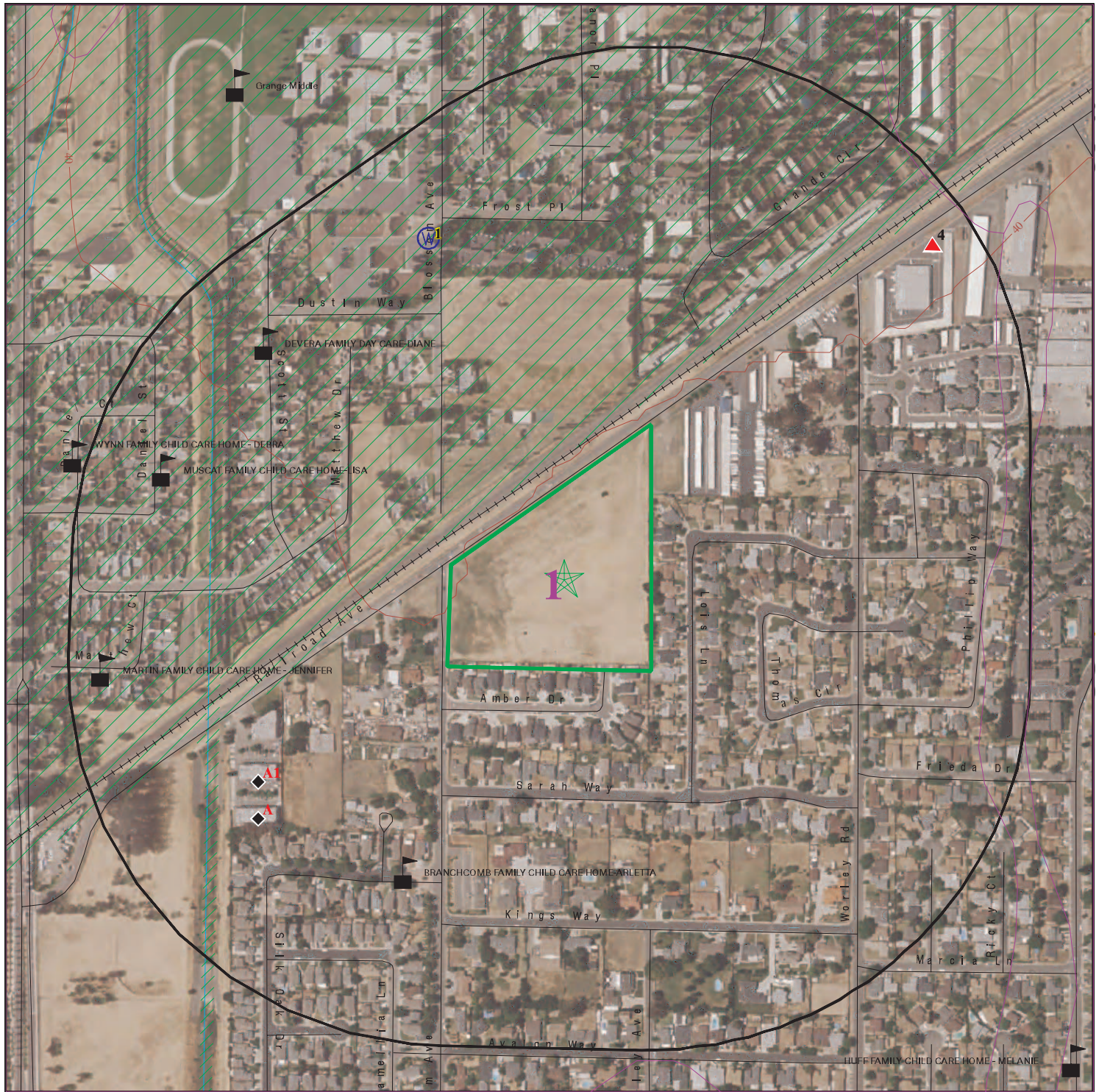
This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 421808  
ADDRESS: Blossom Road and Railroad Avenue  
Suisun City CA 94585  
LAT/LONG: 38.259358 / 122.013352

CLIENT: AEI Consultants  
CONTACT: Lacee Elam  
INQUIRY #: 6047054.2s  
DATE: April 22, 2020 3:06 pm



# DETAIL MAP - 6047054.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 421808  
 ADDRESS: Blossom Road and Railroad Avenue  
 Suisun City CA 94585  
 LAT/LONG: 38.259358 / 122.013352

CLIENT: AEI Consultants  
 CONTACT: Lacey Elam  
 INQUIRY #: 6047054.2s  
 DATE: April 22, 2020 3:06 pm

## MAP FINDINGS SUMMARY

| Database                                                                           | Search<br>Distance<br>(Miles) | Target<br>Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total<br>Plotted |
|------------------------------------------------------------------------------------|-------------------------------|--------------------|-------|-----------|-----------|---------|-----|------------------|
| <b>STANDARD ENVIRONMENTAL RECORDS</b>                                              |                               |                    |       |           |           |         |     |                  |
| <b><i>Federal NPL site list</i></b>                                                |                               |                    |       |           |           |         |     |                  |
| NPL                                                                                | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| Proposed NPL                                                                       | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| NPL LIENS                                                                          | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| <b><i>Federal Delisted NPL site list</i></b>                                       |                               |                    |       |           |           |         |     |                  |
| Delisted NPL                                                                       | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| <b><i>Federal CERCLIS list</i></b>                                                 |                               |                    |       |           |           |         |     |                  |
| FEDERAL FACILITY                                                                   | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| SEMS                                                                               | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| <b><i>Federal CERCLIS NFRAP site list</i></b>                                      |                               |                    |       |           |           |         |     |                  |
| SEMS-ARCHIVE                                                                       | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| <b><i>Federal RCRA CORRACTS facilities list</i></b>                                |                               |                    |       |           |           |         |     |                  |
| CORRACTS                                                                           | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| <b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>                        |                               |                    |       |           |           |         |     |                  |
| RCRA-TSDF                                                                          | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| <b><i>Federal RCRA generators list</i></b>                                         |                               |                    |       |           |           |         |     |                  |
| RCRA-LQG                                                                           | 0.250                         |                    | 0     | 1         | NR        | NR      | NR  | 1                |
| RCRA-SQG                                                                           | 0.250                         |                    | 0     | 0         | NR        | NR      | NR  | 0                |
| RCRA-VSQG                                                                          | 0.250                         |                    | 0     | 0         | NR        | NR      | NR  | 0                |
| <b><i>Federal institutional controls /<br/>engineering controls registries</i></b> |                               |                    |       |           |           |         |     |                  |
| LUCIS                                                                              | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| US ENG CONTROLS                                                                    | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| US INST CONTROLS                                                                   | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| <b><i>Federal ERNS list</i></b>                                                    |                               |                    |       |           |           |         |     |                  |
| ERNS                                                                               | TP                            |                    | NR    | NR        | NR        | NR      | NR  | 0                |
| <b><i>State- and tribal - equivalent NPL</i></b>                                   |                               |                    |       |           |           |         |     |                  |
| RESPONSE                                                                           | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| <b><i>State- and tribal - equivalent CERCLIS</i></b>                               |                               |                    |       |           |           |         |     |                  |
| ENVIROSTOR                                                                         | 1.000                         |                    | 0     | 0         | 0         | 0       | NR  | 0                |
| <b><i>State and tribal landfill and/or<br/>solid waste disposal site lists</i></b> |                               |                    |       |           |           |         |     |                  |
| SWF/LF                                                                             | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |
| <b><i>State and tribal leaking storage tank lists</i></b>                          |                               |                    |       |           |           |         |     |                  |
| LUST                                                                               | 0.500                         |                    | 0     | 0         | 0         | NR      | NR  | 0                |

## MAP FINDINGS SUMMARY

| Database                                                    | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|-------------------------------------------------------------|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| INDIAN LUST                                                 | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| CPS-SLIC                                                    | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>State and tribal registered storage tank lists</b>       |                         |                 |       |           |           |         |     |               |
| FEMA UST                                                    | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| UST                                                         | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| AST                                                         | 0.250                   |                 | 0     | 1         | NR        | NR      | NR  | 1             |
| INDIAN UST                                                  | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| <b>State and tribal voluntary cleanup sites</b>             |                         |                 |       |           |           |         |     |               |
| INDIAN VCP                                                  | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| VCP                                                         | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>State and tribal Brownfields sites</b>                   |                         |                 |       |           |           |         |     |               |
| BROWNFIELDS                                                 | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>ADDITIONAL ENVIRONMENTAL RECORDS</b>                     |                         |                 |       |           |           |         |     |               |
| <b>Local Brownfield lists</b>                               |                         |                 |       |           |           |         |     |               |
| US BROWNFIELDS                                              | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>Local Lists of Landfill / Solid Waste Disposal Sites</b> |                         |                 |       |           |           |         |     |               |
| WMUDS/SWAT                                                  | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| SWRCY                                                       | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| HAULERS                                                     | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| INDIAN ODI                                                  | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| DEBRIS REGION 9                                             | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| ODI                                                         | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| IHS OPEN DUMPS                                              | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>Local Lists of Hazardous waste / Contaminated Sites</b>  |                         |                 |       |           |           |         |     |               |
| US HIST CDL                                                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| HIST Cal-Sites                                              | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| SCH                                                         | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| CDL                                                         | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| Toxic Pits                                                  | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| CERS HAZ WASTE                                              | 0.250                   |                 | 0     | 1         | NR        | NR      | NR  | 1             |
| US CDL                                                      | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PFAS                                                        | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>Local Lists of Registered Storage Tanks</b>              |                         |                 |       |           |           |         |     |               |
| SWEEPS UST                                                  | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| HIST UST                                                    | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| CERS TANKS                                                  | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| CA FID UST                                                  | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| <b>Local Land Records</b>                                   |                         |                 |       |           |           |         |     |               |
| LIENS                                                       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |

## MAP FINDINGS SUMMARY

| Database                                    | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---------------------------------------------|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| LIENS 2                                     | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| DEED                                        | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| <b>Records of Emergency Release Reports</b> |                         |                 |       |           |           |         |     |               |
| HMIRS                                       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| CHMIRS                                      | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| LDS                                         | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| MCS                                         | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| SPILLS 90                                   | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| <b>Other Ascertainable Records</b>          |                         |                 |       |           |           |         |     |               |
| RCRA NonGen / NLR                           | 0.250                   |                 | 0     | 1         | NR        | NR      | NR  | 1             |
| FUDS                                        | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| DOD                                         | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| SCRD DRYCLEANERS                            | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| US FIN ASSUR                                | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| EPA WATCH LIST                              | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| 2020 COR ACTION                             | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| TSCA                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| TRIS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| SSTS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| ROD                                         | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| RMP                                         | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| RAATS                                       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PRP                                         | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PADS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| ICIS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| FTTS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| MLTS                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| COAL ASH DOE                                | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| COAL ASH EPA                                | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| PCB TRANSFORMER                             | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| RADINFO                                     | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| HIST FTTS                                   | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| DOT OPS                                     | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| CONSENT                                     | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| INDIAN RESERV                               | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| FUSRAP                                      | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| UMTRA                                       | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| LEAD SMELTERS                               | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| US AIRS                                     | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| US MINES                                    | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| ABANDONED MINES                             | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| FINDS                                       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| ECHO                                        | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| DOCKET HWC                                  | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| UXO                                         | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| FUELS PROGRAM                               | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| CA BOND EXP. PLAN                           | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| Cortese                                     | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| CUPA Listings                               | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |



## MAP FINDINGS SUMMARY

| Database            | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---------------------|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| DRYCLEANERS         | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| EMI                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| ENF                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| Financial Assurance | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| HAZNET              | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| ICE                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| HIST CORTESE        | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| HWP                 | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| HWT                 | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| MINES               | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| MWMP                | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| NPDES               | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PEST LIC            | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PROC                | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| Notify 65           | 1.000                   |                 | 0     | 0         | 0         | 0       | NR  | 0             |
| UIC                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| UIC GEO             | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| WASTEWATER PITS     | 0.500                   |                 | 0     | 0         | 0         | NR      | NR  | 0             |
| WDS                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| WIP                 | 0.250                   |                 | 0     | 0         | NR        | NR      | NR  | 0             |
| MILITARY PRIV SITES | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PROJECT             | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| WDR                 | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| CIWQS               | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| CERS                | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| NON-CASE INFO       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| OTHER OIL GAS       | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| PROD WATER PONDS    | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| SAMPLING POINT      | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| WELL STIM PROJ      | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| HWTS                | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |
| MINES MRDS          | TP                      |                 | NR    | NR        | NR        | NR      | NR  | 0             |

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

|                  |       |  |   |    |    |    |    |   |
|------------------|-------|--|---|----|----|----|----|---|
| EDR MGP          | 1.000 |  | 0 | 0  | 0  | 0  | NR | 0 |
| EDR Hist Auto    | 0.125 |  | 0 | NR | NR | NR | NR | 0 |
| EDR Hist Cleaner | 0.125 |  | 0 | NR | NR | NR | NR | 0 |

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

|          |    |  |    |    |    |    |    |   |
|----------|----|--|----|----|----|----|----|---|
| RGA LF   | TP |  | NR | NR | NR | NR | NR | 0 |
| RGA LUST | TP |  | NR | NR | NR | NR | NR | 0 |

|             |  |   |   |   |   |   |   |   |
|-------------|--|---|---|---|---|---|---|---|
| - Totals -- |  | 0 | 0 | 4 | 0 | 0 | 0 | 4 |
|-------------|--|---|---|---|---|---|---|---|

## MAP FINDINGS SUMMARY

| <u>Database</u> | <u>Search<br/>Distance<br/>(Miles)</u> | <u>Target<br/>Property</u> | <u>&lt; 1/8</u> | <u>1/8 - 1/4</u> | <u>1/4 - 1/2</u> | <u>1/2 - 1</u> | <u>&gt; 1</u> | <u>Total<br/>Plotted</u> |
|-----------------|----------------------------------------|----------------------------|-----------------|------------------|------------------|----------------|---------------|--------------------------|
|-----------------|----------------------------------------|----------------------------|-----------------|------------------|------------------|----------------|---------------|--------------------------|

### NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

EDR ID Number  
EPA ID Number

A1  
SW  
1/8-1/4  
0.146 mi.  
772 ft.

**BILL BEATH FAIRFIELD CONST SUPPLY**  
**405 RAILROAD AVE UNIT A**  
**SUISUN CITY, CA 94585**

RCRA NonGen / NLR

1024798815  
CAL000206195

**Site 1 of 3 in cluster A**

**Relative:**  
**Lower**

RCRA NonGen / NLR:

**Actual:**  
**34 ft.**

Date form received by agency: 2001-03-01 00:00:00.0  
Facility name: BILL BEATH FAIRFIELD CONST SUPPLY  
Facility address: 405 RAILROAD AVE UNIT A  
SUISUN CITY, CA 94585-0000  
EPA ID: CAL000206195  
Mailing address: PO BOX 791  
SUISUN CITY, CA 94585-0000  
Contact: BILL BEATH  
Contact address: 405 RAILROAD AVE  
SUISUN CITY, CA 94585-0000  
Contact country: Not reported  
Contact telephone: 707-421-8008  
Contact email: Not reported  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: WILLIAM BEATH  
Owner/operator address: 2213 BURGANDY WAY  
FAIRFILED, CA 94533  
Owner/operator country: Not reported  
Owner/operator telephone: 708-422-8639  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: BILL BEATH  
Owner/operator address: 405 RAILROAD AVE  
SUISUN CITY, CA 94585  
Owner/operator country: Not reported  
Owner/operator telephone: 707-421-8008  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BILL BEATH FAIRFIELD CONST SUPPLY (Continued)**

**1024798815**

On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**A2  
SW  
1/8-1/4  
0.160 mi.  
847 ft.**

**FREON FREE  
409-D RAILROAD AVENUE  
SUISUN CITY, CA 94585**

**RCRA-LQG**

**1012175659  
CAL000216556**

**Site 2 of 3 in cluster A**

**Relative:  
Lower**

RCRA-LQG:

**Actual:  
33 ft.**

Date form received by agency: 2008-07-23 00:00:00.0

Facility name: FREON FREE

Facility address: 409-D RAILROAD AVENUE  
SUISUN CITY, CA 94585

EPA ID: CAL000216556

Mailing address: PO BOX 5607  
VACAVILLE, CA 90696

Contact: JESSIA L MCCOMMON

Contact address: Not reported

Contact country: US

Contact telephone: 707-429-9013

Contact email: FREONFREEWORKER@AOL.COM

EPA Region: 09

Classification: Large Quantity Generator

Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name: RALPH ABLES

Owner/operator address: 401-E RAILROAD AVENUE  
SUISUN CITY, CA 94585

Owner/operator country: US

Owner/operator telephone: Not reported

Owner/operator email: Not reported

Owner/operator fax: Not reported

Owner/operator extension: Not reported

Legal status: Private

Owner/Operator Type: Owner



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FREON FREE (Continued)**

**1012175659**

Owner/Op start date: 1990-01-01 00:00:00.  
Owner/Op end date: Not reported  
  
Owner/operator name: HENRY F. WARNER  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 1991-07-01 00:00:00.  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Hazardous Waste Summary:

. Waste code: D009  
. Waste name: MERCURY  
  
. Waste code: F002  
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.  
  
. Waste code: U151  
. Waste name: MERCURY  
  
Violation Status: No violations found

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

A3  
SW  
1/8-1/4  
0.160 mi.  
847 ft.

**FREON FREE**  
**409 RAILROAD AVE., #D**  
**SUISUN CITY, CA**

**Site 3 of 3 in cluster A**

**AST** **A100339399**  
**N/A**

**Relative:**  
**Lower**

**AST:**

**Actual:**  
**33 ft.**

Name: FREON FREE  
Address: 409 RAILROAD AVE., #D  
City/Zip: SUISUN CITY,  
Certified Unified Program Agencies: Solano  
Owner: Not reported  
Total Gallons: 2,700  
CERSID: Not reported  
Facility ID: Not reported  
Business Name: Not reported  
Phone: Not reported  
Fax: Not reported  
Mailing Address: Not reported  
Mailing Address City: Not reported  
Mailing Address State: Not reported  
Mailing Address Zip Code: Not reported  
Operator Name: Not reported  
Operator Phone: Not reported  
Owner Phone: Not reported  
Owner Mail Address: Not reported  
Owner State: Not reported  
Owner Zip Code: Not reported  
Owner Country: Not reported  
Property Owner Name: Not reported  
Property Owner Phone: Not reported  
Property Owner Mailing Address: Not reported  
Property Owner City: Not reported  
Property Owner Stat : Not reported  
Property Owner Zip Code: Not reported  
Property Owner Country: Not reported  
EPAID: Not reported

4  
NE  
1/8-1/4  
0.221 mi.  
1166 ft.

**RAILROAD AVENUE AUTOWORKS**  
**605 RAILROAD AVE STE A**  
**SUISUN CITY, CA 94585**

**CERS HAZ WASTE** **S121745605**  
**CERS** **N/A**

**Relative:**  
**Higher**

**CERS HAZ WASTE:**

**Actual:**  
**42 ft.**

Name: RAILROAD AVENUE AUTOWORKS  
Address: 605 RAILROAD AVE STE A  
City,State,Zip: SUISUN CITY, CA 94585  
Site ID: 146137  
CERS ID: 10456012  
CERS Description: Hazardous Waste Generator

**CERS:**

Name: RAILROAD AVENUE AUTOWORKS  
Address: 605 RAILROAD AVE STE A  
City,State,Zip: SUISUN CITY, CA 94585  
Site ID: 146137  
CERS ID: 10456012  
CERS Description: Chemical Storage Facilities

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RAILROAD AVENUE AUTOWORKS (Continued)**

**S121745605**

Violations:

Site ID: 146137  
Site Name: Railroad Avenue Autoworks  
Violation Date: 05-30-2019  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.  
Violation Notes: Not reported  
Violation Division: Solano County Environmental Health  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 146137  
Site Name: Railroad Avenue Autoworks  
Violation Date: 01-26-2015  
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)  
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.  
Violation Notes: Returned to compliance on 02/19/2015.  
Violation Division: Solano County Environmental Health  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 146137  
Site Name: Railroad Avenue Autoworks  
Violation Date: 05-30-2019  
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173  
Violation Description: Failure to meet the following container management requirements: (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.  
Violation Notes: Returned to compliance on 05/30/2019.  
Violation Division: Solano County Environmental Health  
Violation Program: HW  
Violation Source: CERS

Site ID: 146137  
Site Name: Railroad Avenue Autoworks  
Violation Date: 05-30-2019  
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)  
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.  
Violation Notes: Not reported  
Violation Division: Solano County Environmental Health  
Violation Program: HW

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RAILROAD AVENUE AUTOWORKS (Continued)**

**S121745605**

Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-26-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: Solano County Environmental Health  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-26-2015  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: Solano County Environmental Health  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-30-2019  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: Solano County Environmental Health  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-30-2019  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: Solano County Environmental Health  
Eval Program: HW  
Eval Source: CERS

Affiliation:

Affiliation Type Desc: Operator  
Entity Name: David Castillo  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (707) 422-4307

Affiliation Type Desc: CUPA District  
Entity Name: Solano County Env Health  
Entity Title: Not reported  
Affiliation Address: 675 Texas Street, Suite 5500  
Affiliation City: Fairfield  
Affiliation State: CA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RAILROAD AVENUE AUTOWORKS (Continued)**

**S121745605**

Affiliation Country: Not reported  
Affiliation Zip: 94533  
Affiliation Phone: (707) 784-6765

Affiliation Type Desc: Document Preparer  
Entity Name: David Castillo  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: David Castillo  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: David Castillo  
Entity Title: Not reported  
Affiliation Address: 605-A Railroad Ave  
Affiliation City: Suisun City  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 94585  
Affiliation Phone: (707) 429-1379

Affiliation Type Desc: Parent Corporation  
Entity Name: Railroad Avenue Autoworks  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: David Castillo  
Entity Title: Not reported  
Affiliation Address: 605 Railroad Ave Ste A  
Affiliation City: Suisun City  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 94585  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RAILROAD AVENUE AUTOWORKS (Continued)**

**S121745605**

Affiliation Address: 605-A Railroad Ave  
Affiliation City: Suisun City  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 94585  
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner  
Entity Name: Sue Oku  
Entity Title: Not reported  
Affiliation Address: 50 K T  
Affiliation City: Holister  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 95023  
Affiliation Phone: (831) 634-1977

Count: 0 records.

ORPHAN SUMMARY

| City           | EDR ID | Site Name | Site Address | Zip | Database(s) |
|----------------|--------|-----------|--------------|-----|-------------|
| NO SITES FOUND |        |           |              |     |             |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

### **STANDARD ENVIRONMENTAL RECORDS**

#### ***Federal NPL site list***

##### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 01/30/2020  | Source: EPA                            |
| Date Data Arrived at EDR: 02/05/2020    | Telephone: N/A                         |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 03/25/2020           |
| Number of Days to Update: 9             | Next Scheduled EDR Contact: 07/13/2020 |
|                                         | Data Release Frequency: Quarterly      |

##### **NPL Site Boundaries**

###### **Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

##### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 01/30/2020  | Source: EPA                            |
| Date Data Arrived at EDR: 02/05/2020    | Telephone: N/A                         |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 04/02/2020           |
| Number of Days to Update: 9             | Next Scheduled EDR Contact: 07/13/2020 |
|                                         | Data Release Frequency: Quarterly      |

##### **NPL LIENS: Federal Superfund Liens**

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991  
Date Data Arrived at EDR: 02/02/1994  
Date Made Active in Reports: 03/30/1994  
Number of Days to Update: 56

Source: EPA  
Telephone: 202-564-4267  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

### ***Federal Delisted NPL site list***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 9

Source: EPA  
Telephone: N/A  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Quarterly

### ***Federal CERCLIS list***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019  
Date Data Arrived at EDR: 04/05/2019  
Date Made Active in Reports: 05/14/2019  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 703-603-8704  
Last EDR Contact: 04/03/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 9

Source: EPA  
Telephone: 800-424-9346  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: Quarterly

### ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 01/30/2020  | Source: EPA                            |
| Date Data Arrived at EDR: 02/05/2020    | Telephone: 800-424-9346                |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 04/02/2020           |
| Number of Days to Update: 9             | Next Scheduled EDR Contact: 07/27/2020 |
|                                         | Data Release Frequency: Quarterly      |

### ***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 12/16/2019  | Source: EPA                            |
| Date Data Arrived at EDR: 12/16/2019    | Telephone: 800-424-9346                |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 03/25/2020           |
| Number of Days to Update: 4             | Next Scheduled EDR Contact: 07/06/2020 |
|                                         | Data Release Frequency: Quarterly      |

### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 12/16/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 12/16/2019    | Telephone: (415) 495-8895               |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 03/25/2020            |
| Number of Days to Update: 4             | Next Scheduled EDR Contact: 07/06/2020  |
|                                         | Data Release Frequency: Quarterly       |

### ***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 12/16/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 12/16/2019    | Telephone: (415) 495-8895               |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 03/25/2020            |
| Number of Days to Update: 4             | Next Scheduled EDR Contact: 07/06/2020  |
|                                         | Data Release Frequency: Quarterly       |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 12/16/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 12/16/2019    | Telephone: (415) 495-8895               |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 03/25/2020            |
| Number of Days to Update: 4             | Next Scheduled EDR Contact: 07/06/2020  |
|                                         | Data Release Frequency: Quarterly       |

### RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 12/16/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 12/16/2019    | Telephone: (415) 495-8895               |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 03/25/2020            |
| Number of Days to Update: 4             | Next Scheduled EDR Contact: 07/06/2020  |
|                                         | Data Release Frequency: Quarterly       |

### ***Federal institutional controls / engineering controls registries***

#### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 11/04/2019  | Source: Department of the Navy         |
| Date Data Arrived at EDR: 11/13/2019    | Telephone: 843-820-7326                |
| Date Made Active in Reports: 01/28/2020 | Last EDR Contact: 02/10/2020           |
| Number of Days to Update: 76            | Next Scheduled EDR Contact: 05/25/2020 |
|                                         | Data Release Frequency: Varies         |

#### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 11/22/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/22/2019    | Telephone: 703-603-0695                 |
| Date Made Active in Reports: 01/28/2020 | Last EDR Contact: 02/20/2020            |
| Number of Days to Update: 67            | Next Scheduled EDR Contact: 06/08/2020  |
|                                         | Data Release Frequency: Varies          |

#### US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 11/22/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/22/2019    | Telephone: 703-603-0695                 |
| Date Made Active in Reports: 01/28/2020 | Last EDR Contact: 02/20/2020            |
| Number of Days to Update: 67            | Next Scheduled EDR Contact: 06/08/2020  |
|                                         | Data Release Frequency: Varies          |

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***Federal ERNS list***

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/16/2019

Date Data Arrived at EDR: 12/19/2019

Date Made Active in Reports: 03/06/2020

Number of Days to Update: 78

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 03/24/2020

Next Scheduled EDR Contact: 07/06/2020

Data Release Frequency: Quarterly

## ***State- and tribal - equivalent NPL***

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity.

These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/27/2020

Date Data Arrived at EDR: 01/28/2020

Date Made Active in Reports: 04/09/2020

Number of Days to Update: 72

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 01/28/2020

Next Scheduled EDR Contact: 05/11/2020

Data Release Frequency: Quarterly

## ***State- and tribal - equivalent CERCLIS***

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/27/2020

Date Data Arrived at EDR: 01/28/2020

Date Made Active in Reports: 04/09/2020

Number of Days to Update: 72

Source: Department of Toxic Substances Control

Telephone: 916-323-3400

Last EDR Contact: 01/28/2020

Next Scheduled EDR Contact: 05/11/2020

Data Release Frequency: Quarterly

## ***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/10/2020

Date Data Arrived at EDR: 02/11/2020

Date Made Active in Reports: 04/20/2020

Number of Days to Update: 69

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320

Last EDR Contact: 02/11/2020

Next Scheduled EDR Contact: 05/25/2020

Data Release Frequency: Quarterly

## ***State and tribal leaking storage tank lists***

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005  
Date Data Arrived at EDR: 02/15/2005  
Date Made Active in Reports: 03/28/2005  
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)  
Telephone: 909-782-4496  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

### LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 66

Source: State Water Resources Control Board  
Telephone: see region list  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001  
Date Data Arrived at EDR: 04/23/2001  
Date Made Active in Reports: 05/21/2001  
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)  
Telephone: 858-637-5595  
Last EDR Contact: 09/26/2011  
Next Scheduled EDR Contact: 01/09/2012  
Data Release Frequency: No Update Planned

### LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003  
Date Data Arrived at EDR: 09/10/2003  
Date Made Active in Reports: 10/07/2003  
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)  
Telephone: 530-542-5572  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

### LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005  
Date Data Arrived at EDR: 06/07/2005  
Date Made Active in Reports: 06/29/2005  
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)  
Telephone: 760-241-7365  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

### LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001  
Date Data Arrived at EDR: 02/28/2001  
Date Made Active in Reports: 03/29/2001  
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)  
Telephone: 707-570-3769  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

### LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2004  
Date Data Arrived at EDR: 10/20/2004  
Date Made Active in Reports: 11/19/2004  
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)  
Telephone: 510-622-2433  
Last EDR Contact: 09/19/2011  
Next Scheduled EDR Contact: 01/02/2012  
Data Release Frequency: No Update Planned

### LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003  
Date Data Arrived at EDR: 05/19/2003  
Date Made Active in Reports: 06/02/2003  
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)  
Telephone: 805-542-4786  
Last EDR Contact: 07/18/2011  
Next Scheduled EDR Contact: 10/31/2011  
Data Release Frequency: No Update Planned

### LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004  
Date Data Arrived at EDR: 09/07/2004  
Date Made Active in Reports: 10/12/2004  
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)  
Telephone: 213-576-6710  
Last EDR Contact: 09/06/2011  
Next Scheduled EDR Contact: 12/19/2011  
Data Release Frequency: No Update Planned

### LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008  
Date Data Arrived at EDR: 07/22/2008  
Date Made Active in Reports: 07/31/2008  
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)  
Telephone: 916-464-4834  
Last EDR Contact: 07/01/2011  
Next Scheduled EDR Contact: 10/17/2011  
Data Release Frequency: No Update Planned

### LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004  
Date Data Arrived at EDR: 02/26/2004  
Date Made Active in Reports: 03/24/2004  
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)  
Telephone: 760-776-8943  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

### INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/11/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/10/2020  
Number of Days to Update: 68

Source: EPA Region 10  
Telephone: 206-553-2857  
Last EDR Contact: 01/24/2020  
Next Scheduled EDR Contact: 05/04/2020  
Data Release Frequency: Varies

### INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/10/2019  
Date Data Arrived at EDR: 12/05/2019  
Date Made Active in Reports: 02/10/2020  
Number of Days to Update: 67

Source: EPA Region 4  
Telephone: 404-562-8677  
Last EDR Contact: 01/24/2020  
Next Scheduled EDR Contact: 05/04/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/03/2019  | Source: EPA Region 8                   |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 303-312-6271                |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 72            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/15/2019  | Source: EPA Region 7                   |
| Date Data Arrived at EDR: 12/17/2019    | Telephone: 913-551-7003                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 12/16/2019           |
| Number of Days to Update: 55            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/01/2019  | Source: EPA, Region 5                  |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 312-886-7439                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/02/2019  | Source: EPA Region 6                   |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 214-665-6597                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/01/2019  | Source: EPA Region 1                   |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 617-918-1313                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 10/04/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 415-972-3372                 |
| Date Made Active in Reports: 02/27/2020 | Last EDR Contact: 01/24/2020            |
| Number of Days to Update: 85            | Next Scheduled EDR Contact: 05/04/2020  |
|                                         | Data Release Frequency: Varies          |

### CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Date of Government Version: 12/09/2019  | Source: State Water Resources Control Board |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 866-480-1028                     |
| Date Made Active in Reports: 02/18/2020 | Last EDR Contact: 03/10/2020                |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 06/22/2020      |
|                                         | Data Release Frequency: Varies              |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003  
Date Data Arrived at EDR: 04/07/2003  
Date Made Active in Reports: 04/25/2003  
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)  
Telephone: 707-576-2220  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

### SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004  
Date Data Arrived at EDR: 10/20/2004  
Date Made Active in Reports: 11/19/2004  
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)  
Telephone: 510-286-0457  
Last EDR Contact: 09/19/2011  
Next Scheduled EDR Contact: 01/02/2012  
Data Release Frequency: No Update Planned

### SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006  
Date Data Arrived at EDR: 05/18/2006  
Date Made Active in Reports: 06/15/2006  
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)  
Telephone: 805-549-3147  
Last EDR Contact: 07/18/2011  
Next Scheduled EDR Contact: 10/31/2011  
Data Release Frequency: No Update Planned

### SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004  
Date Data Arrived at EDR: 11/18/2004  
Date Made Active in Reports: 01/04/2005  
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)  
Telephone: 213-576-6600  
Last EDR Contact: 07/01/2011  
Next Scheduled EDR Contact: 10/17/2011  
Data Release Frequency: No Update Planned

### SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005  
Date Data Arrived at EDR: 04/05/2005  
Date Made Active in Reports: 04/21/2005  
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)  
Telephone: 916-464-3291  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

### SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005  
Date Data Arrived at EDR: 05/25/2005  
Date Made Active in Reports: 06/16/2005  
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch  
Telephone: 619-241-6583  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004  
Date Data Arrived at EDR: 09/07/2004  
Date Made Active in Reports: 10/12/2004  
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region  
Telephone: 530-542-5574  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

### SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004  
Date Data Arrived at EDR: 11/29/2004  
Date Made Active in Reports: 01/04/2005  
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region  
Telephone: 760-346-7491  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

### SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008  
Date Data Arrived at EDR: 04/03/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)  
Telephone: 951-782-3298  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

### SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007  
Date Data Arrived at EDR: 09/11/2007  
Date Made Active in Reports: 09/28/2007  
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)  
Telephone: 858-467-2980  
Last EDR Contact: 08/08/2011  
Next Scheduled EDR Contact: 11/21/2011  
Data Release Frequency: No Update Planned

### ***State and tribal registered storage tank lists***

#### FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019  
Date Data Arrived at EDR: 08/28/2019  
Date Made Active in Reports: 11/11/2019  
Number of Days to Update: 75

Source: FEMA  
Telephone: 202-646-5797  
Last EDR Contact: 03/19/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Varies

#### MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/06/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/25/2020  
Number of Days to Update: 77

Source: State Water Resources Control Board  
Telephone: 916-327-7844  
Last EDR Contact: 03/11/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/21/2020  
Number of Days to Update: 73

Source: SWRCB  
Telephone: 916-341-5851  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Semi-Annually

### AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016  
Date Data Arrived at EDR: 07/12/2016  
Date Made Active in Reports: 09/19/2016  
Number of Days to Update: 69

Source: California Environmental Protection Agency  
Telephone: 916-327-5092  
Last EDR Contact: 03/12/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Varies

### INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/03/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 72

Source: EPA Region 8  
Telephone: 303-312-6137  
Last EDR Contact: 01/24/2020  
Next Scheduled EDR Contact: 05/04/2020  
Data Release Frequency: Varies

### INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/11/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/10/2020  
Number of Days to Update: 68

Source: EPA Region 7  
Telephone: 913-551-7003  
Last EDR Contact: 01/24/2020  
Next Scheduled EDR Contact: 05/04/2020  
Data Release Frequency: Varies

### INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/02/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/10/2020  
Number of Days to Update: 68

Source: EPA Region 6  
Telephone: 214-665-7591  
Last EDR Contact: 01/24/2020  
Next Scheduled EDR Contact: 05/04/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/01/2019  | Source: EPA Region 5                   |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 312-886-6136                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/04/2019  | Source: EPA Region 9                   |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 415-972-3368                |
| Date Made Active in Reports: 02/27/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 85            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/11/2019  | Source: EPA Region 10                  |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 206-553-2857                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/01/2019  | Source: EPA, Region 1                  |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 617-918-1313                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/10/2019  | Source: EPA Region 4                   |
| Date Data Arrived at EDR: 12/05/2019    | Telephone: 404-562-9424                |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 01/24/2020           |
| Number of Days to Update: 67            | Next Scheduled EDR Contact: 05/04/2020 |
|                                         | Data Release Frequency: Varies         |

### **State and tribal voluntary cleanup sites**

#### VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/27/2020  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 72

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 01/28/2020  
Next Scheduled EDR Contact: 05/11/2020  
Data Release Frequency: Quarterly

### INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015  
Date Data Arrived at EDR: 09/29/2015  
Date Made Active in Reports: 02/18/2016  
Number of Days to Update: 142

Source: EPA, Region 1  
Telephone: 617-918-1102  
Last EDR Contact: 03/18/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Varies

### INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/19/2008  
Number of Days to Update: 27

Source: EPA, Region 7  
Telephone: 913-551-7365  
Last EDR Contact: 04/20/2009  
Next Scheduled EDR Contact: 07/20/2009  
Data Release Frequency: Varies

### **State and tribal Brownfields sites**

#### BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/18/2019  
Date Data Arrived at EDR: 12/19/2019  
Date Made Active in Reports: 02/19/2020  
Number of Days to Update: 62

Source: State Water Resources Control Board  
Telephone: 916-323-7905  
Last EDR Contact: 03/24/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Quarterly

### **ADDITIONAL ENVIRONMENTAL RECORDS**

#### **Local Brownfield lists**

##### US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/16/2019  
Date Made Active in Reports: 03/06/2020  
Number of Days to Update: 81

Source: Environmental Protection Agency  
Telephone: 202-566-2777  
Last EDR Contact: 03/17/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Semi-Annually

#### **Local Lists of Landfill / Solid Waste Disposal Sites**

##### WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2000  
Date Data Arrived at EDR: 04/10/2000  
Date Made Active in Reports: 05/10/2000  
Number of Days to Update: 30

Source: State Water Resources Control Board  
Telephone: 916-227-4448  
Last EDR Contact: 04/16/2020  
Next Scheduled EDR Contact: 08/10/2020  
Data Release Frequency: No Update Planned

### SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/19/2020  
Number of Days to Update: 71

Source: Department of Conservation  
Telephone: 916-323-3836  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/15/2019  
Date Data Arrived at EDR: 11/15/2019  
Date Made Active in Reports: 01/23/2020  
Number of Days to Update: 69

Source: Integrated Waste Management Board  
Telephone: 916-341-6422  
Last EDR Contact: 02/07/2020  
Next Scheduled EDR Contact: 05/25/2020  
Data Release Frequency: Varies

### INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 04/16/2020  
Next Scheduled EDR Contact: 08/10/2020  
Data Release Frequency: Varies

### ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 05/07/2009  
Date Made Active in Reports: 09/21/2009  
Number of Days to Update: 137

Source: EPA, Region 9  
Telephone: 415-947-4219  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: No Update Planned

### IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014  
Date Data Arrived at EDR: 08/06/2014  
Date Made Active in Reports: 01/29/2015  
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service  
Telephone: 301-443-1452  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/11/2020  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***Local Lists of Hazardous waste / Contaminated Sites***

### **US HIST CDL: National Clandestine Laboratory Register**

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019  
Date Data Arrived at EDR: 06/13/2019  
Date Made Active in Reports: 09/03/2019  
Number of Days to Update: 82

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: No Update Planned

### **HIST CAL-SITES: Calsites Database**

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005  
Date Data Arrived at EDR: 08/03/2006  
Date Made Active in Reports: 08/24/2006  
Number of Days to Update: 21

Source: Department of Toxic Substance Control  
Telephone: 916-323-3400  
Last EDR Contact: 02/23/2009  
Next Scheduled EDR Contact: 05/25/2009  
Data Release Frequency: No Update Planned

### **SCH: School Property Evaluation Program**

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/27/2020  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 72

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 01/28/2020  
Next Scheduled EDR Contact: 05/11/2020  
Data Release Frequency: Quarterly

### **CDL: Clandestine Drug Labs**

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2018  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 70

Source: Department of Toxic Substances Control  
Telephone: 916-255-6504  
Last EDR Contact: 04/20/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Varies

### **CERS HAZ WASTE: CERS HAZ WASTE**

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/22/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 70

Source: CalEPA  
Telephone: 916-323-2514  
Last EDR Contact: 04/21/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Quarterly

### **TOXIC PITS: Toxic Pits Cleanup Act Sites**

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/1995  
Date Data Arrived at EDR: 08/30/1995  
Date Made Active in Reports: 09/26/1995  
Number of Days to Update: 27

Source: State Water Resources Control Board  
Telephone: 916-227-4364  
Last EDR Contact: 01/26/2009  
Next Scheduled EDR Contact: 04/27/2009  
Data Release Frequency: No Update Planned

### US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019  
Date Data Arrived at EDR: 06/13/2019  
Date Made Active in Reports: 09/03/2019  
Number of Days to Update: 82

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Quarterly

### PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/19/2020  
Number of Days to Update: 71

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### Local Lists of Registered Storage Tanks

#### SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994  
Date Data Arrived at EDR: 07/07/2005  
Date Made Active in Reports: 08/11/2005  
Number of Days to Update: 35

Source: State Water Resources Control Board  
Telephone: N/A  
Last EDR Contact: 06/03/2005  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

#### UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/19/2019  
Date Data Arrived at EDR: 12/23/2019  
Date Made Active in Reports: 02/21/2020  
Number of Days to Update: 60

Source: Department of Public Health  
Telephone: 707-463-4466  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Annually

#### HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990  
Date Data Arrived at EDR: 01/25/1991  
Date Made Active in Reports: 02/12/1991  
Number of Days to Update: 18

Source: State Water Resources Control Board  
Telephone: 916-341-5851  
Last EDR Contact: 07/26/2001  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 08/01/2019  
Date Data Arrived at EDR: 08/02/2019  
Date Made Active in Reports: 10/11/2019  
Number of Days to Update: 70

Source: San Francisco County Department of Public Health  
Telephone: 415-252-3896  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994  
Date Data Arrived at EDR: 09/05/1995  
Date Made Active in Reports: 09/29/1995  
Number of Days to Update: 24

Source: California Environmental Protection Agency  
Telephone: 916-341-5851  
Last EDR Contact: 12/28/1998  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/22/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 70

Source: California Environmental Protection Agency  
Telephone: 916-323-2514  
Last EDR Contact: 04/21/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Quarterly

### Local Land Records

#### LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Varies

#### LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 9

Source: Environmental Protection Agency  
Telephone: 202-564-6023  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Semi-Annually

#### DEED: Deed Restriction Listing



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 12/03/2019  | Source: DTSC and SWRCB                 |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 916-323-3400                |
| Date Made Active in Reports: 02/04/2020 | Last EDR Contact: 03/03/2020           |
| Number of Days to Update: 62            | Next Scheduled EDR Contact: 06/15/2020 |
|                                         | Data Release Frequency: Semi-Annually  |

### **Records of Emergency Release Reports**

#### **HMIRS: Hazardous Materials Information Reporting System**

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 12/05/2019  | Source: U.S. Department of Transportation |
| Date Data Arrived at EDR: 12/06/2019    | Telephone: 202-366-4555                   |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 03/24/2020              |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 07/06/2020    |
|                                         | Data Release Frequency: Quarterly         |

#### **CHMIRS: California Hazardous Material Incident Report System**

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 12/24/2019  | Source: Office of Emergency Services   |
| Date Data Arrived at EDR: 01/22/2020    | Telephone: 916-845-8400                |
| Date Made Active in Reports: 03/30/2020 | Last EDR Contact: 04/21/2020           |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 08/03/2020 |
|                                         | Data Release Frequency: Semi-Annually  |

#### **LDS: Land Disposal Sites Listing (GEOTRACKER)**

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 12/09/2019  | Source: State Water Quality Control Board |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 866-480-1028                   |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 03/10/2020              |
| Number of Days to Update: 66            | Next Scheduled EDR Contact: 06/22/2020    |
|                                         | Data Release Frequency: Quarterly         |

#### **MCS: Military Cleanup Sites Listing (GEOTRACKER)**

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Date of Government Version: 12/09/2019  | Source: State Water Resources Control Board |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 866-480-1028                     |
| Date Made Active in Reports: 02/18/2020 | Last EDR Contact: 03/10/2020                |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 06/22/2020      |
|                                         | Data Release Frequency: Quarterly           |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012

Date Data Arrived at EDR: 01/03/2013

Date Made Active in Reports: 02/22/2013

Number of Days to Update: 50

Source: FirstSearch

Telephone: N/A

Last EDR Contact: 01/03/2013

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

### Other Ascertainable Records

#### RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/16/2019

Date Data Arrived at EDR: 12/16/2019

Date Made Active in Reports: 12/20/2019

Number of Days to Update: 4

Source: Environmental Protection Agency

Telephone: (415) 495-8895

Last EDR Contact: 03/25/2020

Next Scheduled EDR Contact: 07/06/2020

Data Release Frequency: Quarterly

#### FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 11/12/2019

Date Data Arrived at EDR: 11/19/2019

Date Made Active in Reports: 01/28/2020

Number of Days to Update: 70

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285

Last EDR Contact: 02/19/2020

Next Scheduled EDR Contact: 06/01/2020

Data Release Frequency: Varies

#### DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005

Date Data Arrived at EDR: 11/10/2006

Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 888-275-8747

Last EDR Contact: 04/10/2020

Next Scheduled EDR Contact: 07/20/2020

Data Release Frequency: Semi-Annually

#### FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018

Date Data Arrived at EDR: 04/11/2018

Date Made Active in Reports: 11/06/2019

Number of Days to Update: 574

Source: U.S. Geological Survey

Telephone: 888-275-8747

Last EDR Contact: 04/06/2020

Next Scheduled EDR Contact: 07/20/2020

Data Release Frequency: N/A

#### SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017  
Date Data Arrived at EDR: 02/03/2017  
Date Made Active in Reports: 04/07/2017  
Number of Days to Update: 63

Source: Environmental Protection Agency  
Telephone: 615-532-8599  
Last EDR Contact: 02/13/2020  
Next Scheduled EDR Contact: 05/25/2020  
Data Release Frequency: Varies

### US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/16/2019  
Date Data Arrived at EDR: 12/19/2019  
Date Made Active in Reports: 02/27/2020  
Number of Days to Update: 70

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 03/24/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Quarterly

### EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 02/03/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

### 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 05/08/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 73

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 02/07/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 06/21/2017  
Date Made Active in Reports: 01/05/2018  
Number of Days to Update: 198

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 03/20/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Every 4 Years

### TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 11/16/2018  
Date Made Active in Reports: 11/21/2019  
Number of Days to Update: 370

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 02/05/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Annually

### SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 05/01/2019  
Date Data Arrived at EDR: 10/23/2019  
Date Made Active in Reports: 01/15/2020  
Number of Days to Update: 84

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 04/21/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Annually

### ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 9

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Annually

### RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/05/2019  
Date Data Arrived at EDR: 11/20/2019  
Date Made Active in Reports: 04/17/2020  
Number of Days to Update: 149

Source: Environmental Protection Agency  
Telephone: 202-564-8600  
Last EDR Contact: 04/15/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995  
Date Data Arrived at EDR: 07/03/1995  
Date Made Active in Reports: 08/07/1995  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4104  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 01/30/2020  | Source: EPA                            |
| Date Data Arrived at EDR: 02/06/2020    | Telephone: 202-564-6023                |
| Date Made Active in Reports: 02/14/2020 | Last EDR Contact: 04/02/2020           |
| Number of Days to Update: 8             | Next Scheduled EDR Contact: 05/18/2020 |
|                                         | Data Release Frequency: Quarterly      |

### PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/09/2019  | Source: EPA                            |
| Date Data Arrived at EDR: 10/11/2019    | Telephone: 202-566-0500                |
| Date Made Active in Reports: 12/20/2019 | Last EDR Contact: 04/10/2020           |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 07/20/2020 |
|                                         | Data Release Frequency: Annually       |

### ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 11/18/2016  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/23/2016    | Telephone: 202-564-2501                 |
| Date Made Active in Reports: 02/10/2017 | Last EDR Contact: 03/26/2020            |
| Number of Days to Update: 79            | Next Scheduled EDR Contact: 07/20/2020  |
|                                         | Data Release Frequency: Quarterly       |

### FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

|                                         |                                                                   |
|-----------------------------------------|-------------------------------------------------------------------|
| Date of Government Version: 04/09/2009  | Source: EPA/Office of Prevention, Pesticides and Toxic Substances |
| Date Data Arrived at EDR: 04/16/2009    | Telephone: 202-566-1667                                           |
| Date Made Active in Reports: 05/11/2009 | Last EDR Contact: 08/18/2017                                      |
| Number of Days to Update: 25            | Next Scheduled EDR Contact: 12/04/2017                            |
|                                         | Data Release Frequency: No Update Planned                         |

### FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 04/09/2009  | Source: EPA                               |
| Date Data Arrived at EDR: 04/16/2009    | Telephone: 202-566-1667                   |
| Date Made Active in Reports: 05/11/2009 | Last EDR Contact: 08/18/2017              |
| Number of Days to Update: 25            | Next Scheduled EDR Contact: 12/04/2017    |
|                                         | Data Release Frequency: No Update Planned |

### MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 10/25/2019  | Source: Nuclear Regulatory Commission  |
| Date Data Arrived at EDR: 10/25/2019    | Telephone: 301-415-7169                |
| Date Made Active in Reports: 01/15/2020 | Last EDR Contact: 04/10/2020           |
| Number of Days to Update: 82            | Next Scheduled EDR Contact: 08/03/2020 |
|                                         | Data Release Frequency: Quarterly      |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 12/31/2018  | Source: Department of Energy           |
| Date Data Arrived at EDR: 12/04/2019    | Telephone: 202-586-8719                |
| Date Made Active in Reports: 01/15/2020 | Last EDR Contact: 03/06/2020           |
| Number of Days to Update: 42            | Next Scheduled EDR Contact: 06/15/2020 |
|                                         | Data Release Frequency: Varies         |

### COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 01/12/2017  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/05/2019    | Telephone: N/A                          |
| Date Made Active in Reports: 11/11/2019 | Last EDR Contact: 02/27/2020            |
| Number of Days to Update: 251           | Next Scheduled EDR Contact: 06/15/2020  |
|                                         | Data Release Frequency: Varies          |

### PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 09/13/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/06/2019    | Telephone: 202-566-0517                 |
| Date Made Active in Reports: 02/10/2020 | Last EDR Contact: 02/07/2020            |
| Number of Days to Update: 96            | Next Scheduled EDR Contact: 05/18/2020  |
|                                         | Data Release Frequency: Varies          |

### RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 07/01/2019  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 07/01/2019    | Telephone: 202-343-9775                 |
| Date Made Active in Reports: 09/23/2019 | Last EDR Contact: 07/01/2019            |
| Number of Days to Update: 84            | Next Scheduled EDR Contact: 07/13/2020  |
|                                         | Data Release Frequency: Quarterly       |

### HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 10/19/2006  | Source: Environmental Protection Agency   |
| Date Data Arrived at EDR: 03/01/2007    | Telephone: 202-564-2501                   |
| Date Made Active in Reports: 04/10/2007 | Last EDR Contact: 12/17/2007              |
| Number of Days to Update: 40            | Next Scheduled EDR Contact: 03/17/2008    |
|                                         | Data Release Frequency: No Update Planned |

### HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

### DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/17/2020  
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 01/28/2020  
Next Scheduled EDR Contact: 05/11/2020  
Data Release Frequency: Quarterly

### CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2019  
Date Data Arrived at EDR: 01/17/2020  
Date Made Active in Reports: 03/06/2020  
Number of Days to Update: 49

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Varies

### BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015  
Date Data Arrived at EDR: 02/22/2017  
Date Made Active in Reports: 09/28/2017  
Number of Days to Update: 218

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 03/25/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Biennially

### INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014  
Date Data Arrived at EDR: 07/14/2015  
Date Made Active in Reports: 01/10/2017  
Number of Days to Update: 546

Source: USGS  
Telephone: 202-208-3710  
Last EDR Contact: 04/10/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Semi-Annually

### FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017  
Date Data Arrived at EDR: 09/11/2018  
Date Made Active in Reports: 09/14/2018  
Number of Days to Update: 3

Source: Department of Energy  
Telephone: 202-586-3559  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/30/2019  
Date Data Arrived at EDR: 11/15/2019  
Date Made Active in Reports: 01/28/2020  
Number of Days to Update: 74

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 02/14/2020  
Number of Days to Update: 9

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Varies

### LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001  
Date Data Arrived at EDR: 10/27/2010  
Date Made Active in Reports: 12/02/2010  
Number of Days to Update: 36

Source: American Journal of Public Health  
Telephone: 703-305-6451  
Last EDR Contact: 12/02/2009  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

### US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

### MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 12/03/2019  
Date Data Arrived at EDR: 12/03/2019  
Date Made Active in Reports: 01/28/2020  
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admini  
Telephone: 202-693-9424  
Last EDR Contact: 03/02/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

### US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/06/2019  
Date Data Arrived at EDR: 11/25/2019  
Date Made Active in Reports: 01/28/2020  
Number of Days to Update: 64

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 02/25/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Semi-Annually

### US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 49

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 02/28/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Varies

### US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 02/28/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Varies

### ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/11/2019  
Date Made Active in Reports: 02/27/2020  
Number of Days to Update: 78

Source: Department of Interior  
Telephone: 202-208-2609  
Last EDR Contact: 03/05/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/22/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 03/02/2020  
Number of Days to Update: 89

Source: EPA  
Telephone: (415) 947-8000  
Last EDR Contact: 03/03/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

### UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 01/17/2019  
Date Made Active in Reports: 04/01/2019  
Number of Days to Update: 74

Source: Department of Defense  
Telephone: 703-704-1564  
Last EDR Contact: 04/03/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 01/05/2020  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 01/07/2020    | Telephone: 202-564-2280                 |
| Date Made Active in Reports: 03/06/2020 | Last EDR Contact: 04/07/2020            |
| Number of Days to Update: 59            | Next Scheduled EDR Contact: 07/20/2020  |
|                                         | Data Release Frequency: Quarterly       |

### DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Date of Government Version: 05/31/2018  | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 07/26/2018    | Telephone: 202-564-0527                 |
| Date Made Active in Reports: 10/05/2018 | Last EDR Contact: 02/21/2020            |
| Number of Days to Update: 71            | Next Scheduled EDR Contact: 06/08/2020  |
|                                         | Data Release Frequency: Varies          |

### FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 11/18/2019  | Source: EPA                            |
| Date Data Arrived at EDR: 11/19/2019    | Telephone: 800-385-6164                |
| Date Made Active in Reports: 01/28/2020 | Last EDR Contact: 02/19/2020           |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 06/01/2020 |
|                                         | Data Release Frequency: Quarterly      |

### CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 01/01/1989  | Source: Department of Health Services     |
| Date Data Arrived at EDR: 07/27/1994    | Telephone: 916-255-2118                   |
| Date Made Active in Reports: 08/02/1994 | Last EDR Contact: 05/31/1994              |
| Number of Days to Update: 6             | Next Scheduled EDR Contact: N/A           |
|                                         | Data Release Frequency: No Update Planned |

### CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
| Date of Government Version: 12/18/2019  | Source: CAL EPA/Office of Emergency Information |
| Date Data Arrived at EDR: 12/20/2019    | Telephone: 916-323-3400                         |
| Date Made Active in Reports: 02/20/2020 | Last EDR Contact: 03/24/2020                    |
| Number of Days to Update: 62            | Next Scheduled EDR Contact: 07/06/2020          |
|                                         | Data Release Frequency: Quarterly               |

### CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

|                                         |                                                                 |
|-----------------------------------------|-----------------------------------------------------------------|
| Date of Government Version: 02/03/2020  | Source: San Francisco County Department of Environmental Health |
| Date Data Arrived at EDR: 02/04/2020    | Telephone: 415-252-3896                                         |
| Date Made Active in Reports: 04/09/2020 | Last EDR Contact: 01/31/2020                                    |
| Number of Days to Update: 65            | Next Scheduled EDR Contact: 05/18/2020                          |
|                                         | Data Release Frequency: Varies                                  |

### CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/01/2019  
Date Data Arrived at EDR: 05/14/2019  
Date Made Active in Reports: 07/17/2019  
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department  
Telephone: 925-454-2361  
Last EDR Contact: 02/14/2020  
Next Scheduled EDR Contact: 05/25/2020  
Data Release Frequency: Varies

### DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/04/2019  
Date Data Arrived at EDR: 01/29/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 71

Source: Department of Toxic Substance Control  
Telephone: 916-327-4498  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Annually

### DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/03/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 63

Source: Antelope Valley Air Quality Management District  
Telephone: 661-723-8070  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Varies

### DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 01/31/2020  
Date Data Arrived at EDR: 01/31/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 69

Source: South Coast Air Quality Management District  
Telephone: 909-396-3211  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Varies

### EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 06/24/2019  
Date Made Active in Reports: 08/22/2019  
Number of Days to Update: 59

Source: California Air Resources Board  
Telephone: 916-322-2990  
Last EDR Contact: 03/20/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Varies

### ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/03/2020  
Date Data Arrived at EDR: 04/07/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 8

Source: State Water Resources Control Board  
Telephone: 916-445-9379  
Last EDR Contact: 04/03/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/23/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 69

Source: Department of Toxic Substances Control  
Telephone: 916-255-3628  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

|                                         |                                                      |
|-----------------------------------------|------------------------------------------------------|
| Date of Government Version: 11/08/2019  | Source: California Integrated Waste Management Board |
| Date Data Arrived at EDR: 11/12/2019    | Telephone: 916-341-6066                              |
| Date Made Active in Reports: 01/08/2020 | Last EDR Contact: 02/07/2020                         |
| Number of Days to Update: 57            | Next Scheduled EDR Contact: 05/25/2020               |
|                                         | Data Release Frequency: Varies                       |

### HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

|                                         |                                                    |
|-----------------------------------------|----------------------------------------------------|
| Date of Government Version: 12/31/2017  | Source: California Environmental Protection Agency |
| Date Data Arrived at EDR: 05/29/2019    | Telephone: 916-255-1136                            |
| Date Made Active in Reports: 07/22/2019 | Last EDR Contact: 04/15/2020                       |
| Number of Days to Update: 54            | Next Scheduled EDR Contact: 07/20/2020             |
|                                         | Data Release Frequency: Annually                   |

### ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

|                                         |                                                |
|-----------------------------------------|------------------------------------------------|
| Date of Government Version: 11/18/2019  | Source: Department of Toxic Substances Control |
| Date Data Arrived at EDR: 11/19/2019    | Telephone: 877-786-9427                        |
| Date Made Active in Reports: 01/23/2020 | Last EDR Contact: 02/19/2020                   |
| Number of Days to Update: 65            | Next Scheduled EDR Contact: 06/01/2020         |
|                                         | Data Release Frequency: Quarterly              |

### HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

|                                         |                                                |
|-----------------------------------------|------------------------------------------------|
| Date of Government Version: 04/01/2001  | Source: Department of Toxic Substances Control |
| Date Data Arrived at EDR: 01/22/2009    | Telephone: 916-323-3400                        |
| Date Made Active in Reports: 04/08/2009 | Last EDR Contact: 01/22/2009                   |
| Number of Days to Update: 76            | Next Scheduled EDR Contact: N/A                |
|                                         | Data Release Frequency: No Update Planned      |

### HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

|                                         |                                                |
|-----------------------------------------|------------------------------------------------|
| Date of Government Version: 11/18/2019  | Source: Department of Toxic Substances Control |
| Date Data Arrived at EDR: 11/19/2019    | Telephone: 916-323-3400                        |
| Date Made Active in Reports: 01/23/2020 | Last EDR Contact: 02/19/2020                   |
| Number of Days to Update: 65            | Next Scheduled EDR Contact: 06/01/2020         |
|                                         | Data Release Frequency: Quarterly              |

### HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

|                                         |                                                |
|-----------------------------------------|------------------------------------------------|
| Date of Government Version: 01/06/2020  | Source: Department of Toxic Substances Control |
| Date Data Arrived at EDR: 01/07/2020    | Telephone: 916-440-7145                        |
| Date Made Active in Reports: 03/05/2020 | Last EDR Contact: 04/09/2020                   |
| Number of Days to Update: 58            | Next Scheduled EDR Contact: 07/20/2020         |
|                                         | Data Release Frequency: Quarterly              |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/24/2020  
Number of Days to Update: 76

Source: Department of Conservation  
Telephone: 916-322-1080  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/22/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: Department of Public Health  
Telephone: 916-558-1784  
Last EDR Contact: 03/03/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Varies

### NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 02/10/2020  
Date Data Arrived at EDR: 02/11/2020  
Date Made Active in Reports: 04/20/2020  
Number of Days to Update: 69

Source: State Water Resources Control Board  
Telephone: 916-445-9379  
Last EDR Contact: 02/11/2020  
Next Scheduled EDR Contact: 05/25/2020  
Data Release Frequency: Quarterly

### PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: Department of Pesticide Regulation  
Telephone: 916-445-4038  
Last EDR Contact: 03/03/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

### PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/19/2020  
Number of Days to Update: 71

Source: Department of Conservation  
Telephone: 916-323-3836  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/11/2019  
Date Data Arrived at EDR: 12/12/2019  
Date Made Active in Reports: 02/21/2020  
Number of Days to Update: 71

Source: State Water Resources Control Board  
Telephone: 916-445-3846  
Last EDR Contact: 03/12/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: No Update Planned

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 12/06/2019  | Source: Department of Conservation     |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 916-445-2408                |
| Date Made Active in Reports: 02/19/2020 | Last EDR Contact: 03/10/2020           |
| Number of Days to Update: 71            | Next Scheduled EDR Contact: 06/22/2020 |
|                                         | Data Release Frequency: Varies         |

### UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

|                                         |                                            |
|-----------------------------------------|--------------------------------------------|
| Date of Government Version: 12/09/2019  | Source: State Water Resource Control Board |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 866-480-1028                    |
| Date Made Active in Reports: 02/18/2020 | Last EDR Contact: 03/10/2020               |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 06/22/2020     |
|                                         | Data Release Frequency: Varies             |

### WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 11/19/2019  | Source: RWQCB, Central Valley Region   |
| Date Data Arrived at EDR: 01/07/2020    | Telephone: 559-445-5577                |
| Date Made Active in Reports: 03/09/2020 | Last EDR Contact: 04/10/2020           |
| Number of Days to Update: 62            | Next Scheduled EDR Contact: 07/20/2020 |
|                                         | Data Release Frequency: Varies         |

### WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Date of Government Version: 06/19/2007  | Source: State Water Resources Control Board |
| Date Data Arrived at EDR: 06/20/2007    | Telephone: 916-341-5227                     |
| Date Made Active in Reports: 06/29/2007 | Last EDR Contact: 02/14/2020                |
| Number of Days to Update: 9             | Next Scheduled EDR Contact: 06/01/2020      |
|                                         | Data Release Frequency: No Update Planned   |

### WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

|                                         |                                                 |
|-----------------------------------------|-------------------------------------------------|
| Date of Government Version: 07/03/2009  | Source: Los Angeles Water Quality Control Board |
| Date Data Arrived at EDR: 07/21/2009    | Telephone: 213-576-6726                         |
| Date Made Active in Reports: 08/03/2009 | Last EDR Contact: 03/18/2020                    |
| Number of Days to Update: 13            | Next Scheduled EDR Contact: 07/06/2020          |
|                                         | Data Release Frequency: No Update Planned       |

### MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Date of Government Version: 12/09/2019  | Source: State Water Resources Control Board |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 866-480-1028                     |
| Date Made Active in Reports: 02/18/2020 | Last EDR Contact: 03/10/2020                |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 06/22/2020      |
|                                         | Data Release Frequency: Varies              |

### PROJECT: Project Sites (GEOTRACKER)

Projects sites

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/19/2020  
Number of Days to Update: 71

Source: State Water Resources Control Board  
Telephone: 916-341-5810  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Quarterly

### CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 12/03/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: State Water Resources Control Board  
Telephone: 866-794-4977  
Last EDR Contact: 03/03/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Varies

### CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/22/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 70

Source: California Environmental Protection Agency  
Telephone: 916-323-2514  
Last EDR Contact: 04/21/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/10/2019  
Date Made Active in Reports: 02/18/2020  
Number of Days to Update: 70

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 03/10/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Varies

### HWTS: Hazardous Waste Tracking System

The Hazardous Waste Tracking System (HWTS) is the Department of Toxic Substances Control's data repository for hazardous waste Identification (ID) numbers and manifest information. HWTS generates reports on hazardous waste shipments for generators, transporters, and TSDFs.

Date of Government Version: 10/15/2019  
Date Data Arrived at EDR: 11/14/2019  
Date Made Active in Reports: 02/07/2020  
Number of Days to Update: 85

Source: Department of Toxic Substances Control  
Telephone: 916-324-2444  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Varies

### MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018  
Date Data Arrived at EDR: 10/21/2019  
Date Made Active in Reports: 10/24/2019  
Number of Days to Update: 3

Source: USGS  
Telephone: 703-648-6533  
Last EDR Contact: 02/28/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Varies

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

### EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### ***Exclusive Recovered Govt. Archives***

#### RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/13/2014  
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

#### RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 12/30/2013  
Number of Days to Update: 182

Source: State Water Resources Control Board  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## COUNTY RECORDS

### ALAMEDA COUNTY:

#### CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019  
Date Data Arrived at EDR: 01/11/2019  
Date Made Active in Reports: 03/05/2019  
Number of Days to Update: 53

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Semi-Annually

#### UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/06/2020  
Date Data Arrived at EDR: 01/07/2020  
Date Made Active in Reports: 03/06/2020  
Number of Days to Update: 59

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 04/20/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Semi-Annually

### AMADOR COUNTY:

#### CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 09/06/2019  
Date Data Arrived at EDR: 09/10/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 51

Source: Amador County Environmental Health  
Telephone: 209-223-6439  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Varies

### BUTTE COUNTY:

#### CUPA BUTTE: CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017  
Date Data Arrived at EDR: 04/25/2017  
Date Made Active in Reports: 08/09/2017  
Number of Days to Update: 106

Source: Public Health Department  
Telephone: 530-538-7149  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: No Update Planned

### CALVERAS COUNTY:

#### CUPA CALVERAS: CUPA Facility Listing

Cupa Facility Listing

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/03/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 63

Source: Calveras County Environmental Health  
Telephone: 209-754-6399  
Last EDR Contact: 03/18/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Quarterly

### COLUSA COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA COLUSA: CUPA Facility List Cupa facility list.

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: Health & Human Services  
Telephone: 530-458-0396  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Semi-Annually

### CONTRA COSTA COUNTY:

#### SL CONTRA COSTA: Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: Contra Costa Health Services Department  
Telephone: 925-646-2286  
Last EDR Contact: 04/16/2020  
Next Scheduled EDR Contact: 08/10/2020  
Data Release Frequency: Semi-Annually

### DEL NORTE COUNTY:

#### CUPA DEL NORTE: CUPA Facility List Cupa Facility list

Date of Government Version: 12/27/2019  
Date Data Arrived at EDR: 01/28/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 72

Source: Del Norte County Environmental Health Division  
Telephone: 707-465-0426  
Last EDR Contact: 04/16/2020  
Next Scheduled EDR Contact: 08/10/2020  
Data Release Frequency: Varies

### EL DORADO COUNTY:

#### CUPA EL DORADO: CUPA Facility List CUPA facility list.

Date of Government Version: 12/31/2019  
Date Data Arrived at EDR: 01/03/2020  
Date Made Active in Reports: 03/05/2020  
Number of Days to Update: 62

Source: El Dorado County Environmental Management Department  
Telephone: 530-621-6623  
Last EDR Contact: 04/15/2020  
Next Scheduled EDR Contact: 08/09/2020  
Data Release Frequency: Varies

### FRESNO COUNTY:

#### CUPA FRESNO: CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/08/2019  
Date Data Arrived at EDR: 10/10/2019  
Date Made Active in Reports: 12/11/2019  
Number of Days to Update: 62

Source: Dept. of Community Health  
Telephone: 559-445-3271  
Last EDR Contact: 03/31/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Semi-Annually

### GLENN COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA GLENN: CUPA Facility List Cupa facility list

Date of Government Version: 01/22/2018  
Date Data Arrived at EDR: 01/24/2018  
Date Made Active in Reports: 03/14/2018  
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District  
Telephone: 830-934-6500  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: No Update Planned

### HUMBOLDT COUNTY:

#### CUPA HUMBOLDT: CUPA Facility List CUPA facility list.

Date of Government Version: 11/13/2019  
Date Data Arrived at EDR: 11/14/2019  
Date Made Active in Reports: 01/23/2020  
Number of Days to Update: 70

Source: Humboldt County Environmental Health  
Telephone: N/A  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Semi-Annually

### IMPERIAL COUNTY:

#### CUPA IMPERIAL: CUPA Facility List Cupa facility list.

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/23/2020  
Date Made Active in Reports: 03/30/2020  
Number of Days to Update: 67

Source: San Diego Border Field Office  
Telephone: 760-339-2777  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### INYO COUNTY:

#### CUPA INYO: CUPA Facility List Cupa facility list.

Date of Government Version: 04/02/2018  
Date Data Arrived at EDR: 04/03/2018  
Date Made Active in Reports: 06/14/2018  
Number of Days to Update: 72

Source: Inyo County Environmental Health Services  
Telephone: 760-878-0238  
Last EDR Contact: 02/13/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### KERN COUNTY:

#### UST KERN: Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 01/31/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 70

Source: Kern County Environment Health Services Department  
Telephone: 661-862-8700  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

### KINGS COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/25/2019  
Date Data Arrived at EDR: 12/05/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 61

Source: Kings County Department of Public Health  
Telephone: 559-584-1411  
Last EDR Contact: 02/13/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### LAKE COUNTY:

#### CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 01/15/2020  
Date Data Arrived at EDR: 01/16/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 76

Source: Lake County Environmental Health  
Telephone: 707-263-1164  
Last EDR Contact: 04/13/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: Varies

### LASSEN COUNTY:

#### CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 01/30/2020  
Date Data Arrived at EDR: 01/31/2020  
Date Made Active in Reports: 04/09/2020  
Number of Days to Update: 69

Source: Lassen County Environmental Health  
Telephone: 530-251-8528  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### LOS ANGELES COUNTY:

#### AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009  
Date Data Arrived at EDR: 03/31/2009  
Date Made Active in Reports: 10/23/2009  
Number of Days to Update: 206

Source: N/A  
Telephone: N/A  
Last EDR Contact: 03/12/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: No Update Planned

#### HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/15/2020  
Date Data Arrived at EDR: 01/16/2020  
Date Made Active in Reports: 02/07/2020  
Number of Days to Update: 22

Source: Department of Public Works  
Telephone: 626-458-3517  
Last EDR Contact: 03/26/2020  
Next Scheduled EDR Contact: 07/20/2020  
Data Release Frequency: Semi-Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### LF LOS ANGELES: List of Solid Waste Facilities Solid Waste Facilities in Los Angeles County.

|                                         |                                              |
|-----------------------------------------|----------------------------------------------|
| Date of Government Version: 01/13/2020  | Source: La County Department of Public Works |
| Date Data Arrived at EDR: 01/14/2020    | Telephone: 818-458-5185                      |
| Date Made Active in Reports: 03/24/2020 | Last EDR Contact: 04/14/2020                 |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 07/27/2020       |
|                                         | Data Release Frequency: Varies               |

### LF LOS ANGELES CITY: City of Los Angeles Landfills Landfills owned and maintained by the City of Los Angeles.

|                                         |                                             |
|-----------------------------------------|---------------------------------------------|
| Date of Government Version: 01/01/2019  | Source: Engineering & Construction Division |
| Date Data Arrived at EDR: 01/15/2019    | Telephone: 213-473-7869                     |
| Date Made Active in Reports: 03/07/2019 | Last EDR Contact: 04/02/2020                |
| Number of Days to Update: 51            | Next Scheduled EDR Contact: 07/27/2020      |
|                                         | Data Release Frequency: Varies              |

### LOS ANGELES AST: Active & Inactive AST Inventory A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 06/01/2019  | Source: Los Angeles Fire Department    |
| Date Data Arrived at EDR: 06/25/2019    | Telephone: 213-978-3800                |
| Date Made Active in Reports: 08/22/2019 | Last EDR Contact: 03/27/2020           |
| Number of Days to Update: 58            | Next Scheduled EDR Contact: 07/06/2020 |
|                                         | Data Release Frequency: Varies         |

### LOS ANGELES CO LF METHANE: Methane Producing Landfills This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

|                                         |                                                       |
|-----------------------------------------|-------------------------------------------------------|
| Date of Government Version: 04/30/2012  | Source: Los Angeles County Department of Public Works |
| Date Data Arrived at EDR: 04/17/2019    | Telephone: 626-458-6973                               |
| Date Made Active in Reports: 05/29/2019 | Last EDR Contact: 04/17/2020                          |
| Number of Days to Update: 42            | Next Scheduled EDR Contact: 07/27/2020                |
|                                         | Data Release Frequency: No Update Planned             |

### LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 06/01/2019  | Source: Los Angeles Fire Department    |
| Date Data Arrived at EDR: 06/25/2019    | Telephone: 213-978-3800                |
| Date Made Active in Reports: 08/22/2019 | Last EDR Contact: 03/27/2020           |
| Number of Days to Update: 58            | Next Scheduled EDR Contact: 07/06/2020 |
|                                         | Data Release Frequency: Varies         |

### LOS ANGELES UST: Active & Inactive UST Inventory A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 06/01/2019  | Source: Los Angeles Fire Department    |
| Date Data Arrived at EDR: 06/25/2019    | Telephone: 213-978-3800                |
| Date Made Active in Reports: 08/22/2019 | Last EDR Contact: 03/27/2020           |
| Number of Days to Update: 58            | Next Scheduled EDR Contact: 07/06/2020 |
|                                         | Data Release Frequency: Varies         |

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 12/31/2019  
Date Data Arrived at EDR: 01/14/2020  
Date Made Active in Reports: 03/24/2020  
Number of Days to Update: 70

Source: Community Health Services  
Telephone: 323-890-7806  
Last EDR Contact: 04/14/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: Annually

### UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017  
Date Data Arrived at EDR: 04/19/2017  
Date Made Active in Reports: 05/10/2017  
Number of Days to Update: 21

Source: City of El Segundo Fire Department  
Telephone: 310-524-2236  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: No Update Planned

### UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019  
Date Data Arrived at EDR: 04/23/2019  
Date Made Active in Reports: 06/27/2019  
Number of Days to Update: 65

Source: City of Long Beach Fire Department  
Telephone: 562-570-2563  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### UST TORRANCE: City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019  
Date Data Arrived at EDR: 07/30/2019  
Date Made Active in Reports: 10/02/2019  
Number of Days to Update: 64

Source: City of Torrance Fire Department  
Telephone: 310-618-2973  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Semi-Annually

### MADERA COUNTY:

#### CUPA MADERA: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/18/2019  
Date Data Arrived at EDR: 11/20/2019  
Date Made Active in Reports: 01/27/2020  
Number of Days to Update: 68

Source: Madera County Environmental Health  
Telephone: 559-675-7823  
Last EDR Contact: 02/14/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### MARIN COUNTY:

#### UST MARIN: Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018  
Date Data Arrived at EDR: 10/04/2018  
Date Made Active in Reports: 11/02/2018  
Number of Days to Update: 29

Source: Public Works Department Waste Management  
Telephone: 415-473-6647  
Last EDR Contact: 03/20/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Semi-Annually

### MERCED COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA MERCED: CUPA Facility List CUPA facility list.

Date of Government Version: 11/18/2019  
Date Data Arrived at EDR: 11/20/2019  
Date Made Active in Reports: 01/03/2020  
Number of Days to Update: 44

Source: Merced County Environmental Health  
Telephone: 209-381-1094  
Last EDR Contact: 02/13/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### MONO COUNTY:

#### CUPA MONO: CUPA Facility List CUPA Facility List

Date of Government Version: 11/20/2019  
Date Data Arrived at EDR: 12/02/2019  
Date Made Active in Reports: 02/07/2020  
Number of Days to Update: 67

Source: Mono County Health Department  
Telephone: 760-932-5580  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: Varies

### MONTEREY COUNTY:

#### CUPA MONTEREY: CUPA Facility Listing CUPA Program listing from the Environmental Health Division.

Date of Government Version: 11/06/2019  
Date Data Arrived at EDR: 11/07/2019  
Date Made Active in Reports: 01/08/2020  
Number of Days to Update: 62

Source: Monterey County Health Department  
Telephone: 831-796-1297  
Last EDR Contact: 04/13/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Varies

### NAPA COUNTY:

#### LUST NAPA: Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017  
Date Data Arrived at EDR: 01/11/2017  
Date Made Active in Reports: 03/02/2017  
Number of Days to Update: 50

Source: Napa County Department of Environmental Management  
Telephone: 707-253-4269  
Last EDR Contact: 02/21/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: No Update Planned

#### UST NAPA: Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 52

Source: Napa County Department of Environmental Management  
Telephone: 707-253-4269  
Last EDR Contact: 03/05/2020  
Next Scheduled EDR Contact: 06/08/2020  
Data Release Frequency: No Update Planned

### NEVADA COUNTY:

#### CUPA NEVADA: CUPA Facility List CUPA facility list.



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/05/2020  
Date Data Arrived at EDR: 02/06/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 69

Source: Community Development Agency  
Telephone: 530-265-1467  
Last EDR Contact: 04/16/2020  
Next Scheduled EDR Contact: 08/10/2020  
Data Release Frequency: Varies

### ORANGE COUNTY:

IND\_SITE ORANGE: List of Industrial Site Cleanups  
Petroleum and non-petroleum spills.

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 70

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 02/03/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups  
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 70

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 02/03/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities  
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 02/04/2020  
Date Made Active in Reports: 04/10/2020  
Number of Days to Update: 66

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 02/04/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

### PLACER COUNTY:

MS PLACER: Master List of Facilities  
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/03/2019  
Date Made Active in Reports: 02/07/2020  
Number of Days to Update: 66

Source: Placer County Health and Human Services  
Telephone: 530-745-2363  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Semi-Annually

### PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List  
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019  
Date Data Arrived at EDR: 04/23/2019  
Date Made Active in Reports: 06/26/2019  
Number of Days to Update: 64

Source: Plumas County Environmental Health  
Telephone: 530-283-6355  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### RIVERSIDE COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/17/2019  
Date Data Arrived at EDR: 10/22/2019  
Date Made Active in Reports: 12/13/2019  
Number of Days to Update: 52

Source: Department of Environmental Health  
Telephone: 951-358-5055  
Last EDR Contact: 02/10/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Quarterly

### UST RIVERSIDE: Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 10/17/2019  
Date Data Arrived at EDR: 10/22/2019  
Date Made Active in Reports: 01/03/2020  
Number of Days to Update: 73

Source: Department of Environmental Health  
Telephone: 951-358-5055  
Last EDR Contact: 02/10/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Quarterly

### SACRAMENTO COUNTY:

#### CS SACRAMENTO: Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/14/2019  
Date Data Arrived at EDR: 12/23/2019  
Date Made Active in Reports: 02/20/2020  
Number of Days to Update: 59

Source: Sacramento County Environmental Management  
Telephone: 916-875-8406  
Last EDR Contact: 03/31/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Quarterly

#### ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/14/2019  
Date Data Arrived at EDR: 12/23/2019  
Date Made Active in Reports: 02/21/2020  
Number of Days to Update: 60

Source: Sacramento County Environmental Management  
Telephone: 916-875-8406  
Last EDR Contact: 03/31/2020  
Next Scheduled EDR Contact: 07/13/2020  
Data Release Frequency: Quarterly

### SAN BENITO COUNTY:

#### CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 11/14/2019  
Date Data Arrived at EDR: 11/15/2019  
Date Made Active in Reports: 01/23/2020  
Number of Days to Update: 69

Source: San Benito County Environmental Health  
Telephone: N/A  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### SAN BERNARDINO COUNTY:

#### PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/26/2019  
Date Data Arrived at EDR: 11/27/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 69

Source: San Bernardino County Fire Department Hazardous Materials Division  
Telephone: 909-387-3041  
Last EDR Contact: 02/03/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

### SAN DIEGO COUNTY:

#### HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/03/2019  
Date Data Arrived at EDR: 12/04/2019  
Date Made Active in Reports: 02/04/2020  
Number of Days to Update: 62

Source: Hazardous Materials Management Division  
Telephone: 619-338-2268  
Last EDR Contact: 03/03/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

#### LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018  
Date Data Arrived at EDR: 04/24/2018  
Date Made Active in Reports: 06/19/2018  
Number of Days to Update: 56

Source: Department of Health Services  
Telephone: 619-338-2209  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

#### SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 12/26/2019  
Date Data Arrived at EDR: 01/22/2020  
Date Made Active in Reports: 04/01/2020  
Number of Days to Update: 70

Source: Department of Environmental Health  
Telephone: 858-505-6874  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

#### SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010  
Date Data Arrived at EDR: 06/15/2010  
Date Made Active in Reports: 07/09/2010  
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health  
Telephone: 619-338-2371  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: No Update Planned

### SAN FRANCISCO COUNTY:

#### LUST SAN FRANCISCO: Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/19/2008  
Date Data Arrived at EDR: 09/19/2008  
Date Made Active in Reports: 09/29/2008  
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County  
Telephone: 415-252-3920  
Last EDR Contact: 01/31/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: No Update Planned

### UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 01/08/2020  
Date Data Arrived at EDR: 01/09/2020  
Date Made Active in Reports: 03/06/2020  
Number of Days to Update: 57

Source: Department of Public Health  
Telephone: 415-252-3920  
Last EDR Contact: 01/07/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Quarterly

### SAN JOAQUIN COUNTY:

#### UST SAN JOAQUIN: San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018  
Date Data Arrived at EDR: 06/26/2018  
Date Made Active in Reports: 07/11/2018  
Number of Days to Update: 15

Source: Environmental Health Department  
Telephone: N/A  
Last EDR Contact: 03/12/2020  
Next Scheduled EDR Contact: 06/29/2020  
Data Release Frequency: Semi-Annually

### SAN LUIS OBISPO COUNTY:

#### CUPA SAN LUIS OBISPO: CUPA Facility List

Cupa Facility List.

Date of Government Version: 12/12/2019  
Date Data Arrived at EDR: 12/13/2019  
Date Made Active in Reports: 02/20/2020  
Number of Days to Update: 69

Source: San Luis Obispo County Public Health Department  
Telephone: 805-781-5596  
Last EDR Contact: 02/14/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### SAN MATEO COUNTY:

#### BI SAN MATEO: Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/03/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 02/20/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Annually

#### LUST SAN MATEO: Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019  
Date Data Arrived at EDR: 03/29/2019  
Date Made Active in Reports: 05/29/2019  
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 03/05/2020  
Next Scheduled EDR Contact: 06/22/2020  
Data Release Frequency: Semi-Annually

### SANTA BARBARA COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA SANTA BARBARA: CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011

Date Data Arrived at EDR: 09/09/2011

Date Made Active in Reports: 10/07/2011

Number of Days to Update: 28

Source: Santa Barbara County Public Health Department

Telephone: 805-686-8167

Last EDR Contact: 02/14/2020

Next Scheduled EDR Contact: 06/01/2020

Data Release Frequency: No Update Planned

### SANTA CLARA COUNTY:

#### CUPA SANTA CLARA: Cupa Facility List

Cupa facility list

Date of Government Version: 11/18/2019

Date Data Arrived at EDR: 11/19/2019

Date Made Active in Reports: 01/23/2020

Number of Days to Update: 65

Source: Department of Environmental Health

Telephone: 408-918-1973

Last EDR Contact: 02/14/2020

Next Scheduled EDR Contact: 06/01/2020

Data Release Frequency: Varies

#### HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county.

Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005

Date Data Arrived at EDR: 03/30/2005

Date Made Active in Reports: 04/21/2005

Number of Days to Update: 22

Source: Santa Clara Valley Water District

Telephone: 408-265-2600

Last EDR Contact: 03/23/2009

Next Scheduled EDR Contact: 06/22/2009

Data Release Frequency: No Update Planned

#### LUST SANTA CLARA: LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014

Date Data Arrived at EDR: 03/05/2014

Date Made Active in Reports: 03/18/2014

Number of Days to Update: 13

Source: Department of Environmental Health

Telephone: 408-918-3417

Last EDR Contact: 02/21/2020

Next Scheduled EDR Contact: 06/08/2020

Data Release Frequency: No Update Planned

#### SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 10/30/2019

Date Data Arrived at EDR: 11/01/2019

Date Made Active in Reports: 01/08/2020

Number of Days to Update: 68

Source: City of San Jose Fire Department

Telephone: 408-535-7694

Last EDR Contact: 02/13/2020

Next Scheduled EDR Contact: 05/18/2020

Data Release Frequency: Annually

### SANTA CRUZ COUNTY:

#### CUPA SANTA CRUZ: CUPA Facility List

CUPA facility listing.

Date of Government Version: 01/21/2017

Date Data Arrived at EDR: 02/22/2017

Date Made Active in Reports: 05/23/2017

Number of Days to Update: 90

Source: Santa Cruz County Environmental Health

Telephone: 831-464-2761

Last EDR Contact: 02/14/2020

Next Scheduled EDR Contact: 06/01/2020

Data Release Frequency: Varies

### SHASTA COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA SHASTA: CUPA Facility List Cupa Facility List.

Date of Government Version: 06/15/2017  
Date Data Arrived at EDR: 06/19/2017  
Date Made Active in Reports: 08/09/2017  
Number of Days to Update: 51

Source: Shasta County Department of Resource Management  
Telephone: 530-225-5789  
Last EDR Contact: 02/14/2020  
Next Scheduled EDR Contact: 06/01/2020  
Data Release Frequency: Varies

### SOLANO COUNTY:

#### LUST SOLANO: Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019  
Date Data Arrived at EDR: 06/06/2019  
Date Made Active in Reports: 08/13/2019  
Number of Days to Update: 68

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

#### UST SOLANO: Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 12/09/2019  
Date Data Arrived at EDR: 12/11/2019  
Date Made Active in Reports: 02/21/2020  
Number of Days to Update: 72

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Quarterly

### SONOMA COUNTY:

#### CUPA SONOMA: Cupa Facility List Cupa Facility list

Date of Government Version: 02/25/2020  
Date Data Arrived at EDR: 02/26/2020  
Date Made Active in Reports: 03/11/2020  
Number of Days to Update: 14

Source: County of Sonoma Fire & Emergency Services Department  
Telephone: 707-565-1174  
Last EDR Contact: 03/18/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Varies

#### LUST SONOMA: Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/02/2020  
Date Data Arrived at EDR: 01/03/2020  
Date Made Active in Reports: 03/05/2020  
Number of Days to Update: 62

Source: Department of Health Services  
Telephone: 707-565-6565  
Last EDR Contact: 04/06/2020  
Next Scheduled EDR Contact: 07/06/2020  
Data Release Frequency: Quarterly

### STANISLAUS COUNTY:

#### CUPA STANISLAUS: CUPA Facility List Cupa facility list

Date of Government Version: 02/04/2020  
Date Data Arrived at EDR: 02/05/2020  
Date Made Active in Reports: 04/15/2020  
Number of Days to Update: 70

Source: Stanislaus County Department of Environmental Protection  
Telephone: 209-525-6751  
Last EDR Contact: 04/02/2020  
Next Scheduled EDR Contact: 07/27/2020  
Data Release Frequency: Varies

### SUTTER COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### UST SUTTER: Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2019  
Date Data Arrived at EDR: 12/03/2019  
Date Made Active in Reports: 02/07/2020  
Number of Days to Update: 66

Source: Sutter County Environmental Health Services  
Telephone: 530-822-7500  
Last EDR Contact: 02/27/2020  
Next Scheduled EDR Contact: 06/15/2020  
Data Release Frequency: Semi-Annually

### TEHAMA COUNTY:

#### CUPA TEHAMA: CUPA Facility List

Cupa facilities

Date of Government Version: 05/20/2019  
Date Data Arrived at EDR: 05/21/2019  
Date Made Active in Reports: 07/18/2019  
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health  
Telephone: 530-527-8020  
Last EDR Contact: 03/17/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### TRINITY COUNTY:

#### CUPA TRINITY: CUPA Facility List

Cupa facility list

Date of Government Version: 01/21/2020  
Date Data Arrived at EDR: 01/23/2020  
Date Made Active in Reports: 03/30/2020  
Number of Days to Update: 67

Source: Department of Toxic Substances Control  
Telephone: 760-352-0381  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### TULARE COUNTY:

#### CUPA TULARE: CUPA Facility List

Cupa program facilities

Date of Government Version: 02/10/2020  
Date Data Arrived at EDR: 02/11/2020  
Date Made Active in Reports: 04/20/2020  
Number of Days to Update: 69

Source: Tulare County Environmental Health Services Division  
Telephone: 559-624-7400  
Last EDR Contact: 02/03/2020  
Next Scheduled EDR Contact: 05/18/2020  
Data Release Frequency: Varies

### TUOLUMNE COUNTY:

#### CUPA TUOLUMNE: CUPA Facility List

Cupa facility list

Date of Government Version: 04/23/2018  
Date Data Arrived at EDR: 04/25/2018  
Date Made Active in Reports: 06/25/2018  
Number of Days to Update: 61

Source: Division of Environmental Health  
Telephone: 209-533-5633  
Last EDR Contact: 04/09/2020  
Next Scheduled EDR Contact: 08/03/2020  
Data Release Frequency: Varies

### VENTURA COUNTY:

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

|                                         |                                                      |
|-----------------------------------------|------------------------------------------------------|
| Date of Government Version: 12/26/2019  | Source: Ventura County Environmental Health Division |
| Date Data Arrived at EDR: 01/24/2020    | Telephone: 805-654-2813                              |
| Date Made Active in Reports: 04/01/2020 | Last EDR Contact: 04/20/2020                         |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 08/03/2020               |
|                                         | Data Release Frequency: Quarterly                    |

### LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 12/01/2011  | Source: Environmental Health Division     |
| Date Data Arrived at EDR: 12/01/2011    | Telephone: 805-654-2813                   |
| Date Made Active in Reports: 01/19/2012 | Last EDR Contact: 03/20/2020              |
| Number of Days to Update: 49            | Next Scheduled EDR Contact: 07/13/2020    |
|                                         | Data Release Frequency: No Update Planned |

### LUST VENTURA: Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

|                                         |                                           |
|-----------------------------------------|-------------------------------------------|
| Date of Government Version: 05/29/2008  | Source: Environmental Health Division     |
| Date Data Arrived at EDR: 06/24/2008    | Telephone: 805-654-2813                   |
| Date Made Active in Reports: 07/31/2008 | Last EDR Contact: 02/07/2020              |
| Number of Days to Update: 37            | Next Scheduled EDR Contact: 05/25/2020    |
|                                         | Data Release Frequency: No Update Planned |

### MED WASTE VENTURA: Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

|                                         |                                                   |
|-----------------------------------------|---------------------------------------------------|
| Date of Government Version: 12/26/2019  | Source: Ventura County Resource Management Agency |
| Date Data Arrived at EDR: 01/24/2020    | Telephone: 805-654-2813                           |
| Date Made Active in Reports: 04/01/2020 | Last EDR Contact: 01/21/2020                      |
| Number of Days to Update: 68            | Next Scheduled EDR Contact: 05/04/2020            |
|                                         | Data Release Frequency: Quarterly                 |

### UST VENTURA: Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

|                                         |                                        |
|-----------------------------------------|----------------------------------------|
| Date of Government Version: 11/26/2019  | Source: Environmental Health Division  |
| Date Data Arrived at EDR: 12/10/2019    | Telephone: 805-654-2813                |
| Date Made Active in Reports: 02/21/2020 | Last EDR Contact: 03/10/2020           |
| Number of Days to Update: 73            | Next Scheduled EDR Contact: 06/22/2020 |
|                                         | Data Release Frequency: Quarterly      |

### YOLO COUNTY:

#### UST YOLO: Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| Date of Government Version: 12/12/2019  | Source: Yolo County Department of Health |
| Date Data Arrived at EDR: 01/15/2020    | Telephone: 530-666-8646                  |
| Date Made Active in Reports: 03/25/2020 | Last EDR Contact: 03/20/2020             |
| Number of Days to Update: 70            | Next Scheduled EDR Contact: 07/13/2020   |
|                                         | Data Release Frequency: Annually         |

### YUBA COUNTY:



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### CUPA YUBA: CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 11/04/2019

Date Data Arrived at EDR: 11/06/2019

Date Made Active in Reports: 01/08/2020

Number of Days to Update: 63

Source: Yuba County Environmental Health Department

Telephone: 530-749-7523

Last EDR Contact: 04/16/2020

Next Scheduled EDR Contact: 08/10/2020

Data Release Frequency: Varies

### OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/30/2020

Date Data Arrived at EDR: 01/30/2020

Date Made Active in Reports: 03/09/2020

Number of Days to Update: 39

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375

Last EDR Contact: 01/30/2020

Next Scheduled EDR Contact: 05/25/2020

Data Release Frequency: No Update Planned

### NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018

Date Data Arrived at EDR: 04/10/2019

Date Made Active in Reports: 05/16/2019

Number of Days to Update: 36

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 04/10/2020

Next Scheduled EDR Contact: 07/20/2020

Data Release Frequency: Annually

### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019

Date Data Arrived at EDR: 05/01/2019

Date Made Active in Reports: 06/21/2019

Number of Days to Update: 51

Source: Department of Environmental Conservation

Telephone: 518-402-8651

Last EDR Contact: 01/31/2020

Next Scheduled EDR Contact: 05/11/2020

Data Release Frequency: Quarterly

### PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018

Date Data Arrived at EDR: 07/19/2019

Date Made Active in Reports: 09/10/2019

Number of Days to Update: 53

Source: Department of Environmental Protection

Telephone: 717-783-8990

Last EDR Contact: 04/02/2020

Next Scheduled EDR Contact: 07/27/2020

Data Release Frequency: Annually

### RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2018

Date Data Arrived at EDR: 10/02/2019

Date Made Active in Reports: 12/10/2019

Number of Days to Update: 69

Source: Department of Environmental Management

Telephone: 401-222-2797

Last EDR Contact: 02/18/2020

Next Scheduled EDR Contact: 06/01/2020

Data Release Frequency: Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018

Date Data Arrived at EDR: 06/19/2019

Date Made Active in Reports: 09/03/2019

Number of Days to Update: 76

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 03/09/2020

Next Scheduled EDR Contact: 06/22/2020

Data Release Frequency: Annually

### Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

### Electric Power Transmission Line Data

Source: Endeavor Business Media

This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

### AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

### Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

### Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

### Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

### Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

**Flood Zone Data:** This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory  
Source: Department of Fish and Wildlife  
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map  
Source: U.S. Geological Survey

### **STREET AND ADDRESS INFORMATION**

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## **GEOCHECK<sup>®</sup> - PHYSICAL SETTING SOURCE ADDENDUM**

### **TARGET PROPERTY ADDRESS**

421808  
BLOSSOM ROAD AND RAILROAD AVENUE  
SUISUN CITY, CA 94585

### **TARGET PROPERTY COORDINATES**

|                                |                             |
|--------------------------------|-----------------------------|
| Latitude (North):              | 38.259358 - 38° 15' 33.69"  |
| Longitude (West):              | 122.013352 - 122° 0' 48.07" |
| Universal Transverse Mercator: | Zone 10                     |
| UTM X (Meters):                | 586322.2                    |
| UTM Y (Meters):                | 4234846.0                   |
| Elevation:                     | 37 ft. above sea level      |

### **USGS TOPOGRAPHIC MAP**

|                      |                             |
|----------------------|-----------------------------|
| Target Property Map: | 5602112 FAIRFIELD NORTH, CA |
| Version Date:        | 2012                        |
| Northeast Map:       | 5619708 ELMIRA, CA          |
| Version Date:        | 2012                        |
| Southeast Map:       | 5629050 DENVERTON, CA       |
| Version Date:        | 2012                        |
| Southwest Map:       | 5602114 FAIRFIELD SOUTH, CA |
| Version Date:        | 2012                        |

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

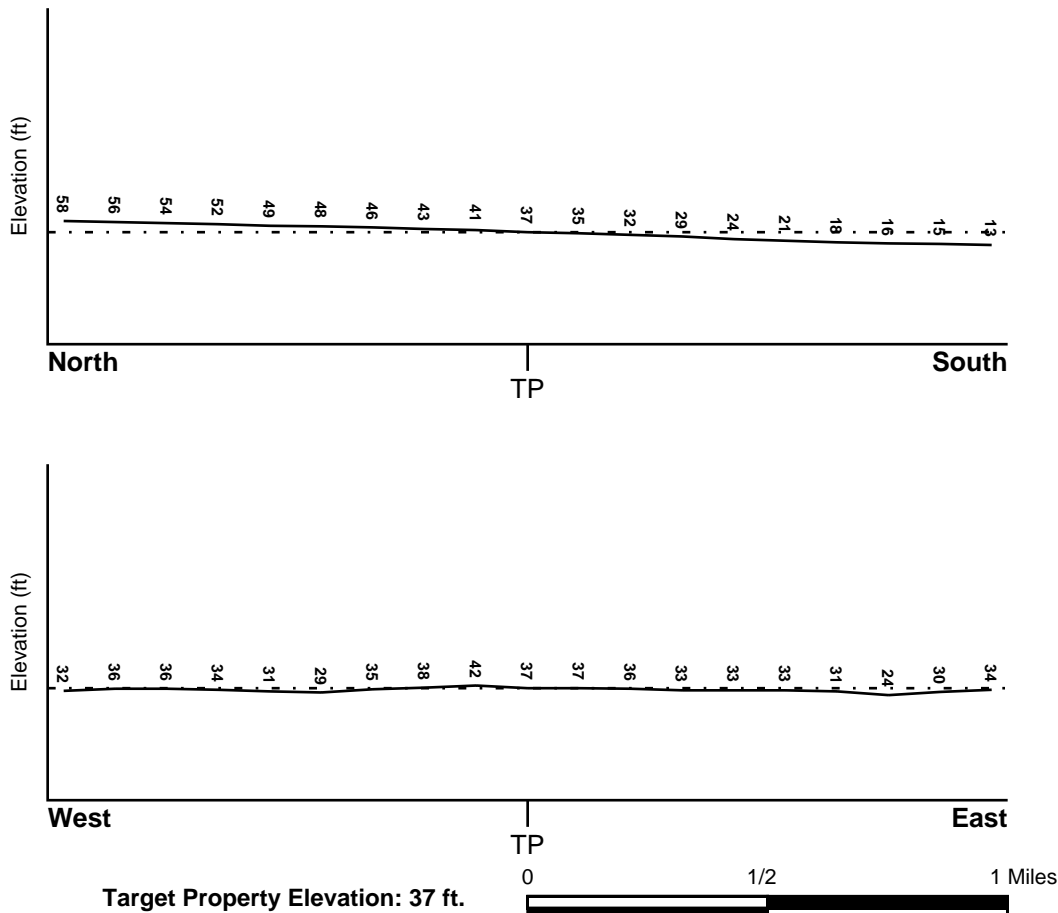
### TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

### TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSE

### SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

### FEMA FLOOD ZONE

| <u>Flood Plain Panel at Target Property</u> | <u>FEMA Source Type</u> |
|---------------------------------------------|-------------------------|
| 06095C0269E                                 | FEMA FIRM Flood data    |
| <u>Additional Panels in search area:</u>    | <u>FEMA Source Type</u> |
| 06055C0575E                                 | FEMA FIRM Flood data    |
| 06095C0288E                                 | FEMA FIRM Flood data    |
| 06095C0457E                                 | FEMA FIRM Flood data    |
| 06095C0476E                                 | FEMA FIRM Flood data    |

### NATIONAL WETLAND INVENTORY

| <u>NWI Quad at Target Property</u> | <u>NWI Electronic Data Coverage</u>            |
|------------------------------------|------------------------------------------------|
| FAIRFIELD NORTH                    | YES - refer to the Overview Map and Detail Map |

### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### ***Site-Specific Hydrogeological Data\*:***

|                |            |
|----------------|------------|
| Search Radius: | 1.25 miles |
| Status:        | Not found  |

### AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

| <u>MAP ID</u> | <u>LOCATION FROM TP</u> | <u>GENERAL DIRECTION GROUNDWATER FLOW</u> |
|---------------|-------------------------|-------------------------------------------|
| 4             | 1/2 - 1 Mile NNE        | SW                                        |
| 1G            | 1/2 - 1 Mile NNE        | SW                                        |

For additional site information, refer to Physical Setting Source Map Findings.

## **GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY**

### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

### **GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY**

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

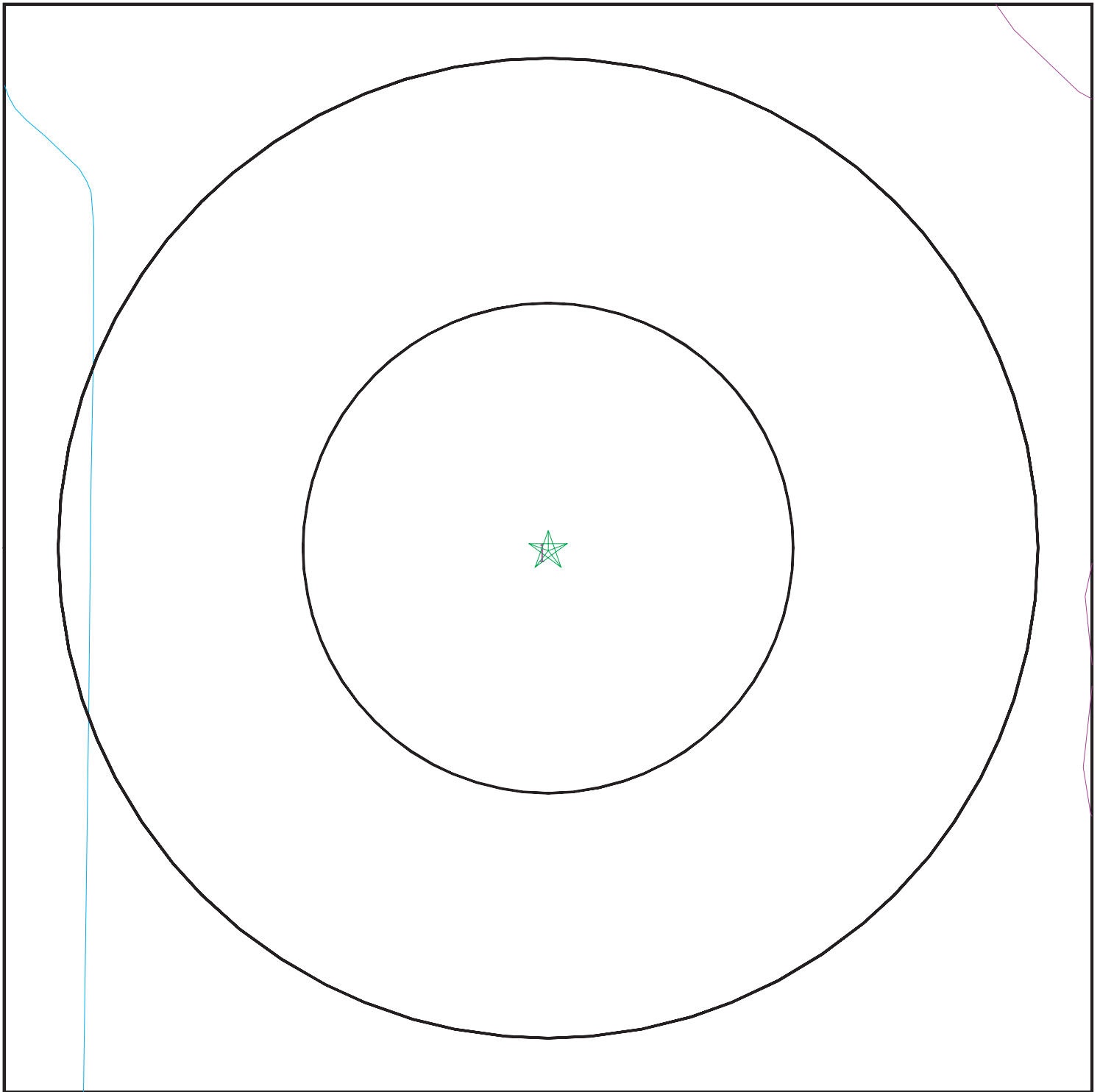
|         |                                           |
|---------|-------------------------------------------|
| Era:    | Cenozoic                                  |
| System: | Quaternary                                |
| Series: | Quaternary                                |
| Code:   | Q (decoded above as Era, System & Series) |

#### **GEOLOGIC AGE IDENTIFICATION**

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 6047054.2s



- ★ Target Property
- ∨ SSURGO Soil
- ∨ Water

0 1/16 1/8 1/4 Miles



SITE NAME: 421808  
ADDRESS: Blossom Road and Railroad Avenue  
Suisun City CA 94585  
LAT/LONG: 38.259358 / 122.013352

CLIENT: AEI Consultants  
CONTACT: Lacey Elam  
INQUIRY #: 6047054.2s  
DATE: April 22, 2020 3:07 pm



## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

#### Soil Map ID: 1

Soil Component Name: Antioch

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

| Soil Layer Information |           |           |                    |                                                                       |                                                                             |                                                 |                    |
|------------------------|-----------|-----------|--------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------|--------------------|
| Layer                  | Boundary  |           | Soil Texture Class | Classification                                                        |                                                                             | Saturated hydraulic conductivity<br>micro m/sec | Soil Reaction (pH) |
|                        | Upper     | Lower     |                    | AASHTO Group                                                          | Unified Soil                                                                |                                                 |                    |
| 1                      | 0 inches  | 25 inches | loam               | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 4<br>Min: 1.4                              | Max: 9 Min: 7.9    |
| 2                      | 25 inches | 59 inches | clay               | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 4<br>Min: 1.4                              | Max: 9 Min: 7.9    |
| 3                      | 59 inches | 72 inches | loam               | Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils. | FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay | Max: 4<br>Min: 1.4                              | Max: 9 Min: 7.9    |

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

### WELL SEARCH DISTANCE INFORMATION

| <u>DATABASE</u>  | <u>SEARCH DISTANCE (miles)</u> |
|------------------|--------------------------------|
| Federal USGS     | 1.000                          |
| Federal FRDS PWS | Nearest PWS within 1 mile      |
| State Database   | 1.000                          |

### FEDERAL USGS WELL INFORMATION

| <u>MAP ID</u>  | <u>WELL ID</u> | <u>LOCATION<br/>FROM TP</u> |
|----------------|----------------|-----------------------------|
| No Wells Found |                |                             |

### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

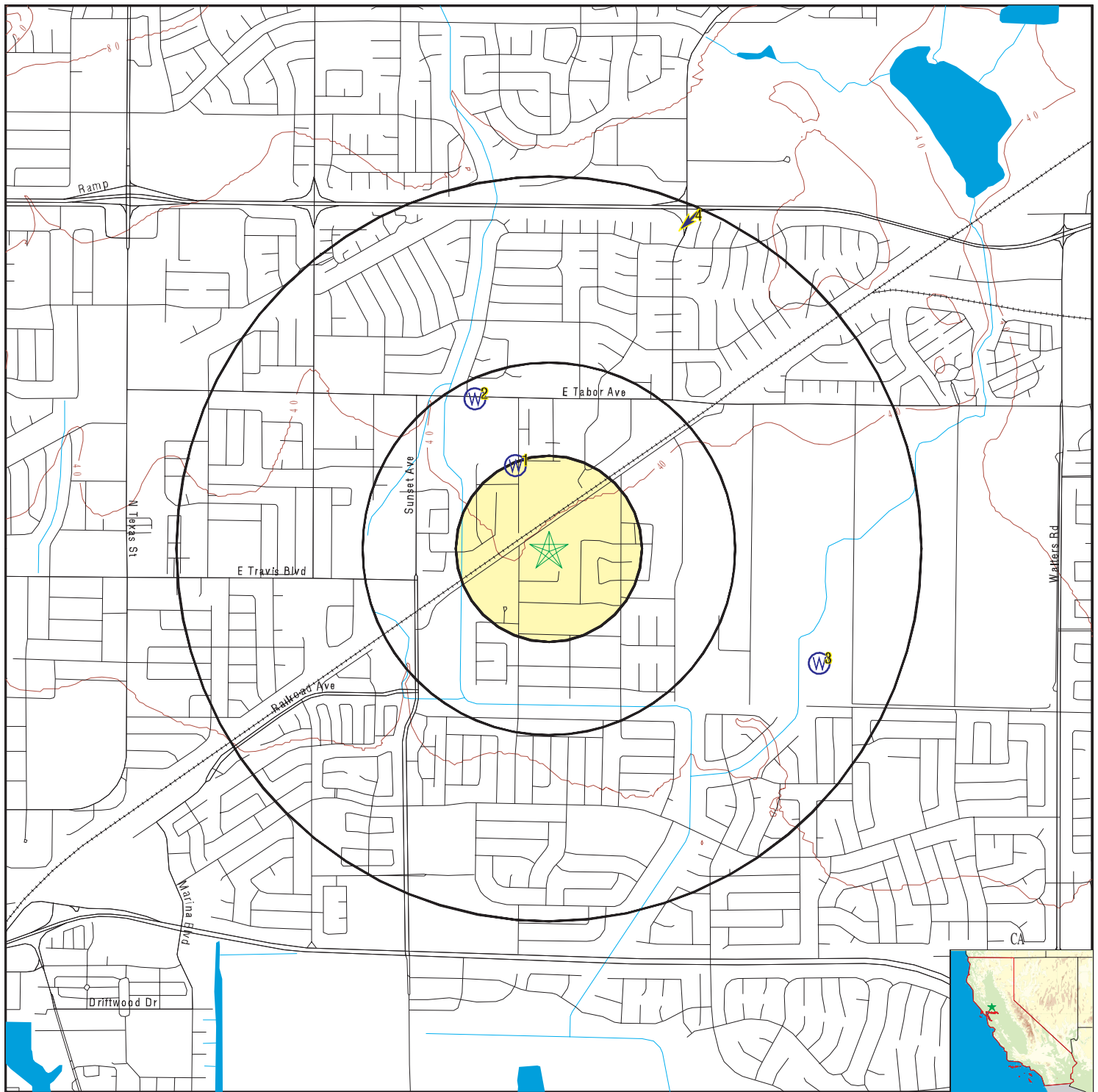
| <u>MAP ID</u>       | <u>WELL ID</u> | <u>LOCATION<br/>FROM TP</u> |
|---------------------|----------------|-----------------------------|
| No PWS System Found |                |                             |

Note: PWS System location is not always the same as well location.

### STATE DATABASE WELL INFORMATION

| <u>MAP ID</u> | <u>WELL ID</u>  | <u>LOCATION<br/>FROM TP</u> |
|---------------|-----------------|-----------------------------|
| 1             | CADWR8000037480 | 1/8 - 1/4 Mile NNW          |
| 2             | CADWR8000037486 | 1/4 - 1/2 Mile NNW          |
| 3             | CADWR8000037456 | 1/2 - 1 Mile ESE            |

# PHYSICAL SETTING SOURCE MAP - 6047054.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: 421808  
 ADDRESS: Blossom Road and Railroad Avenue  
 Suisun City CA 94585  
 LAT/LONG: 38.259358 / 122.013352

CLIENT: AEI Consultants  
 CONTACT: Lacey Elam  
 INQUIRY #: 6047054.2s  
 DATE: April 22, 2020 3:07 pm

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**1**  
**NNW**  
**1/8 - 1/4 Mile**  
**Higher**  
**CA WELLS      CADWR8000037480**

|               |                         |                        |             |
|---------------|-------------------------|------------------------|-------------|
| State Well #: | 05N01W19K001M           | Station ID:            | 27932       |
| Well Name:    | Not Reported            | Well Use:              | Residential |
| Well Type:    | Unknown                 | Well Depth:            | 120         |
| Basin Name:   | Suisun-Fairfield Valley | Well Completion Rpt #: | 76531       |

**2**  
**NNW**  
**1/4 - 1/2 Mile**  
**Higher**  
**CA WELLS      CADWR8000037486**

|               |                         |                        |              |
|---------------|-------------------------|------------------------|--------------|
| State Well #: | 05N01W19L001M           | Station ID:            | 7050         |
| Well Name:    | Not Reported            | Well Use:              | Residential  |
| Well Type:    | Unknown                 | Well Depth:            | 51           |
| Basin Name:   | Suisun-Fairfield Valley | Well Completion Rpt #: | Not Reported |

**3**  
**ESE**  
**1/2 - 1 Mile**  
**Lower**  
**CA WELLS      CADWR8000037456**

|               |                         |                        |         |
|---------------|-------------------------|------------------------|---------|
| State Well #: | 05N01W29C001M           | Station ID:            | 7061    |
| Well Name:    | Not Reported            | Well Use:              | Unknown |
| Well Type:    | Unknown                 | Well Depth:            | 51      |
| Basin Name:   | Suisun-Fairfield Valley | Well Completion Rpt #: | 63963   |

**4**  
**NNE**  
**1/2 - 1 Mile**  
**Higher**  
**AQUIFLOW      52213**

|                      |              |  |  |
|----------------------|--------------|--|--|
| Site ID:             | Not Reported |  |  |
| Groundwater Flow:    | SW           |  |  |
| Shallow Water Depth: | 15           |  |  |
| Deep Water Depth:    | 19           |  |  |
| Average Water Depth: | Not Reported |  |  |
| Date:                | 09/01/1988   |  |  |

**1G**  
**NNE**  
**1/2 - 1 Mile**  
**Lower**  
**AQUIFLOW      52213**

|                      |              |  |  |
|----------------------|--------------|--|--|
| Site ID:             | Not Reported |  |  |
| Groundwater Flow:    | SW           |  |  |
| Shallow Water Depth: | 15           |  |  |
| Deep Water Depth:    | 19           |  |  |
| Average Water Depth: | Not Reported |  |  |
| Date:                | 09/01/1988   |  |  |

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

### AREA RADON INFORMATION

State Database: CA Radon

#### Radon Test Results

| Zipcode | Num Tests | > 4 pCi/L |
|---------|-----------|-----------|
| 94533   | 37        | 0         |

Federal EPA Radon Zone for SOLANO County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level  $\geq$  2 pCi/L and  $\leq$  4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

---

Federal Area Radon Information for Zip Code: 94533

Number of sites tested: 8

| Area                    | Average Activity | % <4 pCi/L   | % 4-20 pCi/L | % >20 pCi/L  |
|-------------------------|------------------|--------------|--------------|--------------|
| Living Area - 1st Floor | 0.775 pCi/L      | 100%         | 0%           | 0%           |
| Living Area - 2nd Floor | Not Reported     | Not Reported | Not Reported | Not Reported |
| Basement                | Not Reported     | Not Reported | Not Reported | Not Reported |

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## **TOPOGRAPHIC INFORMATION**

### USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

### Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

## **HYDROLOGIC INFORMATION**

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Wetland Inventory

Source: Department of Fish and Wildlife

Telephone: 916-445-0411

## **HYDROGEOLOGIC INFORMATION**

### AQUIFLOW<sup>R</sup> Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## **GEOLOGIC INFORMATION**

### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

### SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

### FEDERAL WATER WELLS

#### PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

#### PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

#### USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

### STATE RECORDS

#### Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

#### California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

## OTHER STATE DATABASE INFORMATION

#### California Oil and Gas Well Locations

Source: Dept of Conservation, Geologic Energy Management Division

Telephone: 916-323-1779

Oil and Gas well locations in the state.

#### California Earthquake Fault Lines

Source: California Division of Mines and Geology

The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

### RADON

#### State Database: CA Radon

Source: Department of Public Health

Telephone: 916-210-8558

Radon Database for California

#### Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

## PHYSICAL SETTING SOURCE RECORDS SEARCHED

### EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRRA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

### OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.


### STREET AND ADDRESS INFORMATION

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# **APPENDIX D**

## **HISTORICAL SOURCES**



**421808**

Blossom Road and Railroad Avenue

Suisun City, CA 94585

Inquiry Number: 6047054.5

April 23, 2020

## The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

## EDR Aerial Photo Decade Package

04/23/20

**Site Name:**

421808  
Blossom Road and Railroad Av  
Suisun City, CA 94585  
EDR Inquiry # 6047054.5

**Client Name:**

AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA 94597  
Contact: Lacey Elam



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

### Search Results:

| <u>Year</u> | <u>Scale</u> | <u>Details</u>                  | <u>Source</u> |
|-------------|--------------|---------------------------------|---------------|
| 2016        | 1"=500'      | Flight Year: 2016               | USDA/NAIP     |
| 2012        | 1"=500'      | Flight Year: 2012               | USDA/NAIP     |
| 2009        | 1"=500'      | Flight Year: 2009               | USDA/NAIP     |
| 2006        | 1"=500'      | Flight Year: 2006               | USDA/NAIP     |
| 1993        | 1"=500'      | Acquisition Date: June 16, 1993 | USGS/DOQQ     |
| 1984        | 1"=500'      | Flight Date: June 08, 1984      | USDA          |
| 1982        | 1"=500'      | Flight Date: July 08, 1982      | USDA          |
| 1974        | 1"=500'      | Flight Date: July 18, 1974      | USGS          |
| 1968        | 1"=500'      | Flight Date: April 22, 1968     | USGS          |
| 1952        | 1"=500'      | Flight Date: August 03, 1952    | USDA          |
| 1947        | 1"=500'      | Flight Date: March 01, 1947     | USGS          |
| 1937        | 1"=500'      | Flight Date: August 26, 1937    | USDA          |

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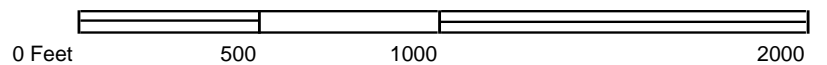
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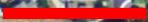
# AERIAL PHOTOGRAPH - 2016

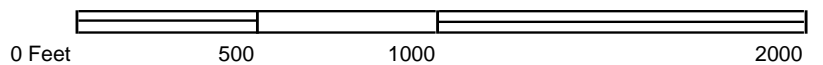






Legend:

Approximate Property Boundary: 




# AERIAL PHOTOGRAPH - 2012







Legend:

Approximate Property Boundary:   
0 Feet 500 1000 2000

AERIAL PHOTOGRAPH - 2009

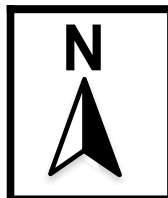
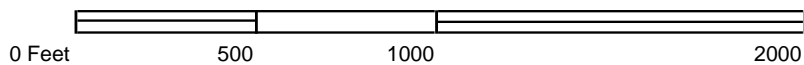






Legend:

Approximate Property Boundary: 




**AERIAL PHOTOGRAPH - 2006**

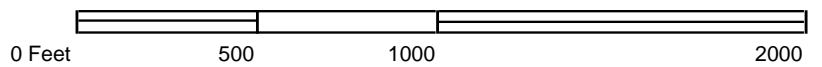






Legend:

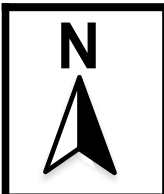
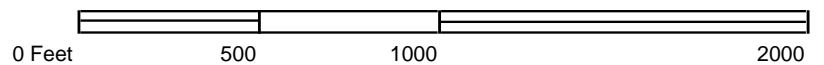
Approximate Property Boundary: 



## AERIAL PHOTOGRAPH - 1993







**AERIAL PHOTOGRAPH - 1984**

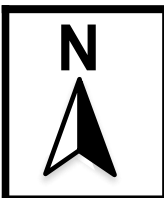
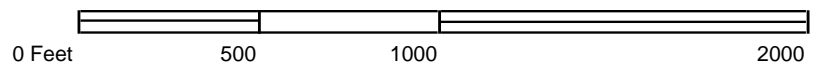






Legend:

Approximate Property Boundary: ———



## AERIAL PHOTOGRAPH - 1982

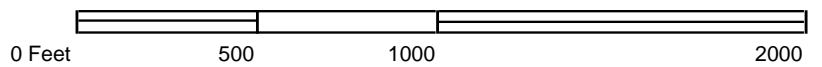






Legend:

Approximate Property Boundary: 



AERIAL PHOTOGRAPH - 1974

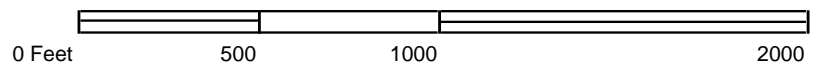






Legend:

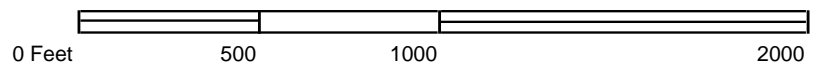
Approximate Property Boundary: 



**AERIAL PHOTOGRAPH - 1968**







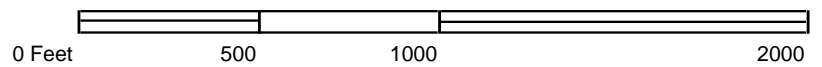
## AERIAL PHOTOGRAPH - 1952





Legend:

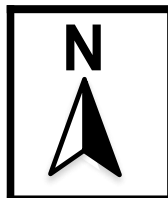
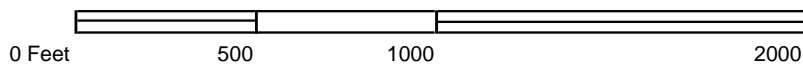
Approximate Property Boundary: 



**AERIAL PHOTOGRAPH - 1947**








AERIAL PHOTOGRAPH - 1937





421808

Blossom Road and Railroad Avenue

Suisun City, CA 94585

Inquiry Number: 6047054.3

April 22, 2020

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



## Certified Sanborn® Map Report

04/22/20

**Site Name:**

421808  
Blossom Road and Railroad Av  
Suisun City, CA 94585  
EDR Inquiry # 6047054.3

**Client Name:**

AEI Consultants  
2500 Camino Diablo  
Walnut Creek, CA 94597  
Contact: Lacey Elam



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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

### Certified Sanborn Results:

**Certification #** B4D5-4732-92FF

**PO #** 224764

**Project** 421808

#### UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: B4D5-4732-92FF

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- ☒ Library of Congress
- ☒ University Publications of America
- ☒ EDR Private Collection

*The Sanborn Library LLC Since 1866™*

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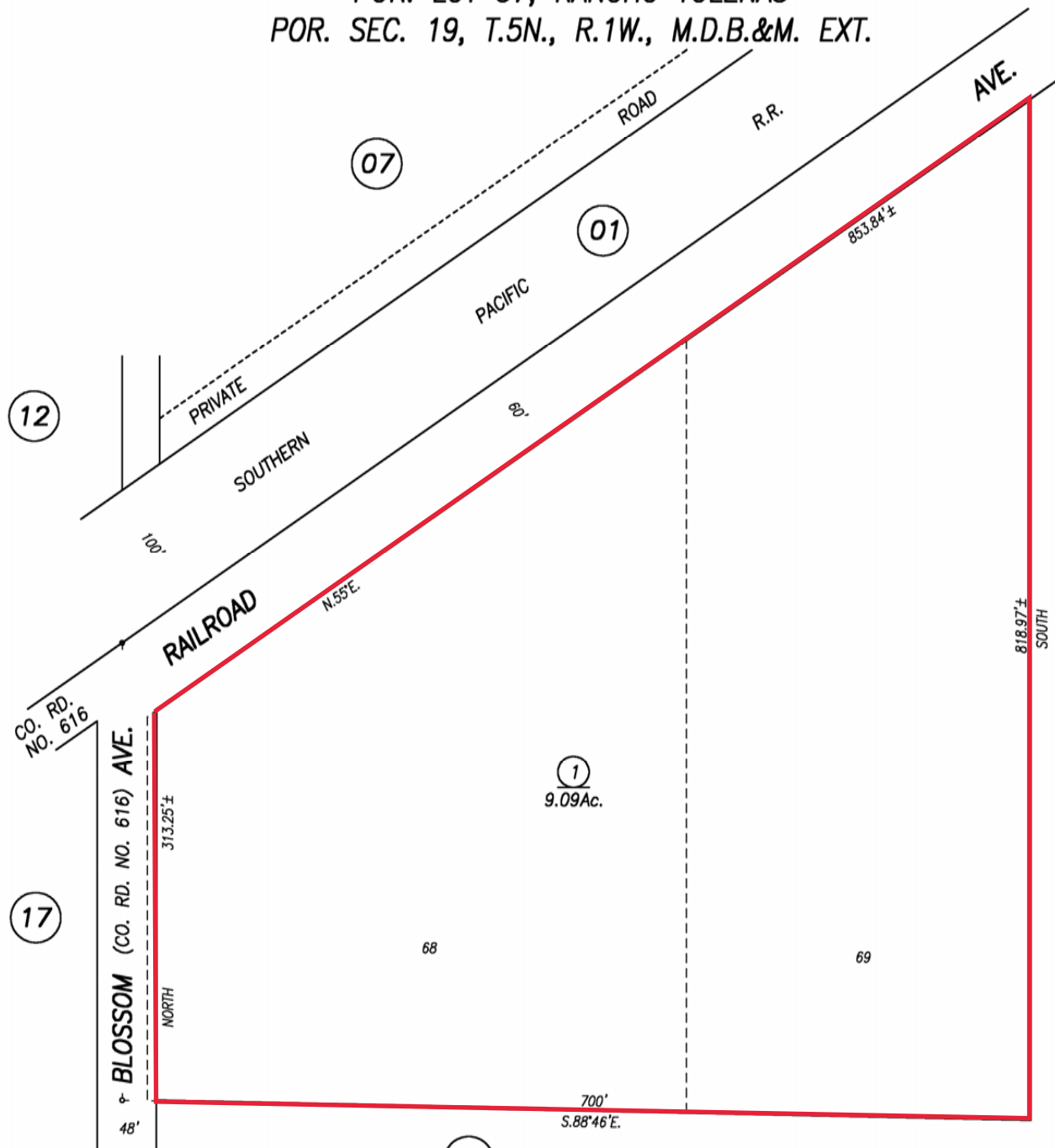
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# **APPENDIX E**

## **REGULATORY AGENCY RECORDS**

POR. LOT 37, RANCHO TOLENAS  
 POR. SEC. 19, T.5N., R.1W., M.D.B.&M. EXT.

Tax Area Code  
 5037



Locke-Paddon Colony No. 4, R.M. Bk. 4 Pg. 13

Assessor's Block Numbers Shown in Ellipses, Assessor's Parcel Numbers Shown in Circles

|                |          |    |
|----------------|----------|----|
| 130-01 Chg(Dd) | 11-10-16 | Cr |
| SBE 07-005     | 12-11-06 | DV |
| Adj. Pg. 35    | 8-2-05   | SE |
| 130-010 Chg Dd | 2-10-00  | FG |
| REVISION       | DATE     | BY |

NOTE: This map is for assessment purposes only. It is not intended to define legal boundary rights or imply compliance with land division laws.

CITY OF SUISUN  
 Assessor's Map Bk. 37  
 County of Solano,

17-18



Initial View



Full Extent



Bookmarks



Previous Extent



Next Extent



Identify



Filter



Query



Select and Buffer



Print



Export



Share

Navigation

Find Data

Tasks

Parcels



I want to...

## Description

Situs Address: , FAIRFIELD;CA 94533  
APN: 0037130010  
GP Land Use Code: Incorporated Area  
GPLU Description:  
Improvement Value: 0  
Class: 0  
Year Built: 0  
Fireplace:  
Pool:  
Patio Description:  
Heat/Air:  
Structure Description:  
Land Use Description: VACANT RESIDENTIAL LAND

## Hyperlinks



Layers



Parcels



Query



Aerial2017



0 50 100m



1:500



**AEI**  
Consultants

April 30, 2020

Attn: File Review  
Solano County Environmental Management  
675 Texas Street, Suite 5500  
Fairfield, CA 94533  
(707) 784-6765  
(707) 784-4805 FAX

**Subject: File Review Request**  
AEI Project No. 421808

To Whom It May Concern:

AEI has been contracted to perform a Phase I Environmental Site Assessment. Please indicate if you have any current or archived records pertaining to aboveground storage tanks (ASTs), underground storage tanks (USTs), hazardous materials storage/disposal, industrial waste discharges and/or spills/releases for the following sites:

- APN: 0037-130-010

If you do not have any records, please indicate in the space below and fax back this sheet to (510) 338-3192, call me at (510) 306-8508, or email me at [krsmith@aeiconsultants.com](mailto:krsmith@aeiconsultants.com) if you have any questions.

Sincerely,

Kathryn Smith  
Project Manager

☐ No Files for address(es) listed above

Name:

Title:

Phone:

X

Signature

Date

**RE: 421808 Solano County Environmental Management FOIA Request**

Seay, Alisha R. <ARSeay@SolanoCounty.com>

Fri 5/1/2020 10:04 AM

**To:** Kathryn Smith <krsmith@aeiconsultants.com>

**Cc:** Ambrose, Christopher S. <CSAmbrose@SolanoCounty.com>

Kathryn,

There are no records available for the APN 0037130010.

Please let me know if you further questions, concerns or need further assistance.

Thank you!

Alisha Seay

Environmental Health Assistant

707-784-3312

---

**From:** RMAAdminFax

**Sent:** Thursday, April 30, 2020 2:05 PM

**To:** Ambrose, Christopher S.

**Cc:** Seay, Alisha R.

**Subject:** FW: 421808 Solano County Environmental Management FOIA Request

Hi Chris,

Can you help with this one?

---

**From:** Kathryn Smith <[krsmith@aeiconsultants.com](mailto:krsmith@aeiconsultants.com)>

**Sent:** Thursday, April 30, 2020 1:51 PM

**To:** RMAAdminFax <[RMAAdminFax@SolanoCounty.com](mailto:RMAAdminFax@SolanoCounty.com)>

**Subject:** 421808 Solano County Environmental Management FOIA Request

Hello,

Please see the attachment for details regarding my file review request.

Appreciatively,

Kathryn (Katie) Smith

Project Manager

**AEI Consultants**

520 3rd Street, Suite 209

Oakland, CA 94607

e. [krsmith@aeiconsultants.com](mailto:krsmith@aeiconsultants.com)

o. 510.907.3145 ext. 2103

c. 510.306.8508

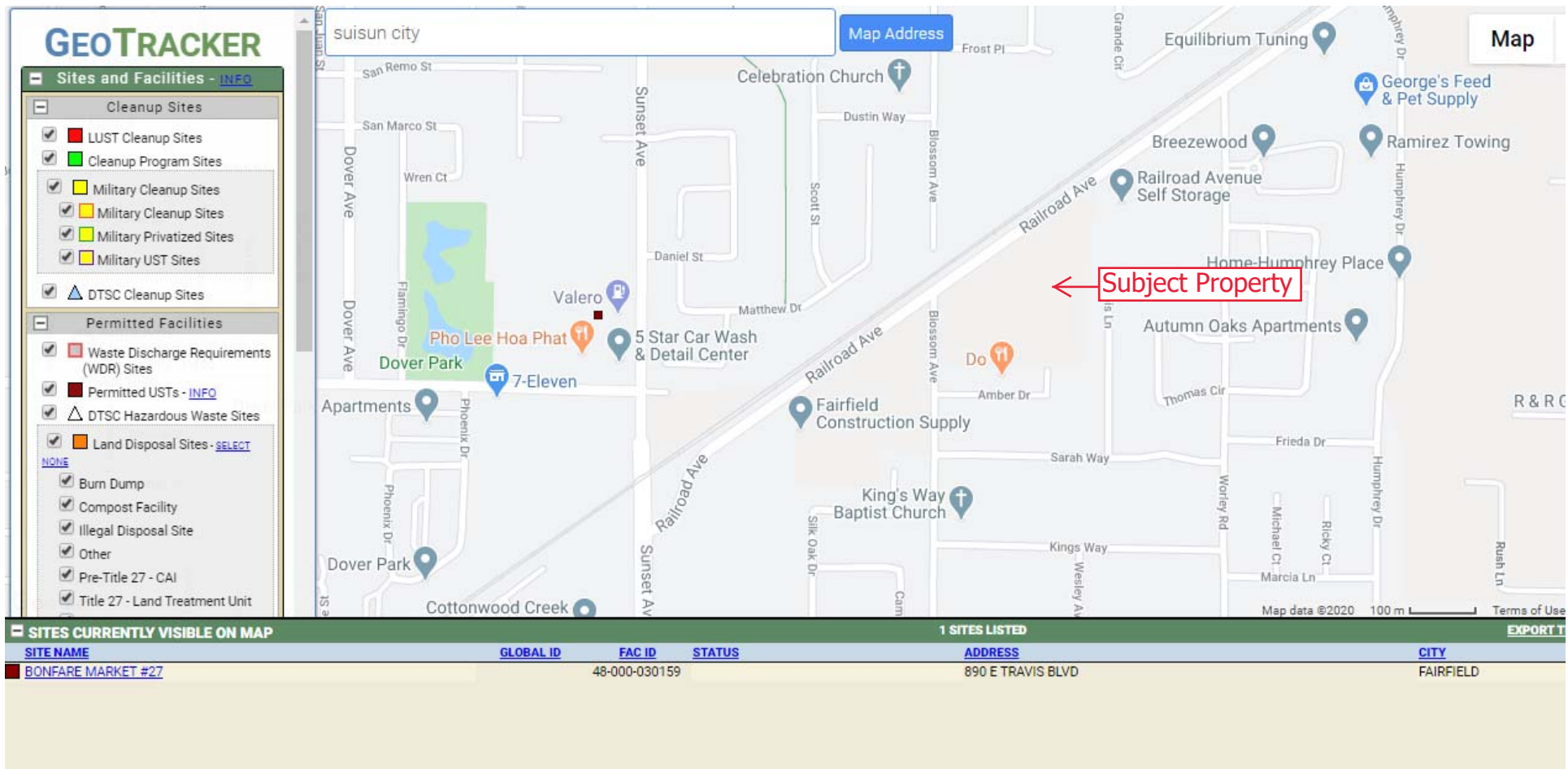
f. 510.338.3192

[aeiconsultants.com](http://aeiconsultants.com)



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**Jared Blumenfeld**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

**Meredith Williams, Ph.D.**  
**Director**  
**1001 "I" Street**  
**P.O. Box 806**  
**Sacramento, California 95812-0806**



**Gavin Newsom**  
Governor

### Facility Search Results

#### Selection Criteria:

**Facility:**  
**Search on:** Physical Address  
**Street:** blossom  
**City:** suisun city  
**Status:** Active and Inactive  
**Sort Direction:** asc  
**Sorted By:** Address  
**Records Found:** 2

| EPA ID Number                | Name                                                   | Address         | City        | Zip       |
|------------------------------|--------------------------------------------------------|-----------------|-------------|-----------|
| <a href="#">CAC002810095</a> | IDELFONSO SORIANO                                      | 818 BLOSSOM AVE | SUISUN CITY | 945851806 |
| <a href="#">CAL000310009</a> | BM MOBIL SERVICE DBA OS CAR WASH/OIL<br>CHANGE SERVICE | 830 BLOSSOM RD  | SUISUN CITY | 94585     |

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

**Report Generation Date:** 05/05/2020



**Jared Blumenfeld**  
Secretary for  
Environmental Protection



## Department of Toxic Substances Control

**Meredith Williams, Ph.D.**

**Director**

**1001 "I" Street**

**P.O. Box 806**

**Sacramento, California 95812-0806**



**Gavin Newsom**  
Governor

## Facility Search Results

### Selection Criteria:

#### Facility:

**Search on:** Physical Address

**Street:** railroad

**City:** suisun city

**Status:** Active and Inactive

**Sort Direction:** asc

**Sorted By:** Address

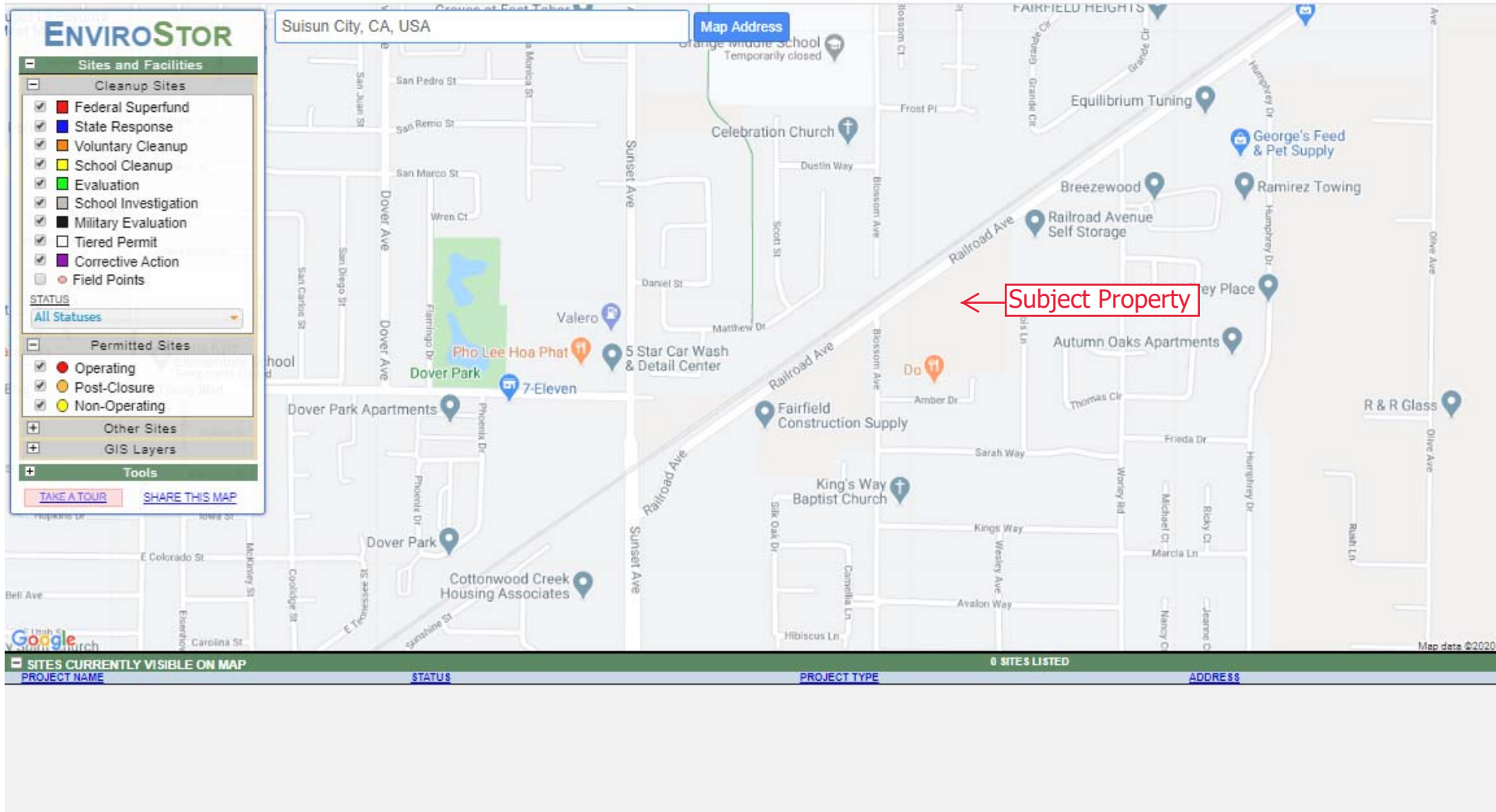
**Records Found:** 41

| EPA ID Number                | Name                                    | Address                                | City        | Zip       |
|------------------------------|-----------------------------------------|----------------------------------------|-------------|-----------|
| <a href="#">CAL000146613</a> | ABC ANIMAL HOSPITAL                     | 102 RAILROAD AVE                       | SUISUN CITY | 945850000 |
| <a href="#">CAL000172902</a> | AUTOMOTIVE RESEARCH & TECHNICAL SERVICE | 106 RAILROAD AVE                       | SUISUN CITY | 945850000 |
| <a href="#">CAL000215420</a> | SOLANO SMOG & DIAGNOSTIC                | 108 RAILROAD AVE SUITE E               | SUISUN CITY | 945850000 |
| <a href="#">CAL000238398</a> | DBA PIT STOP AUTO REPAIR                | 108F RAILROAD AVE                      | SUISUN CITY | 945850000 |
| <a href="#">CAL000316286</a> | KUSTOM KREATIONS                        | 110 RAILROAD AVE                       | SUISUN CITY | 945851791 |
| <a href="#">CAL912413529</a> | PRECISION ENGINEERING                   | 110 RAILROAD AVE                       | SUISUN CITY | 945850000 |
| <a href="#">CAL000386472</a> | SUULUTAAQ INC                           | 110 RAILROAD AVE STE A                 | SUISUN CITY | 94585     |
| <a href="#">CAL000440492</a> | HOLITNA CONSTRUCTION LLC                | 110 RAILROAD AVE STE D                 | SUISUN CITY | 94585     |
| <a href="#">CAL000405783</a> | INDEPENDENT NAPA AUTO CARE CENTER       | 110 RAILROAD AVE STE E                 | SUISUN CITY | 94585     |
| <a href="#">CAL000284726</a> | ARP INC                                 | 200 RAILROAD AVE                       | SUISUN CITY | 94585     |
| <a href="#">CAR000156810</a> | SFPP LP CONCORD TO SACRAMENTO PIPELINE  | 200 RAILROAD AVE<br>CONSTRUCTION TRAIL | SUISUN CITY | 945850000 |
| <a href="#">CAC002606364</a> | OBRIEN AT SUISUN LLC                    | 220 RAILROAD AVE                       | SUISUN CITY | 945851785 |
| <a href="#">CAL000206195</a> | BILL BEATH FAIRFIELD CONST SUPPLY       | 405 RAILROAD AVE UNIT A                | SUISUN CITY | 945850000 |
| <a href="#">CAL000145213</a> | FREON FREE                              | 409 RAILROAD AVE STE D                 | SUISUN CITY | 945850000 |
| <a href="#">CAL000216556</a> | FREON FREE                              | 409 RAILROAD AVE STE D                 | SUISUN CITY | 945850000 |
| <a href="#">CAL000181790</a> | VERSITECH INDUSTRIAL SERVICES INC       | 409B RAILROAD AVE                      | SUISUN CITY | 956850000 |
| <a href="#">CAC002916557</a> | CITY OF FAIRFIELD                       | 415 RAILROAD AVENUE                    | SUISUN CITY | 94585     |
| <a href="#">CAL000104419</a> | CHADLEN INDUSTRIES INC                  | 519 RAILROAD                           | SUISUN CITY | 945850000 |
| <a href="#">CAC002648610</a> | WPCS INTERNATIONAL SUISUN CITY INC      | 521 RAILROAD AVE                       | SUISUN CITY | 94585     |
| <a href="#">CAC002594894</a> | OKU PROPERTIES                          | 605 RAILROAD AVE                       | SUISUN CITY | 94585     |
| <a href="#">CAL000365089</a> | CARLS AUTO REPAIR                       | 605 RAILROAD AVE                       | SUISUN CITY | 94585     |
| <a href="#">CAL000336327</a> | GORARGOS AUTO REPAIR                    | 605 RAILROAD AVE STE J-K               | SUISUN CITY | 94585     |
| <a href="#">CAL000319603</a> | STAR AUTO BODY                          | 631 RAILROAD AVE                       | SUISUN CITY | 94533     |
| <a href="#">CAL000360072</a> | NORTHBAY AUTO BODY                      | 631 RAILROAD AVE                       | SUISUN CITY | 945854263 |
| <a href="#">CAL000428953</a> | GRIZZLY AUTO GARAGE LLC                 | 631 RAILROAD AVE BLDG B                | SUISUN CITY | 94585     |
| <a href="#">CAL000292662</a> | POWER PRO SERVICES INC                  | 631 RAILROAD AVE STE F                 | SUISUN CITY | 94585     |
| <a href="#">CAL000342930</a> | A&E AUTOMOTIVE SALES INC                | 631 RAILROAD AVE STE G                 | SUISUN CITY | 94585     |
| <a href="#">CAL000062540</a> | CALIFORNIA ST MACHINE                   | 96 D RAILROAD AVE                      | SUISUN CITY | 945850000 |
| <a href="#">CAL000330616</a> | HOUSE OF POWER                          | 96 RAILROAD AVE                        | SUISUN CITY | 945851715 |
| <a href="#">CAL000362815</a> | MORGA'S AUTO REPAIR                     | 96 RAILROAD AVE                        | SUISUN CITY | 945851715 |
| <a href="#">CAL000044042</a> | CALIFORNIA STREET MACHINE               | 96 RAILROAD AVE #D                     | SUISUN CITY | 945850000 |
| <a href="#">CAL000427153</a> | OLMOS MOBILE REPAIR                     | 96 RAILROAD AVE #D                     | SUISUN CITY | 94585     |
| <a href="#">CAL000340584</a> | KUSTOM KREATIONS                        | 96 RAILROAD AVE STE A & C              | SUISUN CITY | 945851715 |
| <a href="#">CAL000331247</a> | GO FAST INC                             | 96 RAILROAD AVE STE B                  | SUISUN CITY | 945851715 |
| <a href="#">CAL000348108</a> | UPPER ECHELONS AUTO REPAIR              | 96 RAILROAD AVE STE C                  | SUISUN CITY | 94585     |
| <a href="#">CAL000171869</a> | CALIFORNIA ST MACHINE                   | 96 RAILROAD AVE STE D                  | SUISUN CITY | 945850000 |

|                              |                               |                                     |             |           |
|------------------------------|-------------------------------|-------------------------------------|-------------|-----------|
| <a href="#">CAL000195513</a> | MY MECHANIC AUTOMOTIVE REPAIR | 96 RAILROAD AVE STE G               | SUISUN CITY | 945850000 |
| <a href="#">CAC002609954</a> | LYNN LIPPSTREU                | 98 RAILROAD AVE STE A               | SUISUN CITY | 94585     |
| <a href="#">CAL000297592</a> | SA TRANSMISSION INC           | 98 RAILROAD AVE STE A               | SUISUN CITY | 94585     |
| <a href="#">CAC002106432</a> | UNION PACIFIC RAILROAD        | ON RAILROAD TRAX @<br>MILEPOST 48.9 | SUISUN CITY | 956870000 |
| <a href="#">CAC001413952</a> | GOLDEN EAGLE EXPRESS          | SUNSET AVE BETWEEN<br>RAILROAD      | SUISUN CITY | 000000000 |

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

**Report Generation Date:** 05/05/2020





# Well Finder

CalGEM GIS

[More Info](#) | [Help](#) | ©

Well Status and Well Type Filter

Search

Zoom to Field

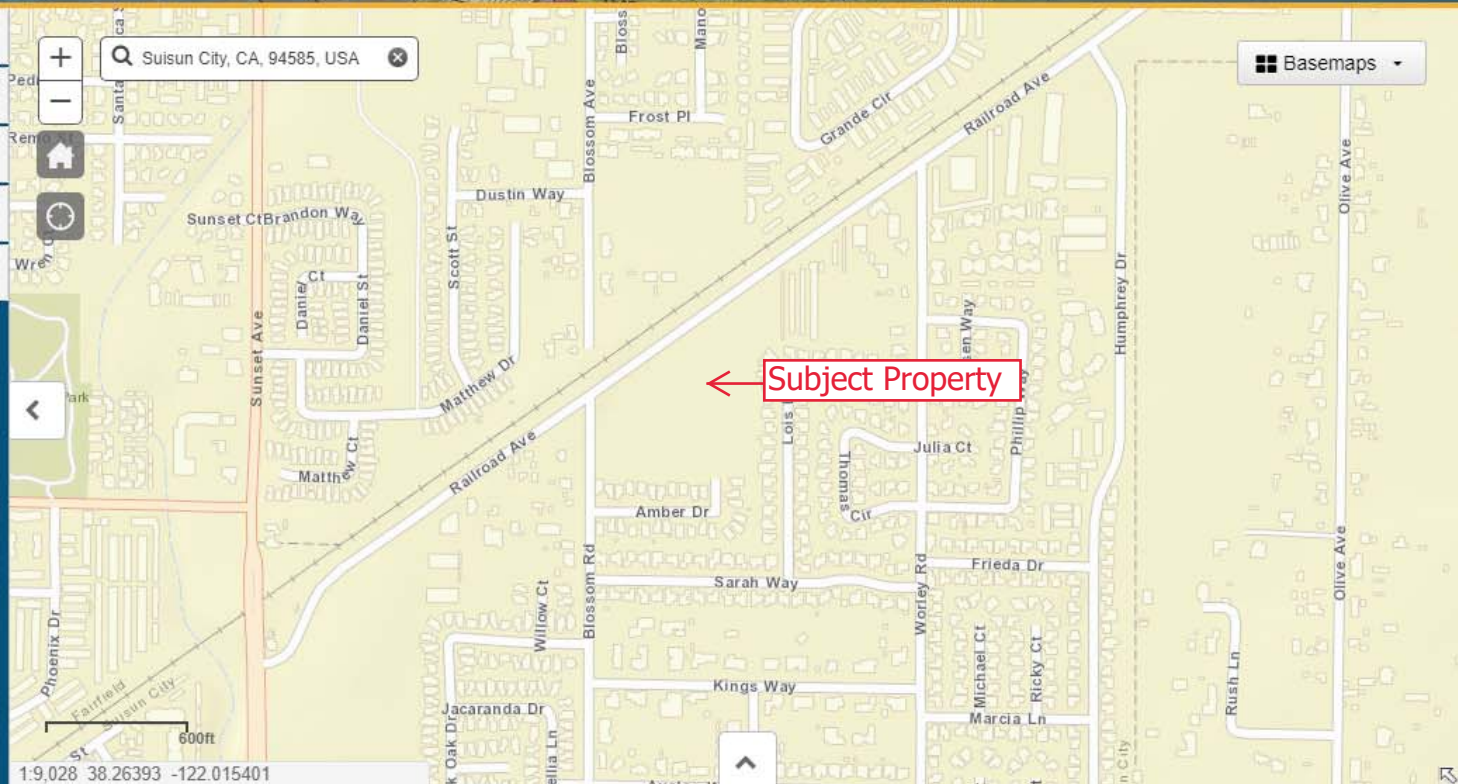
Measurement

Layers

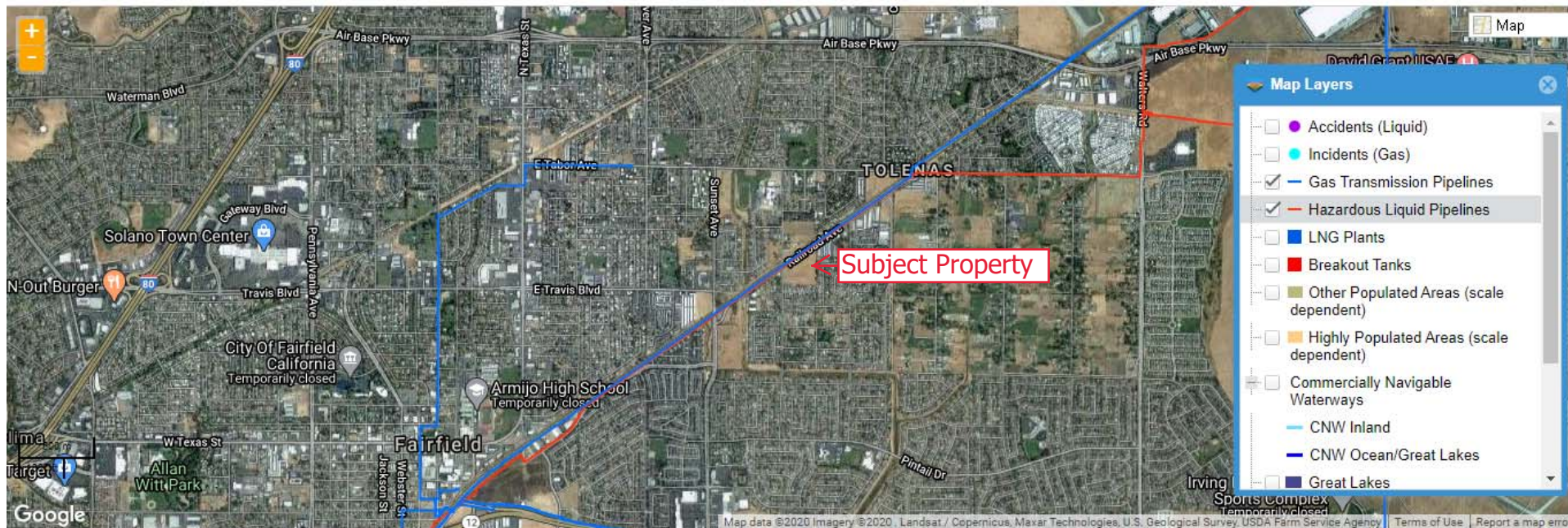


Suisun City, CA 94585, USA

Basemaps







Ready

Zoom Level: 14 of 19 (1:24,000) Closest Zoom for Pipelines

38.248555, -122.031489

COUNTY : Solano, CA

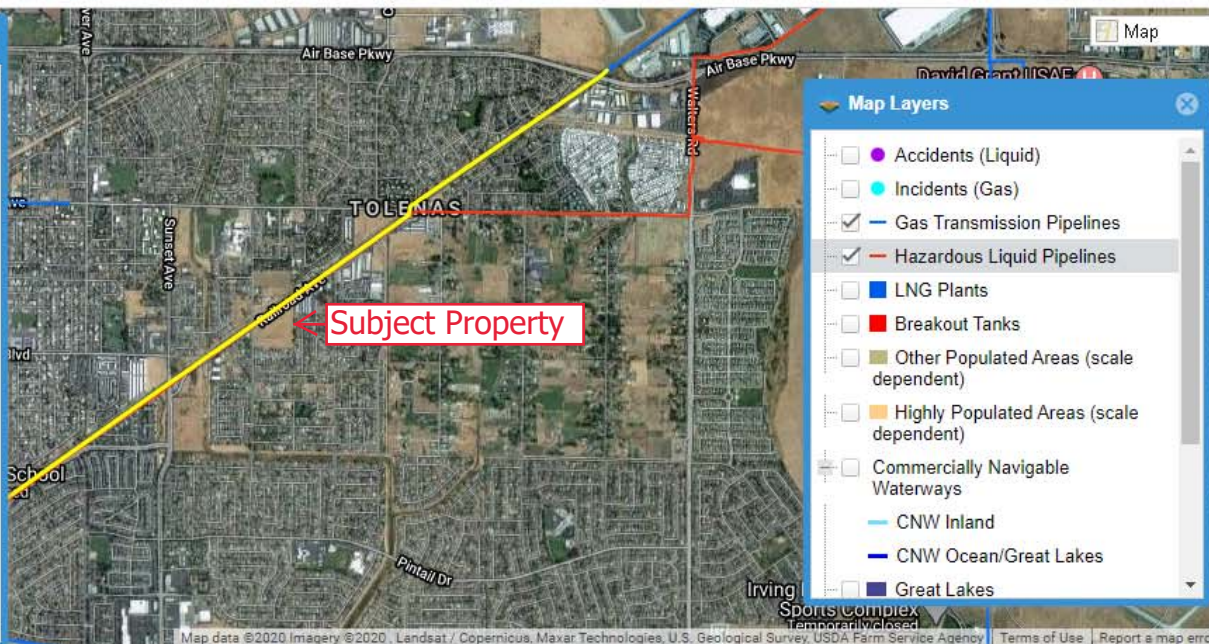




Identify - Total 1 record(s) found

99999

| Attribute                     | Value                 |
|-------------------------------|-----------------------|
| Category: PIPELINE ATTRIBUTES |                       |
| OPERATOR ID                   | 99999                 |
| OPERATOR NAME                 | ABANDONED             |
| SYSTEM NAME                   | SFPP NORTH            |
| SUBSYSTEM NAME                | LS-25; (ABDN-2) 14"   |
| PIPELINE ID                   | 485025CCSA            |
| MILES                         | 18.47                 |
| COMMODITY CATEGORY            | Empty Gas             |
| COMMODITY DESCRIPTION         |                       |
| INTERSTATE DESIGNATION        | Y                     |
| PIPELINE STATUS CODE          | Permanently Abandoned |
| REVISION DATE                 | 06/15/2010            |



Ready

Zoom Level: 14 of 19 (1:24,000) Closest Zoom for Pipelines

38.273424, -122.003079

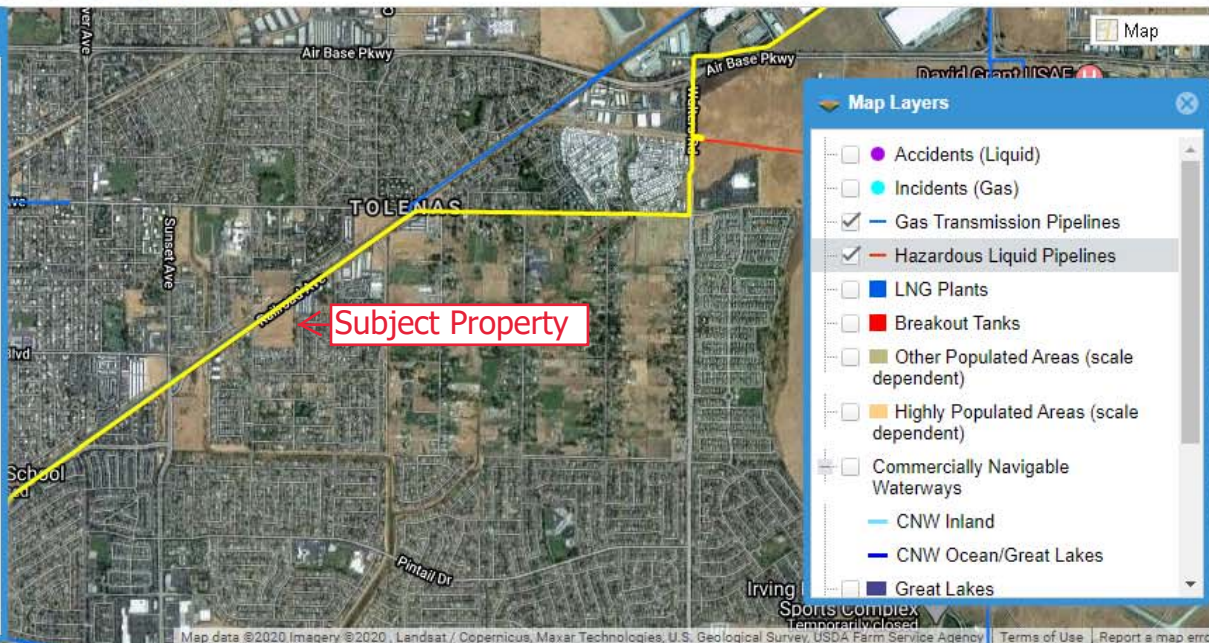
COUNTY : Solano, CA



Identify - Total 1 record(s) found

18092

| Attribute                     | Value                |
|-------------------------------|----------------------|
| Category: PIPELINE ATTRIBUTES |                      |
| OPERATOR ID                   | 18092                |
| OPERATOR NAME                 | SFPP, LP             |
| SYSTEM NAME                   | SFPP_NORTH           |
| SUBSYSTEM NAME                | LS-130; CONCORD - S* |
| PIPELINE ID                   | LS-130C; NORTH CARQ* |
| MILES                         | 44.31                |
| COMMODITY CATEGORY            | Non-HVL Product      |
| COMMODITY DESCRIPTION         | NON HVL PRODUCT      |
| INTERSTATE DESIGNATION        | Y                    |
| PIPELINE STATUS CODE          | Active (filled)      |
| REVISION DATE                 | 06/03/2019           |





## 421808 Information Inquiry - Railroad Avenue, Suisun City, CA

Kathryn Smith <[krsmith@aeiconsultants.com](mailto:krsmith@aeiconsultants.com)>

Tue 5/5/2020 6:24 PM

To: [patrick\\_riban@kindermorgan.com](mailto:patrick_riban@kindermorgan.com) <[patrick\\_riban@kindermorgan.com](mailto:patrick_riban@kindermorgan.com)>

 1 attachments (178 KB)

421808 NPMS\_petroleum pipeline.pdf;

Hello Mr. Riban,

My name is Kathryn Smith and I am with AEI Consultants. I am performing an Environmental Site Assessment for a property located at the southeast corner of the intersection of Blossom Avenue and Railroad Avenue in Suisun City, CA. According to the National Pipeline Mapping System, a Kinder Morgan hazardous liquid non-HVL pipeline runs along Railroad Avenue, and I was hoping to gather more information pertaining to any spills, releases, or issues with this pipeline, any historic information, including when it was installed, that information would be greatly appreciated. I attached a map/screenshot of the given information on the website.

Please contact me if you have any questions. My contact information is listed below.

Appreciatively,  
Kathryn (Katie) Smith  
Project Manager  
**AEI Consultants**  
520 3rd Street, Suite 209  
Oakland, CA 94607

e. [krsmith@aeiconsultants.com](mailto:krsmith@aeiconsultants.com)  
o. 510.907.3145 ext. 2103  
c. 510.306.8508  
f. 510.338.3192  
[aeiconsultants.com](http://aeiconsultants.com)



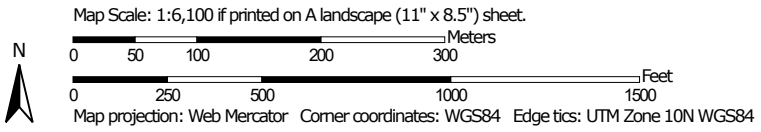
# **APPENDIX F**

## **OTHER SUPPORTING DOCUMENTATION**

# Soil Map—Solano County, California



Soil Map may not be valid at this scale.





## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Solano County, California

Survey Area Data: Version 13, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 30, 2019—Apr 17, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

| Map Unit Symbol                    | Map Unit Name                                                    | Acres in AOI | Percent of AOI |
|------------------------------------|------------------------------------------------------------------|--------------|----------------|
| AoA                                | Antioch-San Ysidro complex, 0 to 2 percent slopes                | 0.0          | 0.0%           |
| AsA                                | Antioch-San Ysidro complex, thick surface, 0 to 2 percent slopes | 179.9        | 97.2%          |
| CeA                                | Clear Lake clay, 0 to 2 percent slopes, MLRA 17                  | 5.2          | 2.8%           |
| <b>Totals for Area of Interest</b> |                                                                  | <b>185.1</b> | <b>100.0%</b>  |



Department of  
Environmental Management  
601 TEXAS STREET  
FAIRFIELD, CALIFORNIA 94533-6301

30057

Environmental Health Division  
(707) 421-6765

Clifford K. Covey, REHS, CHMM  
Program Manager

September 3, 1997

MS. MARLA GUENSLER  
EXXON COMPANY U.S.A.  
P.O. BOX 4032  
CONCORD, CA 94524-4032

RE: TRANSMITTAL OF UNDERGROUND STORAGE TANK (UST) CASE CLOSURE  
CERTIFICATION AND CASE CLOSURE SUMMARY, Former Exxon Station # 7-0126,  
1600 North Texas Street, Fairfield, CA, 94533. Solano County File # 30057 and SFB  
RWQCB File # 48-0070.

Dear Ms. Guensler:

Enclosed, please find one copy each of the Remedial Action Completion Certification and Case  
Closure Summary for your files. Thank you for your cooperation throughout this investigation.

Please contact me at (707) 421-6765 if you have any questions regarding this matter.

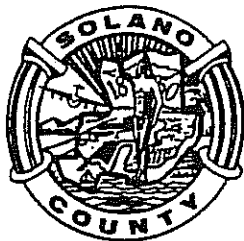
Sincerely,

Robert S. Fagerness, P.E.  
Environmental Engineer

RSF/rsf

Enclosures: Remedial Action Completion Certification  
Case Closure Summary

cc: Mr. John Kaiser, San Francisco Bay RWQCB (With Enclosures)  
Ms. Mike Harper, State Water Resources Control Board (With Enclosures)  
Mr. Dave Deaner, Fund Manager, UST Cleanup Fund Program (With Enclosures)  
Mr. Hari C. Karla, Current Property Owner (With Enclosures)



Department of  
**Environmental Management**  
601 TEXAS STREET  
FAIRFIELD, CALIFORNIA 94533-6301

Environmental Health Division  
(707) 421-6765

Clifford K. Covey, REHS, CHMM  
Program Manager

**REMEDIAL ACTION COMPLETION CERTIFICATION**

September 3, 1997

MS. MARLA GUENSLER  
EXXON COMPANY U.S.A.  
P.O. BOX 4032  
CONCORD, CA 94524-4032

RE: **UNDERGROUND STORAGE TANK (UST) CASE CLOSURE**, Former Exxon Station  
# 7-0126, 1600 North Texas Street, Fairfield, CA, 94533. Solano County File # **30057** and  
SFB RWQCB File # **48-0070**.

Dear Ms. Guensler:

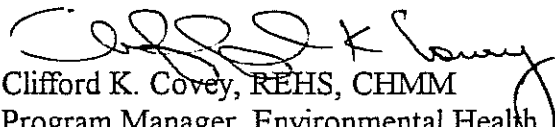
This letter confirms the completion of site investigation and remedial action for addressing the unauthorized release of gasoline from underground storage tank(s) at the above-referenced location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the unauthorized release are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground storage tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721 (e) of Title 23 of the California Code of Regulations.

Please contact the project lead, Robert Fagerness or me at (707) 421-6765 if you have any questions regarding this matter.

Sincerely,

  
Clifford K. Covey, REHS, CHMM  
Program Manager, Environmental Health

CKC/rsf

# CASE CLOSURE SUMMARY

## Leaking Underground Fuel Storage Tank Program

Page 1

### I. AGENCY INFORMATION

Date: April 16, 1997

Agency Name: Solano County DEM  
City/State/Zip: Fairfield, CA 94533  
Project Lead: Robert S. Fagerness, P.E.  
Engineer Review: Robert S. Fagerness, P.E. *RSF*

Address: 601 Texas Street  
Phone: 707/421-6765  
Title: Environmental Engineer  
Title: Environmental Engineer

### II. CASE INFORMATION

Site Name: Former Exxon Service Station #7-0126  
Site Address: 1600 North Texas Street, Fairfield, CA

RB Lustis Case No: 48-0070

Local Case No: 30057

LOP Case No: 30057

URF filing date: 5/2/90

SWEEPS no: 30057

#### Responsible Party Information

##### Responsible Party

##### Address

##### Phone Number

Exxon Company, USA  
Ms. Marla D. Guensler

P. O. Box 4032  
Concord, CA 94524-4032

(510) 246-8768

#### Tank Information

| <u>Tank No.</u> | <u>Size (gal.)</u> | <u>Contents</u> | <u>Closed?</u> | <u>Closure Method</u> | <u>Date</u> |
|-----------------|--------------------|-----------------|----------------|-----------------------|-------------|
| 1               | 10,000             | Gasoline        | Yes            | Excavate and Remove   | 04/07/89    |
| 2               | 10,000             | Gasoline        | Yes            | Excavate and Remove   | 04/07/89    |
| 3               | 10,000             | Gasoline        | Yes            | Excavate and Remove   | 04/07/89    |

### III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: holes/shear valve failure

Is site characterization complete? Yes

Date approved by oversight agency: 04/16/97

How many monitoring wells installed?: 8

Proper screened interval?: Yes

Highest gw depth below grade: 2.26 feet bgs      Lowest depth: 13.69 feet bgs

Groundwater flow direction: south and southwest

Most sensitive current use: Site is commercial, predominantly surrounded by commercial

Are drinking wells affected? No

Drinking water aquifer name: N/A

Is surface water affected? No

Nearest sw body name: Suisun Slough approx. one mile south of site.

Address/location of off-site impact: None identified

Are report(s) on file? Yes

Where? Solano County Department of Environmental Management



# CASE CLOSURE SUMMARY

## Leaking Underground Fuel Storage Tank Program

Page 2

### III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

#### Treatment and Disposal of Affected Materials

| <u>Material</u> | <u>Amount</u> | <u>Action (treatment/disposal w/ destination)</u> | <u>Date</u> |
|-----------------|---------------|---------------------------------------------------|-------------|
| tank            | 3             | H&H San Francisco, CA                             | 04/07/89    |
| pipng           | 60 feet       | Same as USTs                                      | 04/07/89    |
| free product    | N/A           | None                                              | -----       |
| soil            | 126 CY        | BFI Waste Systems Landfill, Livermore, CA         | 10/15/91    |
| groundwater     | N/A           | None                                              | -----       |
| barrels/drums   | N/A           |                                                   | -----       |

#### Maximum Documented Contaminant Concentrations - before and after cleanup

| <u>Contaminant</u> | <u>Soil (ppm)</u> |              | <u>Water (ppm)</u> |              | <u>Contaminant</u> | <u>Soil (ppm)</u> |              | <u>Water (ppm)</u> |              |
|--------------------|-------------------|--------------|--------------------|--------------|--------------------|-------------------|--------------|--------------------|--------------|
|                    | <u>before</u>     | <u>after</u> | <u>before</u>      | <u>after</u> |                    | <u>before</u>     | <u>after</u> | <u>before</u>      | <u>after</u> |
| TPH (gas)          | 560               | 140          | 240                | 2.9          | benzene            | 9                 | 0.22         | 22                 | 0.290        |
| TPH (diesel)       | 68                | NA           | NA                 | NA           | toluene            | 48                | 1.3          | 48                 | 0.033        |
|                    |                   |              |                    |              | ethylbenzene       | 9.6               | 1.2          | 4.9                | 0.170        |
|                    |                   |              |                    |              | xylene             | 67                | 7.8          | 38                 | 0.260        |
|                    |                   |              |                    |              | MTBE               | NA                | NA           | NA                 | 0.320        |

#### comments (depth of remediation, etc.):

Three 10,000-gallon USTs were removed from the southern portion of the site in April of 1989. Visual and olfactory contamination was noted at time of UST removal by SCDEM UST inspector. Analytical soil samples were collected at the time of the UST Removal and the results of analytical sampling are listed above "before". A Pit water sample was also collected at the time of the UST removals and the analytical results of this sampling are presented above "before". Although contamination of soil and groundwater was determined, no UAR was filed.

On October 7 and 8, 1991, contaminated soil which was present along the eastern sidewall of the former UST area was over excavated. 126 cubic yards of soil of gasoline contaminated soil was excavated and disposed of off-site. The highest observed analytical results of confirmations soil sampling are presented above "after" results.

On going groundwater monitoring has been conducted at the site since October of 1989. Outlying petroleum hydrocarbon contamination has been detected soil and groundwater samples of in MW-9, south of site within Travis Boulevard. It appears the contamination migrated from the former storage tank area via the network of storm and sewer drain underground utilities. The most recent observed groundwater contamination concentrations of MW-9 are presented above "after" results.

Three new 12,000-gallon double walled USTs were installed along the northern portion of the site. An UAR was filed for a leak of the shear valve near the dispensers on May 2, 1990.

# CASE CLOSURE SUMMARY

## Leaking Underground Fuel Storage Tank Program

Page 3

### IV. CLOSURE

Are existing beneficial uses protected per RB Basin Plan? Yes  
Are potential beneficial uses protected per RB Basin Plan? Yes  
Is public health protected for current land use? Yes  
Describe site management requirements: None  
Should corrective action be reviewed if site use changes?: Yes, See Section VII.  
Are MWs decommissioned? ~~No~~ *Yes* How many? 8  
Number remaining: 8 wells to be destroyed prior to closure  
Describe enforcement actions taken: None  
Describe enforcement actions rescinded: None

### V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Clifford K. Covey Title: Program Manager, Environmental Health  
Signature: *Clifford K. Covey* Date: 4/17/97

### VI. RWQCB NOTIFICATION

Date submitted to RB: April 16, 1997 RB response: *Good*  
RWQCB Staff Name: Brad Job, P.E. Title: AWRCE  
Signature: *Brad Job* Date: 4-23-97

### VII. ADDITIONAL COMMENTS (attach pages as necessary)

Based on the historical and most recent investigation results, it is the SCDEM opinion that the site does not presently pose a threat to human health or the environment. Closure of this case is recommended.

Subsurface construction work south of the site in Travis Boulevard may potentially encounter residual gasoline from 4 to 6 feet bgs. Adequate worker precautions should be taken if subsurface construction is required in this area. Residual benzene was present at 0.22 mg/Kg, PPM in the soil confirmation sample of the over excavated eastern sidewall. This concentration is lower than a Tier I RBCA RBSL for **commercial** soil vapor intrusion into buildings, 0.49 mg/Kg or PPM.

The maximum observed benzene concentrations of groundwater reported in samples collected from MW-9 (0.29 mg/L, or PPM) are lower than a Tier I RBCA RBSL for **commercial** vapor intrusion into buildings 2.4 mg/L or PPM.

FILE #: 30057

September 2, 1997

From: Robert Fagerness

*RF*

- (1) Return 2 file copies to me.
- (2) Send original letter and enclosure to:

MS. MARLA GUENSLER  
EXXON COMPANY, USA  
P.O. BOX 4032  
CONCORD, CA 94524-4032

- (3) Send copy of letter to: *2nd enclosures*

Mr. John Kaiser  
California Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, CA 94612 None

Mr. Hari C. Karla  
1830 Hoke Court  
Pinole, CA 94564

Mr. Mike Harper  
California State Water Resources Control Board  
Division of Clean Water Programs  
P.O. Box 944213  
Sacramento, CA 94244-2130

Mr. Dave Deaner  
Fund Manager  
California State Water Resources Control Board  
UST Cleanup Fund Program  
P.O. Box 944212  
Sacramento, CA 94244-2120

- (4) Please Complete by: *4* September 3, 1997

- (5) Please initialize, date, and return this distribution sheet to me when completed.

*9/3/97*

*[Signature]*

RECEIVED  
Clean County  
Waste Management  
AM SEP 03 1997 PM  
7, 8, 9, 10, 11, 12, 1, 2, 3, 4, 5, 6

# **APPENDIX G**

## **QUALIFICATIONS**

## **Kathryn Smith – Project Manager**

---

BS – Science, Technology & Society with concentration in Environment & Sustainability, Stanford University

Ms. Smith provides project management to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Assessments, Environmental Transaction Screens, Regulatory Database Review, and Historical Records Review.

Project experience for Ms. Smith includes:

- Phase I Environmental Site Assessments (PHI ESA)
- Environmental Transaction Screens (ETS)
- Regulatory Database Review
- Historical Records Review

In addition, prior to joining the environmental consulting industry, Ms. Smith spent five years studying a diverse range of environmental disciplines including: Civil and Environmental Engineering, Building Information Modeling (BIM), Energy Systems, Pollution and Climate Change, Ecology, Geographic Information Systems (GIS), Environmental Policy, and Sustainable Development and Environmental Planning.



## **Candace Quinn - Project Manager**

---

BA Geography, magnum cum laude, Montclair State University  
AHERA Asbestos Inspector Certificate-New York  
OSHA 40-Hour Health and Safety Training

Ms. Quinn has 9 years of experience in the environmental industry providing project management for AEI.

Project experience for Ms. Quinn includes:

- Phase I Environmental Site Assessments, Transaction Screens, Limited Site Assessments, Regulatory Database Reviews, NJDEP Preliminary Assessment Reports
- Phase II Subsurface Investigations, Tank Tightness Testing, Ground Penetrating Radar Assessments, Soil Vapor and Soil Gas Investigations

Ms. Quinn specializes in due diligence to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Transaction Screens, Limited Site Assessments, and Preliminary Assessments. Additionally, Ms. Quinn designs and implements various Phase II Subsurface Investigations and Soil Vapor and Soil Gas Investigations in conjunction with regulatory agency requirements.

# **APPENDIX H**

## **LIST OF COMMONLY USED ABBREVIATIONS**

## UNITS

|              |                         |              |                      |
|--------------|-------------------------|--------------|----------------------|
| <b>µg/L</b>  | Micrograms per Liter    | <b>pCi/L</b> | PicoCuries per Liter |
| <b>mg/kg</b> | Milligrams per Kilogram | <b>ppb</b>   | Parts per Billion    |
| <b>mg/L</b>  | Milligrams per Liter    | <b>ppm</b>   | Parts per Million    |

## ABBREVIATIONS AND ACRONYMS

|                |                                                                                    |                  |                                                           |
|----------------|------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------|
| <b>ACM</b>     | Asbestos-Containing Material                                                       | <b>NESHAP</b>    | National Emission Standards for Hazardous Air Pollutants  |
| <b>ADJ</b>     | Adjacent site                                                                      | <b>NFA</b>       | No Further Action                                         |
| <b>AEI</b>     | AEI Consultants                                                                    | <b>NFRAP</b>     | No Further Remedial Action Planned                        |
| <b>AHERA</b>   | Asbestos Hazard Emergency Response Act                                             | <b>NLR</b>       | No Longer Reporting                                       |
| <b>APN</b>     | Assessor's Parcel Number                                                           | <b>NOV</b>       | Notice of Violation                                       |
| <b>AST</b>     | Aboveground Storage Tank                                                           | <b>NPL</b>       | National Priorities List                                  |
| <b>AUL</b>     | Activity and Use Limitation                                                        | <b>O&amp;M</b>   | Operations and Maintenance                                |
| <b>bgs</b>     | Below Ground Surface                                                               | <b>OEC</b>       | Other Environmental Considerations                        |
| <b>BTEX</b>    | Benzene, Toluene, Ethylbenzene, and Xylenes                                        | <b>OSHA</b>      | Occupational Safety and Health Administration             |
| <b>CERCLA</b>  | Comprehensive Environmental Response Compensation and Liability Act                | <b>PCB</b>       | Polychlorinated Biphenyl                                  |
| <b>CERCLIS</b> | Comprehensive Environmental Response Compensation and Liability Information System | <b>PCE, PERC</b> | Perchloroethylene, Tetrachloroethylene, Tetrachloroethene |
| <b>CESQGs</b>  | Conditionally Exempt Small Quantity Generators                                     | <b>RCRA</b>      | Resource Conservation and Recovery Act                    |
| <b>COC</b>     | Contaminant of Concern                                                             | <b>REC</b>       | Recognized Environmental Condition                        |
| <b>CREC</b>    | Controlled Recognized Environmental Condition                                      | <b>RP</b>        | Responsible Party                                         |
| <b>EC</b>      | Engineering Controls                                                               | <b>SDS</b>       | Safety Data Sheet                                         |
| <b>EDR</b>     | Environmental Data Resources, Inc.                                                 | <b>SEMS</b>      | Superfund Enterprise Management System                    |
| <b>EPA</b>     | Environmental Protection Agency                                                    | <b>SF</b>        | Square Footage/Square Feet                                |
| <b>ERIS</b>    | Environmental Risk Information Services                                            | <b>SP</b>        | Subject Property                                          |
| <b>ERNS</b>    | Emergency Response Notification System                                             | <b>SQG</b>       | Small Quantity Generator                                  |
| <b>ESA</b>     | Environmental Site Assessment                                                      | <b>SWLF</b>      | Solid Waste Landfill                                      |
| <b>GPR</b>     | Ground-Penetrating Radar                                                           | <b>SVOC</b>      | Semi-Volatile Organic Compound                            |
| <b>HREC</b>    | Historical Recognized Environmental Condition                                      | <b>TCE</b>       | Trichloroethylene, Trichloroethene                        |
| <b>HVAC</b>    | Heating, Ventilation and Air Conditioning                                          | <b>TPH</b>       | Total Petroleum Hydrocarbons                              |
| <b>HWS</b>     | Hazardous Waste Site                                                               | <b>TPHd</b>      | Total Petroleum Hydrocarbons (diesel range)               |
| <b>IC</b>      | Institutional Controls                                                             | <b>TPHg</b>      | Total Petroleum Hydrocarbons (gasoline range)             |
| <b>LBP</b>     | Lead-Based Paint                                                                   | <b>TPHo</b>      | Total Petroleum Hydrocarbons (oil range)                  |
| <b>LCP</b>     | Lead-Containing Paint                                                              | <b>TRPH</b>      | Total Recoverable Petroleum Hydrocarbons                  |
| <b>LLP</b>     | Landowner Liability Protection                                                     | <b>TSDF</b>      | Treatment, Storage, and Disposal Facility                 |
| <b>LQG</b>     | Large Quantity Generator                                                           | <b>USDA</b>      | United States Department of Agriculture                   |
| <b>LUST</b>    | Leaking Underground Storage Tank                                                   | <b>USGS</b>      | United States Geological Survey                           |
| <b>MCL</b>     | Maximum Contaminant Level                                                          | <b>UST</b>       | Underground Storage Tank                                  |
| <b>MTBE</b>    | Methyl Tertiary Butyl Ether                                                        | <b>VCP</b>       | Voluntary Cleanup Program                                 |
| <b>ND</b>      | None Detected                                                                      | <b>VOC</b>       | Volatile Organic Compound                                 |





## **Appendix H   PHASE II ENVIRONMENTAL SITE ASSESSMENT**





# AEI Consultants

June 12, 2020

## LIMITED AGRICULTURAL INVESTIGATION

### Property Identification:

Blossom Avenue and Railroad Avenue  
Suisun City, California 94585

AEI Project No. 421808

### Prepared for:

Mr. Todd Stark  
FPA Multifamily, LLC.  
2082 Michelson Drive, 4<sup>th</sup> Floor  
Irvine, California 92612

### Prepared by:

AEI Consultants  
3880 South Bascom Avenue, Suite 109  
San Jose, California 95124  
Phone: (408) 559-7600

AEI Contact: Elizabeth French  
efrench@aeiconsultants.com  
Phone: (925) 746-6000

Environmental  
Due Diligence

Building  
Assessments

Site Investigation  
& Remediation

Energy Performance  
& Benchmarking

Industrial Hygiene

Construction  
Risk Management

Zoning Analysis  
Reports & ALTA  
Surveys

National Presence

Regional Focus

Local Solutions

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June 12, 2020

Mr. Todd Stark  
FPA Multifamily, LLC.  
2082 Michelson Drive, 4<sup>th</sup> Floor  
Irvine, California 92612

**Subject: Limited Agricultural Investigation**  
Blossom Avenue and Railroad Avenue  
Suisun City, California 94585  
AEI Project No. 421808

Dear Mr. Stark:

This report presents the results of the Limited Agricultural Investigation performed by AEI Consultants (AEI) at the property located at Blossom Road and Railroad Avenue in Suisun City, California ("the Site"). AEI prepared the Draft *Phase I Environmental Site Assessment* (ESA) dated May 7, 2020, that identified the Site is a 9.09-acre parcel which was historically used for agricultural purposes. The investigation was completed in general accordance with the scope of services outlined in AEI's proposal dated May 21, 2020 (AEI Proposal Number 70789), authorized on May 26, 2020. AEI understands that the Site may be redeveloped as residential.

The purpose of the investigation performed was to evaluate whether subsurface conditions (i.e. soil) at the Site have been significantly impacted by former agricultural activities conducted at the Site. Information regarding the Site description, background, scope of work, findings, conclusions, and recommendations are provided in the following sections.

## 1.0 SITE DESCRIPTION

Based on the May 7, 2020 Draft Phase I ESA (AEI Project Number 421808), the Site is located at Blossom Avenue and Railroad Avenue in Suisun City, California, on the southeast corner of the intersection of Blossom Avenue and Railroad Avenue. The Site consists of approximately 9.09 acres of a vacant land, with no current building structures on the Site. The Site location and vicinity are shown on Figure 1. Figure 2 presents the Site plan.

## 2.0 BACKGROUND

As detailed in the May 7, 2020 Draft Phase I ESA, the Site was historically used for agricultural purposes. There is potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, were used at the Site, and that the Site has been impacted by the use of such agricultural chemicals. Consequently, AEI recommended the performance of a limited soil investigation to determine if the Site has been significantly impacted in connection with the historical agricultural use.

### **3.0 INVESTIGATION EFFORTS**

This investigation included the collection of eighteen shallow soil samples (S-1A through S-5C) to evaluate shallow soil conditions with respects to the former agricultural use at the Site. The scope of work for this investigation was designed in accordance with the protocol described in the California Department of Toxic Substances Control (DTSC) document entitled *Interim Guidance for Sampling Agricultural Properties (Third Revision)*, dated August 7, 2008.

#### **3.1 Health and Safety Plan**

A Site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

#### **3.2 Permitting and Utility Clearance**

A drilling permit and utility clearance were not required for this investigation.

#### **3.3 Soil Sampling**

On June 3, 2020, a shallow soil sampling program was completed which was consistent with the protocol outlined in the DTSC *Interim Guidance for Sampling Agricultural Properties (Third Revision)* dated August 7, 2008. For the shallow sampling program, eighteen separate sampling areas (S-1A through S-5C) were evenly spaced across the Site, as shown on Figure 2. Soil samples were collected from clear, accessible areas within the Site.

Prior to sampling, loose vegetation and gravel was cleared from the ground surface at each sample location and a small hole was dug to a depth of approximately six inches, first encountered native soil, with hand tools. A hand shovel was then used to scrape soil from the sides of the hole at a depth of between three and six inches and transfer the soil to clean, laboratory-supplied, 8-ounce glass jars. Upon collection, each sample was labeled with the project name, project number, and the sampling date and time. After labeling, each sample was placed into an insulated, chilled cooler containing ice for transport to the analytical laboratory. Chain-of-custody documentation was prepared and accompanied the samples to the analytical laboratory, a copy of which is included in Appendix A.

Upon completion of sample collection, the shallow holes were backfilled with excavated and surrounding surficial soils.

#### **3.4 Equipment Decontamination and Investigation-Derived Waste**

The hand sampling equipment was decontaminated prior to and/or after collecting each soil sample. The equipment was cleaned using a triple-rinse method, which consisted of an initial wash containing an Alconox detergent and water solution, followed by two potable water rinses. As the sample locations were backfilled with excavated soil, no investigation-derived waste was left at the Site.



### **3.5 Laboratory Analyses**

Soil samples were submitted to State of California certified laboratory, Pace Analytical of Mount Juliet, Tennessee. The eighteen soil samples were composited by the laboratory into three 4-point composite samples and two 3-point composite samples prior to analysis for organochlorine pesticides (OCPs) using United States Environmental Protection Agency (US EPA) Testing Method 8081A. Additionally, of the eighteen samples collected, five additional discrete samples were collected from five of the locations and analyzed for arsenic and lead using US EPA Testing Method 6010B.

Chain-of-custody documentations and the certified analytical reports are provided in Appendix A. No further sample analysis was conducted as part of this investigation.

### **4.0 FINDINGS**

For the purpose of providing context to the data obtained during this investigation, analytical results are compared to available regulatory screening levels. The San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) (revised July 2019) were used for comparison values. The ESLs are considered to be conservative. Under most circumstances, and within the limitations described in the ESLs, the presence of a chemical in soil gas at concentrations below the corresponding ESL may be assumed to not pose a significant threat to human health and the environment. Additional evaluation may be necessary at sites where a chemical is present at concentrations above the corresponding ESL.

For this investigation, AEI understands that the Site will be redeveloped for residential use. Therefore, analytical results generated during this investigation were compared to the ESLs assuming a residential land use and construction worker direct contact scenarios.

Table 1 presents a summary of the soil sample analytical results. Chain-of-custody documentation and the certified analytical report for the soil samples are presented in Appendix A. The results can be summarized as follows:

- No OCPs were detected in the five composite samples above the laboratory reported detection limits.
- Arsenic was detected in the five discrete soil samples collected and analyzed at concentrations ranging from 3.63 to 6.33 milligrams per kilogram (mg/kg). Although the detected concentrations of arsenic are above the residential direct contact ESL for arsenic of 0.067 mg/kg and direct contact ESL for construction workers of 0.98 mg/kg, the detected concentration of arsenic at the Site are likely representative of background conditions from naturally occurring sources. Background levels of arsenic are generally accepted as an appropriate screening criterion for naturally occurring metals. The concentrations detected are within the range to be expected of background conditions (background threshold of 11 mg/kg) as established in the San Francisco Bay Area, as established in the study *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region* by Dylan Duverge.





- Lead was detected in each of the five discrete soil samples collected and analyzed at concentrations ranging from 7.48 to 16.5 mg/kg. The detected lead concentrations in soil samples are below the residential direct contact ESL of 80 mg/kg and direct contact ESLs for construction workers of 160 mg/kg.

## **5.0 SUMMARY AND CONCLUSIONS**

AEI completed a Limited Agricultural Investigation at the Site to evaluate if shallow subsurface soil conditions have been impacted by the former agricultural activities at the Site. Investigation activities consisted of collecting eighteen shallow soil samples. The investigation results can be summarized as follows:

- OCPs were not detected in the five composite soil samples above the laboratory reported detection limits.
- Arsenic was detected in the five discrete soil samples at concentrations ranging from 3.63 to 6.33 mg/kg, which is consistent with typical background concentrations (up to 11 mg/kg).
- Lead was detected in the five discrete soil samples with a maximum concentration of 16.5 mg/kg in sample which is below the residential direct contact ESL of 80 mg/kg and direct contact ESLs for construction workers of 160 mg/kg.

Based on the findings of this investigation, it appears that the former agricultural activities at the Site have not impacted the Site at concentrations above the residential or construction worker ESLs or background concentrations. Further evaluation of OCPs, arsenic and lead is not warranted at this time.

## **6.0 REFERENCES**

AEI Consultants, 2020. *Phase I Environmental Site Assessment, Blossom Avenue and Railroad Avenue, Suisun City, Solano County, California*. May 7.

San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), 2019, *Environmental Screening Levels*, dated July 2019, revision 2.

Duvergé, D.J., 2011. *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region*, San Francisco State University, MS Thesis. December.

## **7.0 REPORT LIMITATIONS AND RELIANCE**

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the



**Limited Agricultural Investigation**

Blossom Avenue and Railroad Avenue  
Suisun City, California 94585

scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

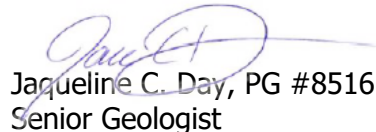
This investigation was prepared for the sole use and benefit of FPA Multifamily, LLC. All reports, both verbal and written, whether in draft or final, are for the benefit of FPA Multifamily, LLC. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by FPA Multifamily, LLC. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

If there are any questions regarding our investigation, please do not hesitate to contact Ms. Elizabeth French at (925) 746-6000, or the undersigned.

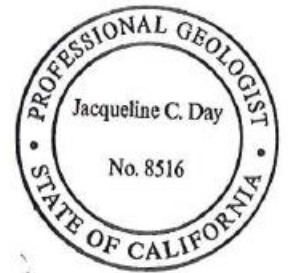
Sincerely,  
**AEI Consultants**



Natasha Budimirovic  
Project Geologist



Jacqueline C. Day, PG #8516  
Senior Geologist

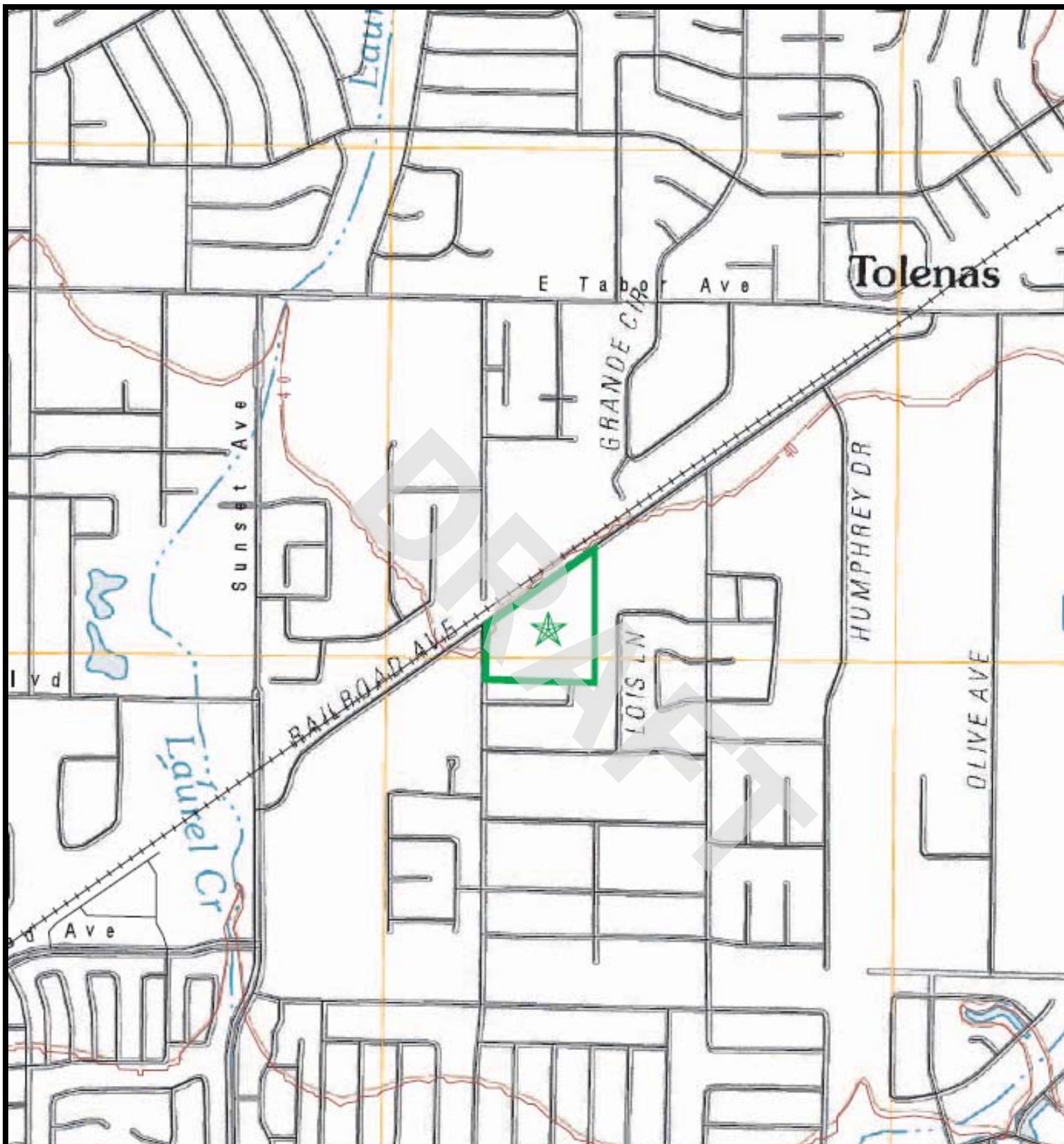


AEI Consultants  
3880 South Bascom Avenue, Suite 109  
San Jose, California 95124  
Phone: (408) 559-7600



## FIGURES





Legend

Approximate Property Boundary —

Source: USGS Topographic Map *Fairfield North, California (2012)*



**Figure 1: TOPOGRAPHIC MAP**

Blossom Avenue and Railroad Avenue, Suisun City, CA 94585

Project Number: 421808

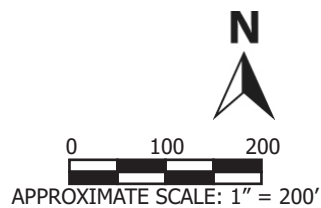
**AEI**  
Consultants





## LEGEND

- Approximate Property Boundary
- ⊕ Approximate Soil Sample Location
- Groundwater Flow Direction



**AEI Consultants**

## SITE MAP

Blossom Avenue & Railroad Avenue  
Suisun City, California

**FIGURE 2**  
Project No.421808

## TABLES



**TABLE 1: SOIL SAMPLE DATA SUMMARY - OCPs, Arsenic and Lead  
Blossom Road and Railroad Avenue, Suisun City, California**

| Location ID               | Date     | Depth (feet bgs) | Remaining OCPs (mg/kg) | Arsenic (mg/kg)    | Lead (mg/kg) |
|---------------------------|----------|------------------|------------------------|--------------------|--------------|
| COMP 1                    | 6/3/2020 | 0.5              | ND<MDL                 | -                  | -            |
| COMP 2                    | 6/3/2020 | 0.5              | ND<MDL                 | -                  | -            |
| COMP 3                    | 6/3/2020 | 0.5              | ND<MDL                 | -                  | -            |
| COMP 4                    | 6/3/2020 | 0.5              | ND<MDL                 | -                  | -            |
| COMP 5                    | 6/3/2020 | 0.5              | ND<MDL                 | -                  | -            |
| S-1B                      | 6/3/2020 | 0.5              | -                      | <b>6.33</b>        | 7.48         |
| S-2B                      | 6/3/2020 | 0.5              | -                      | <b>5.57</b>        | 8.69         |
| S-3A                      | 6/3/2020 | 0.5              | -                      | <b>4.02</b>        | 8.80         |
| S-4C                      | 6/3/2020 | 0.5              | -                      | <b>3.63</b>        | 16.5         |
| S-5A                      | 6/3/2020 | 0.5              | -                      | <b>3.83</b>        | 8.64         |
| Comparison Values:        |          |                  |                        |                    |              |
| ESL Direct Contact - (R)  |          |                  | Various                | 0.067 <sup>1</sup> | 80           |
| ESL Direct Contact - (CW) |          |                  | Various                | 0.98 <sup>1</sup>  | 160          |

Notes:

bgs Below ground surface  
mg/kg Milligrams per kilogram  
- Not analyzed  
ND Not detected  
<MDL Less than the laboratory method detection limit  
OCPs Organochlorine pesticides  
<sup>1</sup> Arsenic concentrations from Establishing Background Arsenic in Soil of the San Francisco Bay Region, December 2011 study indicated background levels of arsenic in California Bay Area soil have threshold of 11 mg/kg.

**Bold** Exceeds one or more screening level and may be subject to disposal restrictions.

Comparison Values:

ESL Direct Contact - (R): Environmental Screening Levels (ESLs) Direct Exposure Human Health showing Residential (R) Exposure; from July 2019 (Revision 2) ESL Summary Tables, prepared by the San Francisco Bay Regional Water Quality Control Board

ESL Direct Contact - (CW): Environmental Screening Levels (ESLs) Direct Exposure Human Health showing Construction Worker (CW) Exposure; from July 2019 (Revision 2) ESL Summary Tables, prepared by the San Francisco Bay Regional Water Quality Control Board

**APPENDIX A**

**LABORATORY ANALYTICAL DATA**





June 10, 2020

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

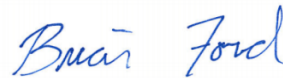
<sup>9</sup> Sc

## AEI Consultants - CA

Sample Delivery Group: L1226018  
Samples Received: 06/05/2020  
Project Number: 421808  
Description: Blossom Avenue

Report To: Natasha Budimirovic  
2500 Camino Diablo  
Walnut Creek, CA 94597

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



|                                    |    |
|------------------------------------|----|
| Cp: Cover Page                     | 1  |
| Tc: Table of Contents              | 2  |
| Ss: Sample Summary                 | 3  |
| Cn: Case Narrative                 | 5  |
| Sr: Sample Results                 | 6  |
| COMP 1 L1226018-01                 | 6  |
| COMP 2 L1226018-02                 | 7  |
| COMP 3 L1226018-03                 | 8  |
| COMP 4 L1226018-04                 | 9  |
| COMP 5 L1226018-05                 | 10 |
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| S-2B L1226018-07                   | 12 |
| S-3A L1226018-08                   | 13 |
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| Gl: Glossary of Terms              | 21 |
| Al: Accreditations & Locations     | 22 |
| Sc: Sample Chain of Custody        | 23 |





## COMP 1 L1226018-01 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 00:00 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Pesticides (GC) by Method 8081     | WG1489462 | 1        | 06/10/20 06:52        | 06/10/20 14:37                 | SSH                                   | Mt. Juliet, TN                       |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## COMP 2 L1226018-02 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 00:00 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Pesticides (GC) by Method 8081     | WG1489462 | 1        | 06/10/20 06:52        | 06/10/20 14:50                 | SSH                                   | Mt. Juliet, TN                       |

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

## COMP 3 L1226018-03 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 00:00 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Pesticides (GC) by Method 8081     | WG1489462 | 1        | 06/10/20 06:52        | 06/10/20 15:02                 | SSH                                   | Mt. Juliet, TN                       |

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

## COMP 4 L1226018-04 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 00:00 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Pesticides (GC) by Method 8081     | WG1489462 | 1        | 06/10/20 06:52        | 06/10/20 15:15                 | SSH                                   | Mt. Juliet, TN                       |

## COMP 5 L1226018-05 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 00:00 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Pesticides (GC) by Method 8081     | WG1489462 | 1        | 06/10/20 06:52        | 06/10/20 15:27                 | SSH                                   | Mt. Juliet, TN                       |

## S-1B L1226018-06 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 09:42 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Metals (ICP) by Method 6010D       | WG1488403 | 1        | 06/07/20 19:54        | 06/09/20 00:27                 | CCE                                   | Mt. Juliet, TN                       |

## S-2B L1226018-07 Solid

|                                    |           |          |                       | Collected by<br>N. Budimirovic | Collected date/time<br>06/03/20 11:31 | Received date/time<br>06/05/20 08:45 |
|------------------------------------|-----------|----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------------|
| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time             | Analyst                               | Location                             |
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45                 | KDW                                   | Mt. Juliet, TN                       |
| Metals (ICP) by Method 6010D       | WG1488403 | 1        | 06/07/20 19:54        | 06/09/20 00:30                 | CCE                                   | Mt. Juliet, TN                       |



## S-3A L1226018-08 Solid

Collected by  
N. BudimirovicCollected date/time  
06/03/20 13:47Received date/time  
06/05/20 08:45

| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45     | KDW     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010D       | WG1488403 | 1        | 06/07/20 19:54        | 06/09/20 00:33     | CCE     | Mt. Juliet, TN |

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss

## S-4C L1226018-09 Solid

Collected by  
N. BudimirovicCollected date/time  
06/03/20 13:10Received date/time  
06/05/20 08:45

| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45     | KDW     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010D       | WG1488403 | 1        | 06/07/20 19:54        | 06/09/20 00:36     | CCE     | Mt. Juliet, TN |

<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc

## S-5A L1226018-10 Solid

Collected by  
N. BudimirovicCollected date/time  
06/03/20 12:30Received date/time  
06/05/20 08:45

| Method                             | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|------------------------------------|-----------|----------|-----------------------|--------------------|---------|----------------|
| Total Solids by Method 2540 G-2011 | WG1488842 | 1        | 06/09/20 16:31        | 06/09/20 16:45     | KDW     | Mt. Juliet, TN |
| Metals (ICP) by Method 6010D       | WG1488402 | 1        | 06/07/20 17:58        | 06/08/20 11:24     | EL      | Mt. Juliet, TN |

<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 94.3   |           | 1        | 06/09/2020 16:45 | <a href="#">WG1488842</a> |

## Pesticides (GC) by Method 8081

| Analyte                  | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis         | Batch                     |
|--------------------------|--------------|-----------|-----------|-----------|----------|------------------|---------------------------|
|                          | mg/kg        |           | mg/kg     | mg/kg     |          | date / time      |                           |
| Aldrin                   | U            |           | 0.00399   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Alpha BHC                | U            |           | 0.00390   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Beta BHC                 | U            |           | 0.00402   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Delta BHC                | U            |           | 0.00367   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Gamma BHC                | U            |           | 0.00365   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| 4,4-DDD                  | U            |           | 0.00392   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| 4,4-DDE                  | U            |           | 0.00388   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| 4,4-DDT                  | U            |           | 0.00665   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Dieldrin                 | U            |           | 0.00365   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endosulfan I             | U            |           | 0.00385   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endosulfan II            | U            |           | 0.00355   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endosulfan sulfate       | U            |           | 0.00386   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endrin                   | U            |           | 0.00371   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endrin aldehyde          | U            |           | 0.00359   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Endrin ketone            | U            |           | 0.00754   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Heptachlor               | U            |           | 0.00454   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Heptachlor epoxide       | U            |           | 0.00359   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Hexachlorobenzene        | U            |           | 0.00367   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Methoxychlor             | U            |           | 0.00513   | 0.0212    | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Chlordane                | U            |           | 0.109     | 0.318     | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| Toxaphene                | U            |           | 0.131     | 0.424     | 1        | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| (S) Decachlorobiphenyl   | 54.6         |           |           | 10.0-135  |          | 06/10/2020 14:37 | <a href="#">WG1489462</a> |
| (S) Tetrachloro-m-xylene | 62.3         |           |           | 10.0-139  |          | 06/10/2020 14:37 | <a href="#">WG1489462</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 87.0   |           | 1        | 06/09/2020 16:45 | <a href="#">WG1488842</a> |

## Pesticides (GC) by Method 8081

| Analyte                  | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis         | Batch                     |
|--------------------------|--------------|-----------|-----------|-----------|----------|------------------|---------------------------|
|                          | mg/kg        |           | mg/kg     | mg/kg     |          | date / time      |                           |
| Aldrin                   | U            |           | 0.00432   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Alpha BHC                | U            |           | 0.00423   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Beta BHC                 | U            |           | 0.00436   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Delta BHC                | U            |           | 0.00398   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Gamma BHC                | U            |           | 0.00395   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| 4,4-DDD                  | U            |           | 0.00425   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| 4,4-DDE                  | U            |           | 0.00421   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| 4,4-DDT                  | U            |           | 0.00721   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Dieldrin                 | U            |           | 0.00395   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endosulfan I             | U            |           | 0.00417   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endosulfan II            | U            |           | 0.00385   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endosulfan sulfate       | U            |           | 0.00418   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endrin                   | U            |           | 0.00402   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endrin aldehyde          | U            |           | 0.00390   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Endrin ketone            | U            |           | 0.00817   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Heptachlor               | U            |           | 0.00492   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Heptachlor epoxide       | U            |           | 0.00390   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Hexachlorobenzene        | U            |           | 0.00398   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Methoxychlor             | U            |           | 0.00556   | 0.0230    | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Chlordane                | U            |           | 0.118     | 0.345     | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| Toxaphene                | U            |           | 0.143     | 0.460     | 1        | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| (S) Decachlorobiphenyl   | 62.5         |           |           | 10.0-135  |          | 06/10/2020 14:50 | <a href="#">WG1489462</a> |
| (S) Tetrachloro-m-xylene | 73.2         |           |           | 10.0-139  |          | 06/10/2020 14:50 | <a href="#">WG1489462</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 96.5   |           | 1        | 06/09/2020 16:45 | <a href="#">WG1488842</a> |

## Pesticides (GC) by Method 8081

| Analyte                  | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis         | Batch                     |
|--------------------------|--------------|-----------|-----------|-----------|----------|------------------|---------------------------|
|                          | mg/kg        |           | mg/kg     | mg/kg     |          | date / time      |                           |
| Aldrin                   | U            |           | 0.00390   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Alpha BHC                | U            |           | 0.00381   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Beta BHC                 | U            |           | 0.00393   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Delta BHC                | U            |           | 0.00359   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Gamma BHC                | U            |           | 0.00357   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| 4,4-DDD                  | U            |           | 0.00384   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| 4,4-DDE                  | U            |           | 0.00379   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| 4,4-DDT                  | U            |           | 0.00650   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Dieldrin                 | U            |           | 0.00357   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endosulfan I             | U            |           | 0.00376   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endosulfan II            | U            |           | 0.00347   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endosulfan sulfate       | U            |           | 0.00377   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endrin                   | U            |           | 0.00363   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endrin aldehyde          | U            |           | 0.00351   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Endrin ketone            | U            |           | 0.00737   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Heptachlor               | U            |           | 0.00444   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Heptachlor epoxide       | U            |           | 0.00351   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Hexachlorobenzene        | U            |           | 0.00359   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Methoxychlor             | U            |           | 0.00502   | 0.0207    | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Chlordane                | U            |           | 0.107     | 0.311     | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| Toxaphene                | U            |           | 0.129     | 0.415     | 1        | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| (S) Decachlorobiphenyl   | 46.1         |           |           | 10.0-135  |          | 06/10/2020 15:02 | <a href="#">WG1489462</a> |
| (S) Tetrachloro-m-xylene | 54.5         |           |           | 10.0-139  |          | 06/10/2020 15:02 | <a href="#">WG1489462</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc





## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 95.4   |           | 1        | 06/09/2020 16:45 | <a href="#">WG1488842</a> |

## Pesticides (GC) by Method 8081

| Analyte                  | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis         | Batch                     |
|--------------------------|--------------|-----------|-----------|-----------|----------|------------------|---------------------------|
|                          | mg/kg        |           | mg/kg     | mg/kg     |          | date / time      |                           |
| Aldrin                   | U            |           | 0.00394   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Alpha BHC                | U            |           | 0.00386   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Beta BHC                 | U            |           | 0.00397   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Delta BHC                | U            |           | 0.00363   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Gamma BHC                | U            |           | 0.00361   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| 4,4-DDD                  | U            |           | 0.00388   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| 4,4-DDE                  | U            |           | 0.00384   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| 4,4-DDT                  | U            |           | 0.00657   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Dieldrin                 | U            |           | 0.00361   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endosulfan I             | U            |           | 0.00381   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endosulfan II            | U            |           | 0.00351   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endosulfan sulfate       | U            |           | 0.00382   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endrin                   | U            |           | 0.00367   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endrin aldehyde          | U            |           | 0.00355   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Endrin ketone            | U            |           | 0.00745   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Heptachlor               | U            |           | 0.00449   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Heptachlor epoxide       | U            |           | 0.00355   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Hexachlorobenzene        | U            |           | 0.00363   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Methoxychlor             | U            |           | 0.00507   | 0.0210    | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Chlordane                | U            |           | 0.108     | 0.314     | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| Toxaphene                | U            |           | 0.130     | 0.419     | 1        | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| (S) Decachlorobiphenyl   | 55.4         |           |           | 10.0-135  |          | 06/10/2020 15:15 | <a href="#">WG1489462</a> |
| (S) Tetrachloro-m-xylene | 62.6         |           |           | 10.0-139  |          | 06/10/2020 15:15 | <a href="#">WG1489462</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/03/20 00:00

L1226018

## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis         | Batch                     |
|--------------|--------|-----------|----------|------------------|---------------------------|
|              | %      |           |          | date / time      |                           |
| Total Solids | 83.3   |           | 1        | 06/09/2020 16:45 | <a href="#">WG1488842</a> |

## Pesticides (GC) by Method 8081

| Analyte                  | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis         | Batch                     |
|--------------------------|--------------|-----------|-----------|-----------|----------|------------------|---------------------------|
|                          | mg/kg        |           | mg/kg     | mg/kg     |          | date / time      |                           |
| Aldrin                   | U            |           | 0.00451   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Alpha BHC                | U            |           | 0.00442   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Beta BHC                 | U            |           | 0.00455   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Delta BHC                | U            |           | 0.00415   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Gamma BHC                | U            |           | 0.00413   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| 4,4-DDD                  | U            |           | 0.00444   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| 4,4-DDE                  | U            |           | 0.00439   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| 4,4-DDT                  | U            |           | 0.00753   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Dieldrin                 | U            |           | 0.00413   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endosulfan I             | U            |           | 0.00436   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endosulfan II            | U            |           | 0.00402   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endosulfan sulfate       | U            |           | 0.00437   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endrin                   | U            |           | 0.00420   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endrin aldehyde          | U            |           | 0.00407   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Endrin ketone            | U            |           | 0.00854   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Heptachlor               | U            |           | 0.00514   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Heptachlor epoxide       | U            |           | 0.00407   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Hexachlorobenzene        | U            |           | 0.00415   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Methoxychlor             | U            |           | 0.00581   | 0.0240    | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Chlordane                | U            |           | 0.124     | 0.360     | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| Toxaphene                | U            |           | 0.149     | 0.480     | 1        | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| (S) Decachlorobiphenyl   | 63.5         |           |           | 10.0-135  |          | 06/10/2020 15:27 | <a href="#">WG1489462</a> |
| (S) Tetrachloro-m-xylene | 70.0         |           |           | 10.0-139  |          | 06/10/2020 15:27 | <a href="#">WG1489462</a> |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|--------------|--------|-----------|----------|----------------------|---------------------------|
| Total Solids | 97.1   |           | 1        | 06/09/2020 16:45     | <a href="#">WG1488842</a> |

Metals (ICP) by Method 6010D

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
|         | mg/kg        |           | mg/kg     | mg/kg     |          |                      |                           |
| Arsenic | 6.33         |           | 1.03      | 2.06      | 1        | 06/09/2020 00:27     | <a href="#">WG1488403</a> |
| Lead    | 7.48         |           | 0.257     | 0.515     | 1        | 06/09/2020 00:27     | <a href="#">WG1488403</a> |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|--------------|--------|-----------|----------|----------------------|---------------------------|
| Total Solids | 93.5   |           | 1        | 06/09/2020 16:45     | <a href="#">WG1488842</a> |

Metals (ICP) by Method 6010D

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
|         | mg/kg        |           | mg/kg     | mg/kg     |          |                      |                           |
| Arsenic | 5.57         |           | 1.07      | 2.14      | 1        | 06/09/2020 00:30     | <a href="#">WG1488403</a> |
| Lead    | 8.69         |           | 0.267     | 0.535     | 1        | 06/09/2020 00:30     | <a href="#">WG1488403</a> |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



## Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|--------------|--------|-----------|----------|----------------------|---------------------------|
| Total Solids | 97.5   |           | 1        | 06/09/2020 16:45     | <a href="#">WG1488842</a> |

## Metals (ICP) by Method 6010D

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
|         | mg/kg        |           | mg/kg     | mg/kg     |          |                      |                           |
| Arsenic | 4.02         |           | 1.03      | 2.05      | 1        | 06/09/2020 00:33     | <a href="#">WG1488403</a> |
| Lead    | 8.80         |           | 0.256     | 0.513     | 1        | 06/09/2020 00:33     | <a href="#">WG1488403</a> |

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|--------------|--------|-----------|----------|----------------------|---------------------------|
| Total Solids | 95.1   |           | 1        | 06/09/2020 16:45     | <a href="#">WG1488842</a> |

Metals (ICP) by Method 6010D

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
|         | mg/kg        |           | mg/kg     | mg/kg     |          |                      |                           |
| Arsenic | 3.63         |           | 1.05      | 2.10      | 1        | 06/09/2020 00:36     | <a href="#">WG1488403</a> |
| Lead    | 16.5         |           | 0.263     | 0.526     | 1        | 06/09/2020 00:36     | <a href="#">WG1488403</a> |

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Total Solids by Method 2540 G-2011

| Analyte      | Result | Qualifier | Dilution | Analysis date / time | Batch                     |
|--------------|--------|-----------|----------|----------------------|---------------------------|
| Total Solids | 93.5   |           | 1        | 06/09/2020 16:45     | <a href="#">WG1488842</a> |

Metals (ICP) by Method 6010D

| Analyte | Result (dry) | Qualifier | MDL (dry) | RDL (dry) | Dilution | Analysis date / time | Batch                     |
|---------|--------------|-----------|-----------|-----------|----------|----------------------|---------------------------|
|         | mg/kg        |           | mg/kg     | mg/kg     |          |                      |                           |
| Arsenic | 3.83         |           | 1.07      | 2.14      | 1        | 06/08/2020 11:24     | <a href="#">WG1488402</a> |
| Lead    | 8.64         |           | 0.267     | 0.535     | 1        | 06/08/2020 11:24     | <a href="#">WG1488402</a> |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3536969-1 06/09/20 16:45

|              | MB Result | MB Qualifier | MB MDL | MB RDL |
|--------------|-----------|--------------|--------|--------|
| Analyte      | %         |              | %      | %      |
| Total Solids | 0.000     |              |        |        |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

L1226018-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1226018-01 06/09/20 16:45 • (DUP) R3536969-3 06/09/20 16:45

|              | Original Result | DUP Result | Dilution | DUP RPD | DUP Qualifier | DUP RPD Limits |
|--------------|-----------------|------------|----------|---------|---------------|----------------|
| Analyte      | %               | %          |          | %       |               | %              |
| Total Solids | 94.3            | 94.2       | 1        | 0.112   |               | 10             |

<sup>7</sup> Gl

<sup>8</sup> Al

Laboratory Control Sample (LCS)

(LCS) R3536969-2 06/09/20 16:45

|              | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|--------------|--------------|------------|----------|-------------|---------------|
| Analyte      | %            | %          | %        | %           |               |
| Total Solids | 50.0         | 50.0       | 100      | 85.0-115    |               |

<sup>9</sup> Sc





Method Blank (MB)

(MB) R3536360-1 06/08/20 10:32

| Analyte | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|---------|--------------------|--------------|-----------------|-----------------|
| Arsenic | U                  |              | 1.00            | 2.00            |
| Lead    | U                  |              | 0.250           | 0.500           |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3536360-2 06/08/20 10:34

| Analyte | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|---------|-----------------------|---------------------|---------------|------------------|---------------|
| Arsenic | 100                   | 98.9                | 98.9          | 80.0-120         |               |
| Lead    | 100                   | 101                 | 101           | 80.0-120         |               |

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3536360-5 06/08/20 10:44 • (MSD) R3536360-6 06/08/20 10:47

| Analyte | Spike Amount<br>mg/kg | Original Result | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------|-----------------------|-----------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Arsenic | 100                   |                 | 100                | 99.6                | 94.3         | 93.8          | 1        | 75.0-125         |              |               | 0.517    | 20              |
| Lead    | 100                   |                 | 113                | 112                 | 99.8         | 99.4          | 1        | 75.0-125         |              |               | 0.403    | 20              |



Method Blank (MB)

(MB) R3536397-1 06/08/20 23:15

| Analyte | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|---------|--------------------|--------------|-----------------|-----------------|
| Arsenic | U                  |              | 1.00            | 2.00            |
| Lead    | U                  |              | 0.250           | 0.500           |

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3536397-2 06/08/20 23:18

| Analyte | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|---------|-----------------------|---------------------|---------------|------------------|---------------|
| Arsenic | 100                   | 92.2                | 92.2          | 80.0-120         |               |
| Lead    | 100                   | 95.2                | 95.2          | 80.0-120         |               |

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) • (MS) R3536397-5 06/08/20 23:28 • (MSD) R3536397-6 06/08/20 23:31

| Analyte | Spike Amount<br>mg/kg | Original Result | MS Result<br>mg/kg | MSD Result<br>mg/kg | MS Rec.<br>% | MSD Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier | MSD Qualifier | RPD<br>% | RPD Limits<br>% |
|---------|-----------------------|-----------------|--------------------|---------------------|--------------|---------------|----------|------------------|--------------|---------------|----------|-----------------|
| Arsenic | 100                   |                 | 97.4               | 90.0                | 96.6         | 89.1          | 1        | 75.0-125         |              |               | 7.92     | 20              |
| Lead    | 100                   |                 | 103                | 95.6                | 102          | 94.8          | 1        | 75.0-125         |              |               | 7.07     | 20              |

Method Blank (MB)

(MB) R3537116-1 06/10/20 11:53

| Analyte                  | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|--------------------------|--------------------|--------------|-----------------|-----------------|
| Aldrin                   | U                  |              | 0.00376         | 0.0200          |
| Alpha BHC                | U                  |              | 0.00368         | 0.0200          |
| Beta BHC                 | U                  |              | 0.00379         | 0.0200          |
| Delta BHC                | U                  |              | 0.00346         | 0.0200          |
| Gamma BHC                | U                  |              | 0.00344         | 0.0200          |
| 4,4-DDD                  | U                  |              | 0.00370         | 0.0200          |
| 4,4-DDE                  | U                  |              | 0.00366         | 0.0200          |
| 4,4-DDT                  | U                  |              | 0.00627         | 0.0200          |
| Dieldrin                 | U                  |              | 0.00344         | 0.0200          |
| Endosulfan I             | U                  |              | 0.00363         | 0.0200          |
| Endosulfan II            | U                  |              | 0.00335         | 0.0200          |
| Endosulfan sulfate       | U                  |              | 0.00364         | 0.0200          |
| Endrin                   | U                  |              | 0.00350         | 0.0200          |
| Endrin aldehyde          | U                  |              | 0.00339         | 0.0200          |
| Endrin ketone            | U                  |              | 0.00711         | 0.0200          |
| Heptachlor               | U                  |              | 0.00428         | 0.0200          |
| Heptachlor epoxide       | U                  |              | 0.00339         | 0.0200          |
| Hexachlorobenzene        | U                  |              | 0.00346         | 0.0200          |
| Methoxychlor             | U                  |              | 0.00484         | 0.0200          |
| Chlordane                | U                  |              | 0.103           | 0.300           |
| Toxaphene                | U                  |              | 0.124           | 0.400           |
| (S) Decachlorobiphenyl   | 57.2               |              |                 | 10.0-135        |
| (S) Tetrachloro-m-xylene | 68.5               |              |                 | 10.0-139        |

1

Cp

2

Tc

3

Ss

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Cn

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Sr

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Gl

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Al

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Sc

Laboratory Control Sample (LCS)

(LCS) R3537116-2 06/10/20 12:20

| Analyte      | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|--------------|-----------------------|---------------------|---------------|------------------|---------------|
| Aldrin       | 0.0666                | 0.0444              | 66.7          | 34.0-136         |               |
| Alpha BHC    | 0.0666                | 0.0428              | 64.3          | 34.0-139         |               |
| Beta BHC     | 0.0666                | 0.0469              | 70.4          | 34.0-133         |               |
| Delta BHC    | 0.0666                | 0.0504              | 75.7          | 34.0-135         |               |
| Gamma BHC    | 0.0666                | 0.0461              | 69.2          | 34.0-136         |               |
| 4,4-DDD      | 0.0666                | 0.0687              | 103           | 33.0-141         |               |
| 4,4-DDE      | 0.0666                | 0.0437              | 65.6          | 34.0-134         |               |
| 4,4-DDT      | 0.0666                | 0.0263              | 39.5          | 30.0-143         |               |
| Dieldrin     | 0.0666                | 0.0512              | 76.9          | 35.0-137         |               |
| Endosulfan I | 0.0666                | 0.0457              | 68.6          | 34.0-134         |               |

Laboratory Control Sample (LCS)

(LCS) R3537116-2 06/10/20 12:20

| Analyte                  | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | <u>LCS Qualifier</u> |
|--------------------------|-----------------------|---------------------|---------------|------------------|----------------------|
| Endosulfan II            | 0.0666                | 0.0410              | 61.6          | 35.0-132         |                      |
| Endosulfan sulfate       | 0.0666                | 0.0423              | 63.5          | 35.0-132         |                      |
| Endrin                   | 0.0666                | 0.0456              | 68.5          | 34.0-137         |                      |
| Endrin aldehyde          | 0.0666                | 0.0398              | 59.8          | 23.0-121         |                      |
| Endrin ketone            | 0.0666                | 0.0445              | 66.8          | 35.0-144         |                      |
| Heptachlor               | 0.0666                | 0.0457              | 68.6          | 36.0-141         |                      |
| Heptachlor epoxide       | 0.0666                | 0.0473              | 71.0          | 36.0-134         |                      |
| Hexachlorobenzene        | 0.0666                | 0.0398              | 59.8          | 33.0-129         |                      |
| Methoxychlor             | 0.0666                | 0.0321              | 48.2          | 28.0-150         |                      |
| (S) Decachlorobiphenyl   |                       |                     | 59.0          | 10.0-135         |                      |
| (S) Tetrachloro-m-xylene |                       |                     | 60.1          | 10.0-139         |                      |

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (dry)                        | Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].                                                                                                                                                                                                                                                                                                                                                                                                   |
| MDL                          | Method Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MDL (dry)                    | Method Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| RDL                          | Reported Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RDL (dry)                    | Reported Detection Limit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Rec.                         | Recovery.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RPD                          | Relative Percent Difference.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| SDG                          | Sample Delivery Group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (S)                          | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.                                                                                                                                                                                                                                               |
| U                            | Not detected at the Reporting Limit (or MDL where applicable).                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Analyte                      | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.                                                                                                                                                                                                                                                                                                                                                                                                 |
| Dilution                     | If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.                                                                                    |
| Limits                       | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.                                                                                                                                                                                                                                                      |
| Original Sample              | The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.                                                                                                                                                                                                                                                                                                                            |
| Qualifier                    | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.                                                                                                                                                                  |
| Result                       | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Case Narrative (Cn)          | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.                                                                                                                                                                          |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.                                                                                                                                                                                              |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.                                                              |
| Sample Results (Sr)          | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.                                                                                                                                                                                             |
| Sample Summary (Ss)          | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.                                                                                                                                                                                                                                                                                                                                                            |

### Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.





Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

|                         |             |                             |                  |
|-------------------------|-------------|-----------------------------|------------------|
| Alabama                 | 40660       | Nebraska                    | NE-OS-15-05      |
| Alaska                  | 17-026      | Nevada                      | TN-03-2002-34    |
| Arizona                 | AZ0612      | New Hampshire               | 2975             |
| Arkansas                | 88-0469     | New Jersey–NELAP            | TN002            |
| California              | 2932        | New Mexico <sup>1</sup>     | n/a              |
| Colorado                | TN00003     | New York                    | 11742            |
| Connecticut             | PH-0197     | North Carolina              | Env375           |
| Florida                 | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                 | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>    | 923         | North Dakota                | R-140            |
| Idaho                   | TN00003     | Ohio–VAP                    | CL0069           |
| Illinois                | 200008      | Oklahoma                    | 9915             |
| Indiana                 | C-TN-01     | Oregon                      | TN200002         |
| Iowa                    | 364         | Pennsylvania                | 68-02979         |
| Kansas                  | E-10277     | Rhode Island                | LA000356         |
| Kentucky <sup>1 6</sup> | 90010       | South Carolina              | 84004            |
| Kentucky <sup>2</sup>   | 16          | South Dakota                | n/a              |
| Louisiana               | AI30792     | Tennessee <sup>1 4</sup>    | 2006             |
| Louisiana <sup>1</sup>  | LA180010    | Texas                       | T104704245-18-15 |
| Maine                   | TN0002      | Texas <sup>5</sup>          | LAB0152          |
| Maryland                | 324         | Utah                        | TN00003          |
| Massachusetts           | M-TN003     | Vermont                     | VT2006           |
| Michigan                | 9958        | Virginia                    | 460132           |
| Minnesota               | 047-999-395 | Washington                  | C847             |
| Mississippi             | TN00003     | West Virginia               | 233              |
| Missouri                | 340         | Wisconsin                   | 9980939910       |
| Montana                 | CERT0086    | Wyoming                     | A2LA             |

## Third Party Federal Accreditations

|                               |         |                     |               |
|-------------------------------|---------|---------------------|---------------|
| A2LA – ISO 17025              | 1461.01 | AIHA-LAP, LLC EMLAP | 100789        |
| A2LA – ISO 17025 <sup>5</sup> | 1461.02 | DOD                 | 1461.01       |
| Canada                        | 1461.01 | USDA                | P330-15-00234 |
| EPA–Crypto                    | TN00003 |                     |               |

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



# AEI Consultants - CA

2500 Camino Diablo  
Walnut Creek, CA 94597

Report to:  
Natasha Budimirovic

Project Description:  
Blossom Avenue

Phone: 925-746-6000

Collected by (print):

N. Budimirovic

Collected by (signature):

*[Signature]*

Immediately  
Packed on Ice N ☒ Y ☐

## Billing Information:

Accounts Payable- Jeremy Smith  
2500 Camino Diablo  
Walnut Creek, CA 94597

Pres  
Chk

Email To: nbudimirovic@aeiconsultants.com  
jday@aeiconsultants.com

City/State  
Collected: Susan City, CA

Please Circle:  
PT MT CT ET

Client Project #

421808

Lab Project #

AEICONWCCA-BUDIRES

P.O. #

Quote #

Rush? (Lab MUST Be Notified)

☐ Same Day ☐ Five Day  
☐ Next Day ☐ 5 Day (Rad Only)  
☐ Two Day ☐ 10 Day (Rad Only)  
☐ Three Day

Date Results Needed

STD

No.  
of  
Cnts

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

S-1A

GRAB

SS

0.5'

6/3/20

1039

1

S-1B

SS

942

2

S-1C

SS

1015

1

S-1D

Soil

1051

1

S-2A

1206

1

S-2B

1131

2

S-2C

1148

1

S-2D

1217

1

S-3A

1347

2

S-3B

1359

1

\* Matrix:

SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks: OCP Comps:

S-1A, S-1B, S-1C, S-1D = COMP1

S-2A, S-2B, S-2C, S-2D = COMP2

S-3A, S-3B, S-3C, S-3D = COMP3

S-4A, S-4B, S-4C, S-4D = COMP4

S-5A, S-5B, S-5C, S-5D = COMP5

Samples returned via:

UPS ☒ FedEx ☐ Courier ☐

Tracking #

479408842 5.0 / 4.9  
3370 / 3381

Relinquished by: (Signature)

*[Signature]*

Date:

6/3/20

Time:

1825

Received by: (Signature)

Shipped via FedEx

Trip Blank Received: Yes ☒ No ☐

HCL / MeOH  
TBR

Relinquished by: (Signature)

*[Signature]*

Date:

Time:

Received by: (Signature)

Temp: *[Signature]*

5.0 / 4.9  
23

Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

*[Signature]*

Date:

Time:

Received for lab by: (Signature)

*[Signature]*

Date:

6/5/20

Time:

0845

Hold:

Condition:

NCF / *[Signature]*

## Analysis / Container / Preservative

Chain of Custody Page \_\_\_ of \_\_\_



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



SDG #

112600

Table #

6002

Acctnum: AEICONWCCA

Template: T168587

Prelogin: P775972

PM: 110 - Brian Ford

PB:

Shipped Via:

Remarks

Sample # (lab only)

-01

-01

-01

-02

-01

-03

-01

-04

-02

-05

-02

-06

-02

-07

-02

-08

-02

-09

-03

-10

-03

-11

## Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☐ Y ☐ N  
COC Signed/Accurate: ☒ Y ☐ N  
Bottles arrive intact: ☒ Y ☐ N  
Correct bottles used: ☒ Y ☐ N  
Sufficient volume sent: ☒ Y ☐ N  
If Applicable  
VOA Zero Headspace: ☒ Y ☐ N  
Preservation Correct/Checked: ☒ Y ☐ N  
RAD Screen <0.5 mR/hr: ☒ Y ☐ N



# AEI Consultants - CA

2500 Camino Diablo  
Walnut Creek, CA 94597

Report to:  
Natasha Budimirovic

Project Description:  
Blossom Avenue

Phone: 925-746-6000

Collected by (print):  
N BUDIMIROVIC

Collected by (signature):

Immediately  
Packed on Ice N ☒ Y ☒

## Billing Information:

Accounts Payable- Jeremy Smith  
2500 Camino Diablo  
Walnut Creek, CA 94597

Pres  
Chk

Email To: nbudimirovic@aeiconsultants.com

iday@aeiconsultants.com

City/State  
Collected:

Swiss City  
CA

Please Circle:  
PT MT CT ET

Client Project #

421808

Lab Project #

AEICONWCCA-BUDIRES

Site/Facility ID #

P.O. #

Rush? (Lab MUST Be Notified)

Same Day ☐ Five Day ☐  
Next Day ☐ 5 Day (Rad Only) ☐  
Two Day ☐ 10 Day (Rad Only) ☐  
Three Day ☐

Quote #

Date Results Needed

51D

No  
of  
Cntrs

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

Cntrs

S-3C

GRAB

SS

0.5'

6/3/20

1412

1

X

S-3D

SS

1

1418

1

X

S-4A

SS

1

1327

1

X

S-4B

SS

1

1324

1

X

S-4C

SS

1

1310

2

X

S-5A

SS

1

1230

2

X

S-BB

SS

1

1246

1

X

S-5C

SS

1

1259

1

X

\* Matrix:

SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks: OCP COMPS:  
S-1A, S-1B, S-1C, S-1D = COMP 1  
S-2A, S-2B, S-2C, S-2D = COMP 2  
S-3A, S-3B, S-3C, S-3D = COMP 3  
S-4A, S-4B, S-4C = COMP 4  
S-5A, S-5B, S-5C = COMP 5

Samples returned via:

UPS ☒ FedEx ☐ Courier ☐

Tracking #

same

Relinquished by: (Signature)

Date:

6/3/20

Time:

1625

Received by: (Signature)

Shipped via FedEx

Trip Blank Received: Yes (No)

HCL/MeOH

TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 5.1-5.0 °C

Bottles Received:

23

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 6/5/20

Time: 0845

Hold:

Condition

NCF / OK

## Analysis / Container / Preservative

Chain of Custody Page \_\_\_ of \_\_\_



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



SDG #

112609 12

Table #

11226018

Acctnum: AEICONWCCA

Template: T168587

Prelogin: P775972

PM: 110 - Brian Ford

PB:

Shipped Via:

Remarks

Sample # (lab only)

03-11

03-12

04-13

04-14

04-06 1-09 -15

05-10 -16

05-17

05-18

09-19

## Sample Receipt Checklist

COC Seal Present/Intact: ☒ NP ☐ Y ☐ N  
COC Signed/Accurate: ☒ Y ☐ N  
Bottles arrive intact: ☒ Y ☐ N  
Correct bottles used: ☒ Y ☐ N  
Sufficient volume sent: ☒ Y ☐ N  
If Applicable  
VOA Zero Headspace: ☒ Y ☐ N  
Preservation Correct/Checked: ☒ Y ☐ N  
RAD Screen <0.5 mR/hr: ☒ Y ☐ N





## **Appendix I    BAC RAILROAD AND TRAFFIC NOISE ASSESSMENT**



# Railroad and Traffic Noise Assessment

## Blossom Avenue Apartments

Suisun City, California

BAC Job # 2020-127

Prepared For:

**Red Tail Development, LLC.**

c/o Mr. Russ Shaw  
2082 Michelson Drive, 4<sup>th</sup> Floor  
Irvine, CA 92612

Prepared By:

**Bollard Acoustical Consultants, Inc.**



Paul Bollard, President

November 16, 2020



## Introduction

The proposed Blossom Avenue Apartments (project) is located east of Blossom Avenue, and south of Railroad Avenue, in the City of Suisun City, California. The project proposes the construction of apartments on currently undeveloped land. The project area and site plan are shown on Figures 1 and 2, respectively.

Due to the proximity of the project site to Railroad Avenue and the Union Pacific Railroad (UPRR) tracks to the north, Bollard Acoustical Consultants, Inc. (BAC) was retained by the project applicant to prepare this noise and vibration assessment. Specifically, the purposes of this assessment are to quantify noise levels associated with traffic on Railroad Avenue and railroad operations on the adjacent railroad tracks, vibration levels associated with railroad operations, and to compare those levels against the applicable City of Suisun City standards for acceptable noise and vibration exposure for residential uses.

## Noise & Vibration Fundamentals and Terminology

### Noise

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and thus are called sound. Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. Appendix A contains definitions of Acoustical Terminology. Figure 3 shows common noise levels associated with various sources.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in decibels.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ( $L_{eq}$ ) over a given time period (usually one hour). The  $L_{eq}$  is the foundation of the Day-Night Average Level noise descriptor,  $L_{dn}$ , and shows very good correlation with community response to noise.

The Day-Night Average Level ( $L_{dn}$ ) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.)

hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average, it tends to disguise short-term variations in the noise environment.  $L_{dn}$ -based noise standards are commonly used to assess noise impacts associated with traffic, railroad, and aircraft noise sources.

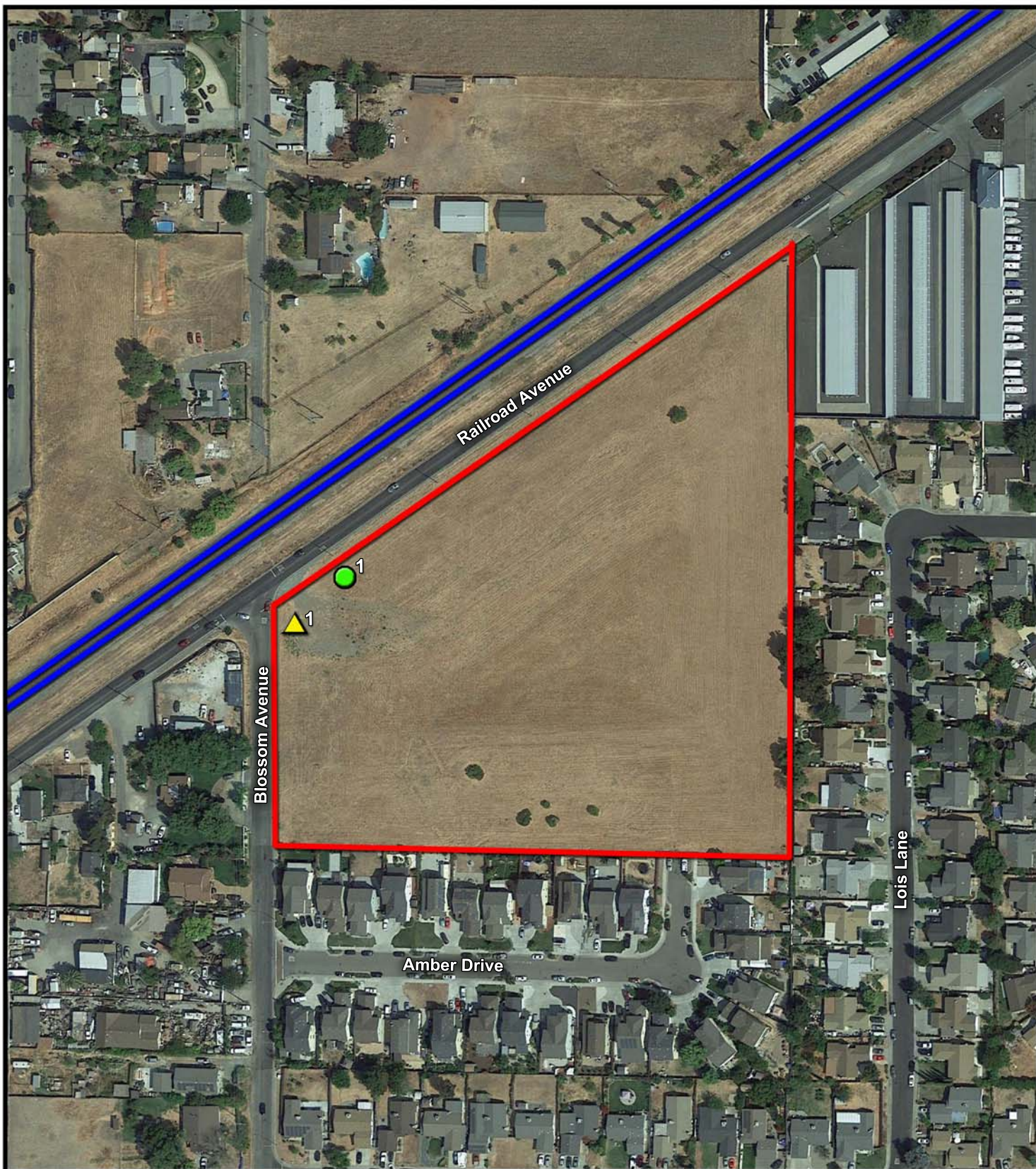
## **Vibration**

According to the Federal Transit Administration Noise and Vibration Impact Assessment Guidelines (FTA-VA-90-06), ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads.

Train wheels rolling on rails create vibration energy that is transmitted through the track support system into the ground, creating vibration waves that propagate through the various soil and rock strata to the foundations of nearby buildings. The vibration propagates from the foundation throughout the remainder of the building structure. The maximum vibration amplitudes of the floors and walls of a building often will be at the resonance frequencies of various components of the building.

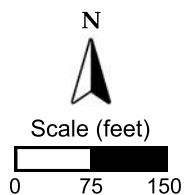
Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second) or RMS velocity in terms of VdB.





#### Legend

- Project Border (Approximate)
- Southern Pacific Railroad Tracks
- Short-Term Noise Measurement Location
- ▲ Short-Term Vibration Measurement Location



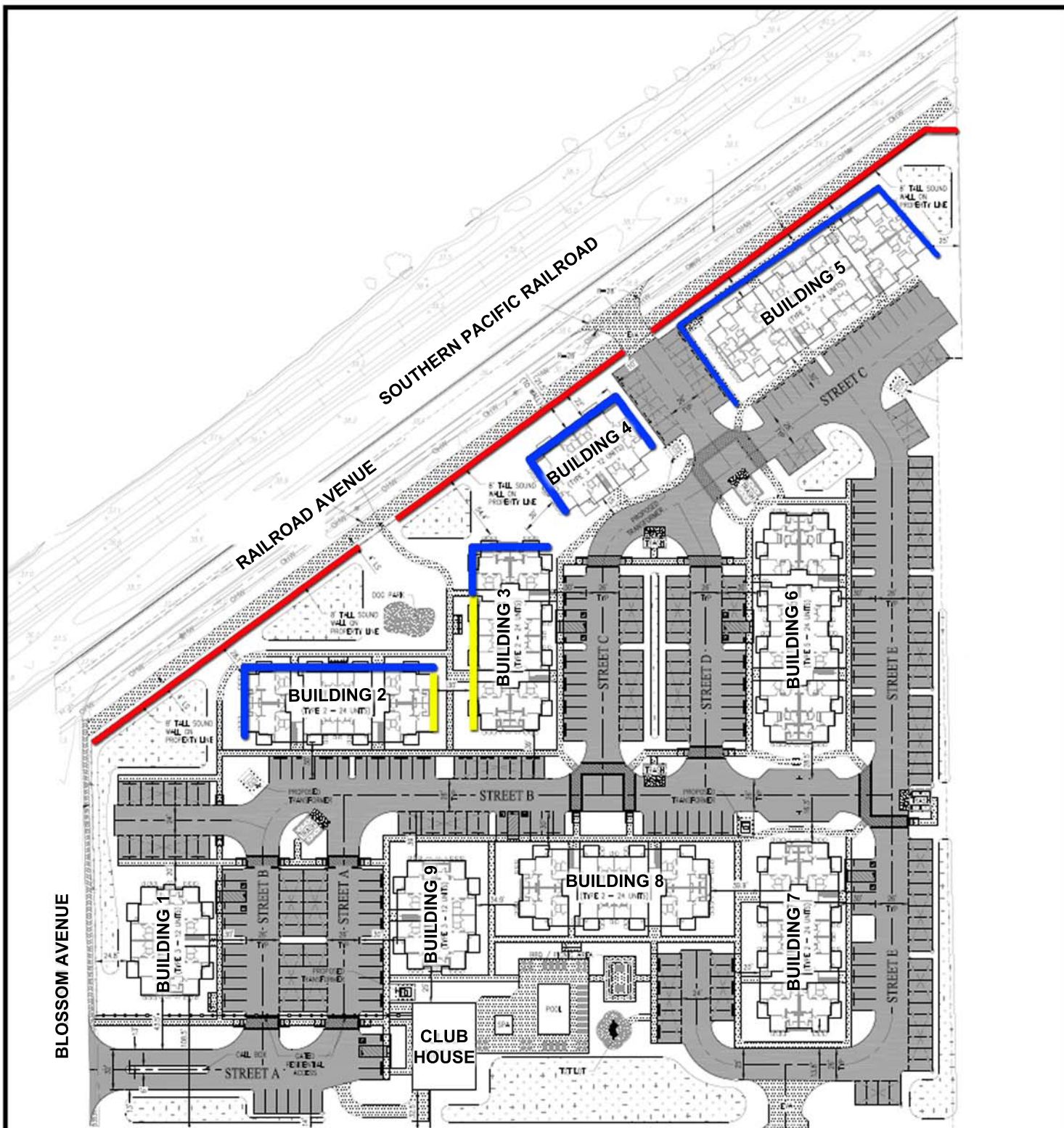
## Blossom Avenue Apartments Suisun City, California

Project Area

Figure 1







#### Legend

— Proposed 8' Tall Sound Wall

#### Proposed Upper-Floor Window STC Ratings:

— STC 32

— STC 35

All Other Windows STC 27

N



Scale (feet)



## Blossom Avenue Apartments Suisun City, California

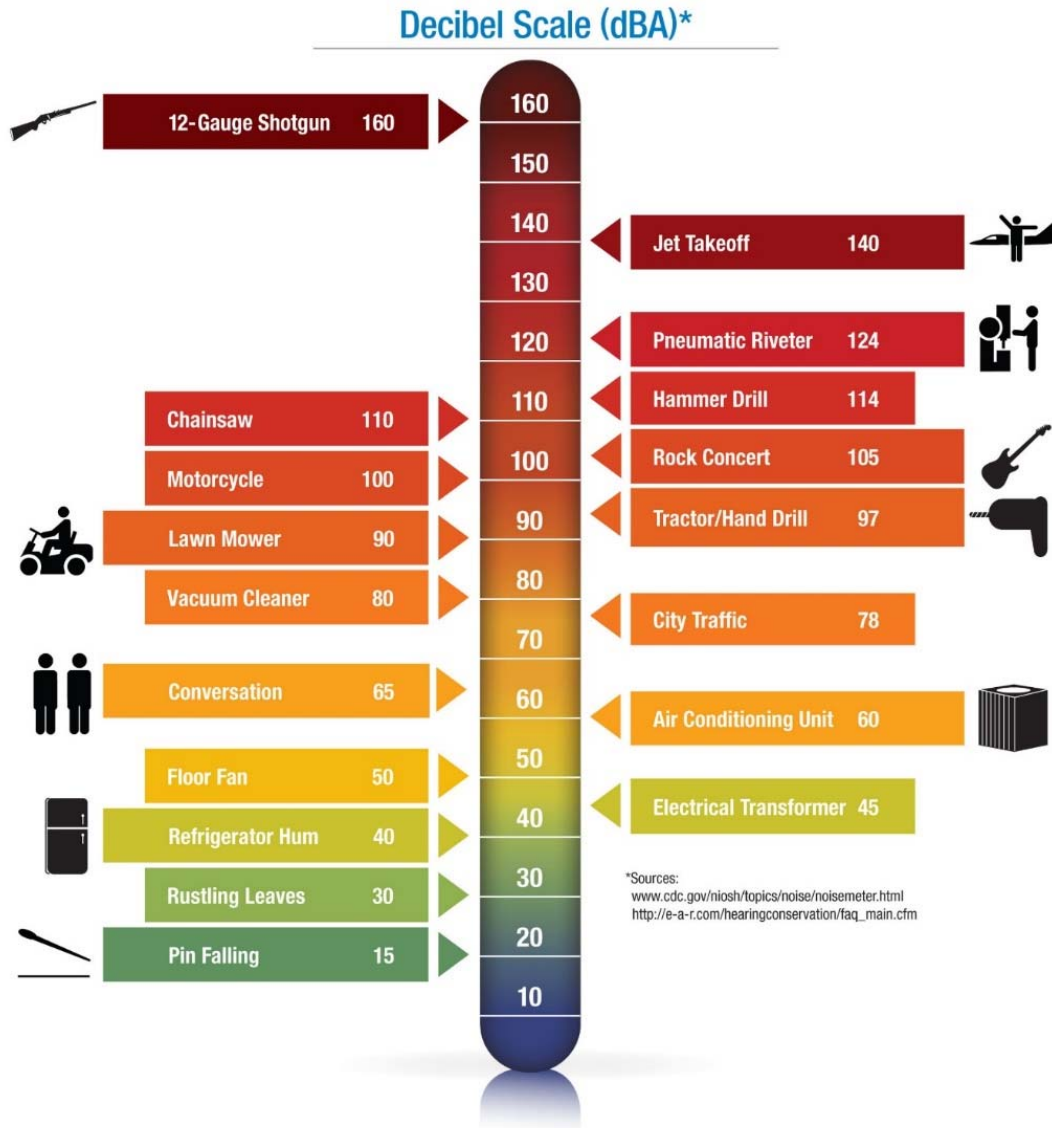
Site Plan

Figure 2





**Figure 3**  
**Typical A-Weighted Sound Levels of Common Noise Sources**



## Criteria for Acceptable Noise & Vibration Exposure

### Noise

#### City of Suisun City General Plan

Table 3.11-6 of the 2035 City of Suisun City General Plan EIR establishes maximum allowable noise exposure from transportation noise sources. These standards have been recreated in Table 1 below.

| <b>Table 1</b><br><b>Maximum Allowable Noise Exposure from Transportation Noise Sources at Noise-Sensitive Land Uses</b><br><b>(City of Suisun City Table 3.11-6 of the 2035 General Plan)</b> |                                                 |                     |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------|---------------------|
| Land Use                                                                                                                                                                                       | Outdoor Activity Area<br>(dBA L <sub>dn</sub> ) | Interior Spaces     |                     |
|                                                                                                                                                                                                |                                                 | dBA L <sub>dn</sub> | dBA L <sub>eq</sub> |
| Residential                                                                                                                                                                                    | 60                                              | 45                  | --                  |
| Residential (Downtown Waterfront & Mixed Use                                                                                                                                                   | 65                                              | 45                  | --                  |
| Transient Lodging                                                                                                                                                                              | 60                                              | 45                  | --                  |
| Hospitals, Nursing Homes                                                                                                                                                                       | 60                                              | 45                  | --                  |
| Theaters, Auditoriums, Music Halls                                                                                                                                                             | --                                              | --                  | 35                  |
| Churches, Meeting Halls                                                                                                                                                                        | 60                                              | --                  | 40                  |
| Office Buildings                                                                                                                                                                               | --                                              | --                  | 45                  |
| School, Libraries, Museums                                                                                                                                                                     | 60                                              | --                  | 45                  |
| Playgrounds, Neighborhoods                                                                                                                                                                     | 70                                              | --                  | --                  |

**Policy PHS-1.5:** It is the City's policy to allow outdoor transportation noise levels for residential uses in mixed-use land uses designations, including the Downtown Waterfront Specific Plan Area up to 70 dBA L<sub>dn</sub> and this level of noise exposure will not be considered a significant impact for the purposes of California Environmental Quality Act review.

**Policy PHS-1.7:** The City should coordinate with Union Pacific and the Public Utilities Commission to replace at-grade railroad crossings with Federal Railroad Administration-approved quiet zone rated crossing systems designed to reduce or eliminate the use of rail horn blasts within the City, as funding is available.

**Policy PHS-1.8:** Sound walls are prohibited as a method for reducing noise exposure that could be addressed through other means, such as, site design, setbacks, earthen berms, or a combination of these techniques.

**Policy PHS-1.10:** Public events, such as school sporting events, festivals, and other similar community and temporary events are exempt from the noise standards outlined in this Element.

**Program PHS-1.1.** Reduce Noise Exposure for Noise-Sensitive Land Uses. Development of noise sensitive land uses in areas with existing noise from mobile, stationary, or agricultural sources will be reviewed and conditioned according to the City's noise policies and ordinance. Projects that could expose noise-sensitive uses will be required to incorporate feasible mitigation to address potentially significant noise effects. Methods may include, but are not limited to: traffic calming, site planning that orients noise-sensitive outdoor gathering areas away from sources, buffering, sound insulation, and other methods deemed effective by the City. Development projects that are affected by non-transportation related noise shall be mitigated to achieve acceptable levels specified in Table 9-2 [as labeled in the General Plan and Table 3.11-4, as labeled in this section], as measured at outdoor activity areas of existing and planned noise-sensitive land uses. If existing noise levels exceed acceptable levels in Table 9-2 [Table 3.11-4 in this section] as measured at outdoor activity areas of noise sensitive land uses, then:

- Where existing exterior noise levels are between 60 and 65 dBA at outdoor activity areas of noise sensitive uses, an increase of 3 dBA or greater is considered significant and requires mitigation to achieve acceptable levels.
- Where existing exterior noise levels are greater than 65 dBA at outdoor activity areas of noise-sensitive uses, an increase of 1.5 dBA or greater is considered significant and requires mitigation to achieve acceptable levels.
- Where it is not possible to reduce noise in outdoor activity areas to 60 dBA or less using practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dBA may be allowed, provided that feasible exterior noise level reduction measures have been implemented.
- The City will identify regional, state, and federal sources of funding to make improvements that would attenuate noise as experienced by existing noise-sensitive land uses, where feasible.

**Program PHS-1.2:** Review and Conditioning of Noise-Generating New Uses. New developments that generate noise will be reviewed and feasible mitigation will be required to reduce effects on existing noise sensitive land uses. Methods may include, but are not limited to: operating at less noise-sensitive parts of the day, better distribution of vehicle traffic to avoid large volumes on any one street, traffic calming, buffering, sound insulation, and other methods deemed effective by the City. The maximum noise level resulting from new sources and ambient noise shall not exceed the standards in Table 9-3 [as labeled in the General Plan and 3.11-5 as labeled in this section], as measured at outdoor activity areas of any affected noise sensitive land use except:

- If the ambient noise level exceeds the standard in Table 9-3 [as labeled in the General Plan and 3.11-5 as labeled in this section], the standard becomes the ambient level plus 5 dBA.
- Reduce the applicable standards in Table 9-3 [as labeled in the General Plan and 3.11-5 as labeled in this section] by 5 decibels if they exceed the ambient level by 10 or more decibels.

- The City shall exempt all school related events and City sponsored events from noise standards outlined in this chapter.

## Vibration

The City of Suisun City has policies pertaining to vibration as outlined below.

**Policy PHS-2.1:** New developments that propose vibration-sensitive uses within 100 feet of a railroad or heavy industrial facility to analyze and mitigate potential vibration impact, as feasible.

**Policy PHS-2.2:** New developments that would generate substantial long-term vibration shall provide analysis and mitigation, as feasible, to achieve velocity levels, as experienced at habitable structures of vibration-sensitive land uses, of less than 78 vibration decibels.

Although Policy PHS-2.1 requires developments within 100 feet of the railroad to analyze and mitigate potential vibration impacts, it does not provide a threshold for acceptable vibration levels for vibration-sensitive uses. However, Policy PHS-2.1 indicates that vibration levels below 78 VdB would be acceptable for habitable structures. This threshold is within the range of vibration levels considered acceptable for residential development by the Federal Transit Administration.

The FTA vibration impact criteria is based on maximum overall levels for a single event, such as train passbys. This vibration impact criteria, contained in Table 6-3 of the FTA's Transit Noise and Vibration Impact Assessment Manual (September 2018), have been reproduced below in Table 2.

| <b>Table 2</b><br><b>FTA Groundborne Vibration Impact Criteria</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                  |                                |                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------|--------------------------------|
| Land Use Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Groundborne Vibration Impact Levels<br>(VdB re 1 µinch/sec, RMS) |                                |                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Frequent Events <sup>1</sup>                                     | Occasional Events <sup>2</sup> | Infrequent Events <sup>3</sup> |
| Category 1 – Buildings where vibration would interfere with interior operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 65 <sup>4</sup>                                                  | 65 <sup>4</sup>                | 65 <sup>4</sup>                |
| Category 2 – Residences and buildings where people normally sleep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 72                                                               | 75                             | 80                             |
| Category 3 – Institutional land uses with primarily daytime use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 75                                                               | 78                             | 83                             |
| Notes:<br><sup>1</sup> "Frequent Events" is defined as more than 70 vibration events of the same source per day.<br><sup>2</sup> "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.<br><sup>3</sup> "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.<br><sup>4</sup> This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. For equipment that is more sensitive, a Detailed Vibration Analysis must be performed.<br>Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (Sep. 2018), Table 6-3 |                                                                  |                                |                                |

## Ambient Noise Environment at the Project Site

### Existing Overall Ambient Noise Environment

The existing ambient noise environment at the project site is primarily defined by traffic on Railroad Avenue and intermittent railroad activity on the UPRR tracks. The project site is located well beyond the Travis Air Force Base 60 dB CNEL contour (see Appendix D), and, as a result, is not adversely affected by aircraft noise.

To quantify ambient traffic and railroad noise levels at the project site BAC conducted noise level measurements on July 20<sup>th</sup> and 22<sup>nd</sup>, 2020. The noise measurement location is shown on Figure 1.

The noise monitoring location was located approximately 50 feet from the Railroad Avenue centerline and approximately 120 feet from the center of the railroad tracks. Photographs of the noise level measurement location are provided in Appendix B.

A Larson-Davis Laboratories (LDL) Model 831 precision integrating sound level meter was used to complete the noise level measurement survey. The meter was calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The noise survey covered a total of 16 daytime hours during which BAC staff was present to observe railroad passages at the site. The noise measurement results indicate that hourly average noise levels at the approximately setback distance of the nearest proposed apartment building ranged from 58-69 dB  $L_{eq}$  with a mean of 63 dB  $L_{eq}$ . Measured maximum noise levels ranged from 74-97 dB  $L_{max}$  with a mean of 87 dB  $L_{max}$ . Measured maximum noise levels were generally caused by railroad warning horn usage and exceedingly loud vehicle passbys. The noise measurement results were used to evaluate traffic and railroad noise levels at the project site independently. Discussions of the noise generation of those discrete noise sources are presented in the following sections of this report.

### Predicted Future Traffic Noise Environment

To predict future Railroad Avenue traffic noise exposure at the proposed noise-sensitive locations of the development, BAC utilized the Federal Highway Administration Highway Traffic Noise Prediction Model with future traffic forecasts contained in the City's General Plan EIR. The FHWA Model inputs and results are provided in Appendix C. The results of the future traffic noise predictions are presented in Table 3 for the nearest proposed apartment building facades to the roadway and the common outdoor activity (pool) area.

It should be noted that the developer is proposing the construction of an 8-foot tall sound wall along Railroad Avenue (see Figure 2 for location). Although there would be two minor gaps in the construction of the wall for visibility and access, relative to the overall length of the barrier and proximity of the openings to proposed apartment buildings, those gaps are not expected to

appreciably affect the performance of the barrier. As a result, a -5 dB offset was applied to predicted first floor traffic and railroad noise levels due to shielding provided by that barrier.

**Table 3**  
**Predicted Future Traffic Noise Environment at the Project Site**  
**Blossom Avenue Apartments Project – Suisun City, California**

| <b>Location<sup>1</sup></b> | <b>Distance (ft)<sup>2</sup></b> | <b>Ground Level Ldn, dBA<sup>3</sup></b> | <b>Upper Floors Ldn, dBA<sup>4</sup></b> |
|-----------------------------|----------------------------------|------------------------------------------|------------------------------------------|
| Building 1                  | 170                              | 54                                       | 62                                       |
| Building 2                  | 75                               | 63                                       | 71                                       |
| Building 3                  | 100                              | 61                                       | 69                                       |
| Building 4                  | 70                               | 63                                       | 71                                       |
| Building 5                  | 70                               | 63                                       | 71                                       |
| Building 6                  | 220                              | 51                                       | 56                                       |
| Common Outdoor Area         | 380                              | 47                                       | n/a                                      |

**Notes:**

1. Building façade and outdoor activity area locations are shown on Figure 2.
2. Distance from the indicated area to the centerline of Railroad Avenue.
3. Traffic noise levels at ground floor locations include a -5 dB offset to account for the noise reduction of the proposed 8-foot tall property line barrier. Additional offsets were applied at the façade of building 1 (-3 dB) and at the outdoor pool area (-5 dB) to account for shielding of those areas by intervening structures.
4. Predicted traffic noise levels at upper floor locations do not include offsets for shielding by the proposed property line noise barrier and include an additional offset of +3 dB for reduced ground attenuation at upper floor locations.

Source: FHWA=RD-77-108

## Predicted Future Railroad Noise Environment

BAC noise measurement results and file data for numbers of typical UPRR operations on the tracks located north of the project site were utilized to assess railroad noise exposure at the proposed residences within this development. Specifically, future railroad activity adjacent to the project site will consist of approximately 32 daily Amtrak operations (including capitol corridor trains), and 15 heavy freight train operations per day, for a total of approximately 47 daily train passbys. The Amtrak passbys typically occur during daytime hours, with the freight trains randomly distributed throughout the 24-hour period.

The noise generation for individual train passbys varies depending on train length, speed, warning horn usage, track condition and number of locomotives. For the railroad operations adjacent to the project site, mean sound exposure levels for passenger and freight trains were measured to be approximately 90 and 100 dBA at a distance of 100 feet from the railroad tracks. To relate railroad noise level and operational information to the City of Suisun City 60 dB L<sub>dn</sub> exterior noise level criteria, the following formula is used:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4, \text{ dB, where:}$$

SEL is the mean SEL of the railroad passby event,  $N_{eq}$  is the sum of the number of daytime events (7 a.m. - 10 p.m.) per day plus 10 times the number of nighttime events (10 p.m. - 7 a.m.) per day, and 49.4 is 10 times the logarithm of the number of seconds per day.

Using the above-described formula, noise levels and operational information, railroad noise exposure was predicted at the nearest apartment facades and common outdoor activity area of this development. The results of those predictions are provided in Table 4.

| <b>Table 4</b><br><b>Predicted Future Railroad Noise Environment at the Project Site</b><br><b>Blossom Avenue Apartments Project – Suisun City, California</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                          |                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------|------------------------------------------|
| <b>Location<sup>1</sup></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Distance (ft)<sup>2</sup></b> | <b>Ground Level Ldn, dBA<sup>3</sup></b> | <b>Upper Floors Ldn, dBA<sup>4</sup></b> |
| Building 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 240                              | 57                                       | 65                                       |
| Building 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 150                              | 63                                       | 71                                       |
| Building 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 175                              | 62                                       | 70                                       |
| Building 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 140                              | 64                                       | 72                                       |
| Building 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 140                              | 64                                       | 72                                       |
| Building 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 290                              | 54                                       | 62                                       |
| Common Outdoor Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 490                              | 45                                       | n/a                                      |
| <b>Notes:</b><br>1. Building façade and outdoor activity area locations are shown on Figure 2.<br>2. Distances indicated are from the center of the railroad tracks to the indicated location.<br>3. Railroad noise levels at ground floor locations include a -5 dB offset to account for the noise reduction of the proposed 8-foot tall property line barrier. Additional offsets were applied at the façade of building 1 (-3 dB), the façade of Building 6 (-5 dB) and at the outdoor pool area (-10 dB) to account for shielding of those areas by intervening structures.<br>4. Predicted railroad noise levels at upper floor locations do not include offsets for shielding by the proposed property line noise barrier.<br>Source: BAC, 2020 |                                  |                                          |                                          |

## Predicted Combined Future Traffic & Railroad Noise Environments

Table 5 shows the combined traffic and railroad noise exposure at the project site.

| <b>Table 5</b><br><b>Predicted Combined Future Traffic &amp; Railroad Noise Environment at the Project Site</b><br><b>Blossom Avenue Apartments Project – Suisun City, California</b> |                                          |                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| <b>Location<sup>1</sup></b>                                                                                                                                                           | <b>Ground Level Ldn, dBA<sup>3</sup></b> | <b>Upper Floors Ldn, dBA<sup>4</sup></b> |
| Building 1                                                                                                                                                                            | 59                                       | 67                                       |
| Building 2                                                                                                                                                                            | 66                                       | 74                                       |
| Building 3                                                                                                                                                                            | 65                                       | 73                                       |
| Building 4                                                                                                                                                                            | 66                                       | 74                                       |
| Building 5                                                                                                                                                                            | 66                                       | 74                                       |
| Building 6                                                                                                                                                                            | 56                                       | 63                                       |
| Common Outdoor Area                                                                                                                                                                   | 49                                       | n/a                                      |
| Source: BAC, 2020                                                                                                                                                                     |                                          |                                          |

## Analysis of Future Traffic and Railroad Noise Exposure

### Common Outdoor Activity Area

As indicated in Table 5, the predicted combined future traffic and railroad noise exposure at the proposed common outdoor activity area (pool) is 49  $L_{dn}$ . This level satisfies the Suisun City 60 dB  $L_{dn}$  exterior noise level standard. As a result, no additional consideration of exterior railroad noise mitigation measures would be warranted for the exterior areas of this project.

### Residential Interiors

Standard residential construction (stucco siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof), results in an exterior to interior noise reduction of approximately 25 dB with windows closed. The developer is proposing to include air conditioning systems to allow occupants to close doors and windows as desired for acoustical isolation. As a result, the minimum building façade noise reduction for this development where standard window assemblies are proposed (STC-27), would be 25 dB. However, the developer is proposing to provide window upgrades for the upper floors of this development at the locations indicated on Figure 2. Those window upgrades are predicted to increase the building façade noise reduction to 30-32 dB.

As indicated in Table 5, future combined traffic and railroad noise levels at the nearest ground-floor building facades are predicted to range from 56-66 dB  $L_{dn}$ . Therefore, a building façade noise reduction of 21 dB or less would be required to ensure satisfaction with the City's 45 dB  $L_{dn}$  interior noise standard. Because the proposed first-floor construction would result in 25 dB of building façade noise attenuation, future combined traffic and railroad noise levels within the first-floor rooms of this development would be satisfactory relative to the City's interior noise standard without the need for additional noise mitigation measures.

At upper-floor facades nearest to Railroad Avenue and the UPRR tracks, Table 5 indicates that future combined traffic and railroad noise levels will range from 63-74 dB  $L_{dn}$ . Therefore, upper-floor building façade noise level reduction of 29 dB or less would be sufficient to ensure satisfaction with the Suisun City 45 dB  $L_{dn}$  interior noise level standard at the closest proposed buildings to the traffic and railroad noise sources. Because the noise level reduction achieved by the developer-proposed window upgrades at those closest buildings would be 30-32 dB, interior noise levels at all upper-floor rooms would be satisfactory relative to the City's interior noise standard without the need for additional noise mitigation measures.

## Existing Railroad Vibration Environment

The primary source of vibration at the project site is associated with railroad activity on the UPRR tracks to the north. According to the Suisun General Plan Policy PHS-2.1, new developments that propose vibration-sensitive uses within 100 feet of a railroad or heavy industrial facility are required to analyze and mitigate potential vibration impact, as feasible. As indicated in Table 4, the nearest proposed apartment building façade would be 140 feet from the railroad tracks. As a result, a railroad vibration analysis is technically not required for this project. Nonetheless, to ensure that railroad vibration levels are acceptable at the project site, BAC conducted vibration



monitoring during railroad passbys at the project site. The measurements were conducted at the location shown on Figure 1 on July 20<sup>th</sup> and July 22<sup>nd</sup>, 2020. A Larson-Davis Laboratories Model LxT precision integrating sound level meter equipped with a PCB Electronics vibration transducer was used to complete the vibration measurements.

The railroad vibration measurement results indicate that, during train passbys, maximum vibration levels ranged from 60 to 69 VdB, with a computed average vibration level of 63 VdB. These levels are satisfactory relative to both FTA and Suisun City standards. As a result, no railroad vibration impacts are identified for this project and no vibration mitigation measures would be warranted.

## Conclusions and Recommendations

The Blossom Avenue Apartments project is predicted to be exposed to future Railroad Avenue and UPRR noise exposures which are within compliance with the Suisun City General Plan exterior noise standard at the proposed common outdoor recreation area of the development (pool area). In addition, predicted future traffic and railroad noise exposure at both first and upper floor rooms of this development are predicted to be satisfactory relative to the City's 45 dB L<sub>dn</sub> interior noise standard. As a result, no additional noise mitigation measures would be required for this development.

These conclusions are based on noise and vibration level data measured at the project site, modeled future traffic and railroad noise exposure at the project site, the project site plan shown on Figure 2, and on noise reduction data for standard residential dwellings. Deviations from the data cited herein or the project site plan shown in Figure 2 could cause future traffic or railroad noise levels to differ from those predicted in this analysis. Bollard Acoustical Consultants, Inc. is not responsible for degradation in acoustic performance of the residential construction due to poor construction practices, failure to comply with applicable building code requirements, or for failure to adhere to the minimum building practices cited in this report.

This concludes BAC's noise and vibration assessment for the proposed Blossom Avenue Apartments in Suisun City, California. Please contact BAC at (916) 663-0500 or [paulb@bacnoise.com](mailto:paulb@bacnoise.com) with any questions regarding this assessment.

## Appendix A

### Acoustical Terminology

|                        |                                                                                                                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acoustics</b>       | The science of sound.                                                                                                                                                                                                                                                                        |
| <b>Ambient Noise</b>   | The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.                          |
| <b>Attenuation</b>     | The reduction of an acoustic signal.                                                                                                                                                                                                                                                         |
| <b>A-Weighting</b>     | A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.                                                                                                                                                                      |
| <b>Decibel or dB</b>   | Fundamental unit of sound. A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.                                                                                                              |
| <b>CNEL</b>            | Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.                                                        |
| <b>Frequency</b>       | The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.                                                                                                                                                                                    |
| <b>IIC</b>             | Impact Insulation Class (IIC): A single-number representation of a floor/ceiling partition's impact generated noise insulation performance. The field-measured version of this number is the FIIC.                                                                                           |
| <b>Ldn</b>             | Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.                                                                                                                                                                                                                |
| <b>Leq</b>             | Equivalent or energy-averaged sound level.                                                                                                                                                                                                                                                   |
| <b>Lmax</b>            | The highest root-mean-square (RMS) sound level measured over a given period of time.                                                                                                                                                                                                         |
| <b>Loudness</b>        | A subjective term for the sensation of the magnitude of sound.                                                                                                                                                                                                                               |
| <b>Masking</b>         | The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.                                                                                                                                                      |
| <b>Noise</b>           | Unwanted sound.                                                                                                                                                                                                                                                                              |
| <b>Peak Noise</b>      | The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the "Maximum" level, which is the highest RMS level.                                                                                                  |
| <b>RT<sub>60</sub></b> | The time it takes reverberant sound to decay by 60 dB once the source has been removed.                                                                                                                                                                                                      |
| <b>STC</b>             | Sound Transmission Class (STC): A single-number representation of a partition's noise insulation performance. This number is based on laboratory-measured, 16-band (1/3-octave) transmission loss (TL) data of the subject partition. The field-measured version of this number is the FSTC. |





### Legend

- [A] Facing Railroad Avenue & Noise Measurement Site
- [B] Noise Measurement Site: 38°15'34.32"N, 122° 0'52.14"W
- [C] Noise Measurement Site: 38°15'34.32"N, 122° 0'52.14"W
- [D] Vibration Measurement Site: 38°15'33.74"N, 122° 0'52.95"W

### Blossom Avenue Apartments Suisun City, California

Photographs of Survey Locations

Appendix B



## Appendix C-1

### FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)

#### Noise Prediction Worksheet

##### Project Information:

Job Number: 2020-127  
Project Name: Blossom Avenue Apartments - Ground Floor  
Roadway Name: Railroad Avenue

##### Traffic Data:

Year: Future  
Average Daily Traffic Volume: 27,800  
Percent Daytime Traffic: 85  
Percent Nighttime Traffic: 15  
Percent Medium Trucks (2 axle): 2  
Percent Heavy Trucks (3+ axle): 1  
Assumed Vehicle Speed (mph): 40  
Intervening Ground Type (hard/soft): **Soft**

##### Traffic Noise Levels:

|          |                              |          |             | -----L <sub>dn</sub> , dB----- |               |              |       |
|----------|------------------------------|----------|-------------|--------------------------------|---------------|--------------|-------|
| Location | Description                  | Distance | Offset (dB) | Autos                          | Medium Trucks | Heavy Trucks | Total |
| 1        | Building 1                   | 170      | -8          | 53                             | 45            | 47           | 54    |
| 2        | Building 2                   | 75       | -5          | 61                             | 53            | 55           | 63    |
| 3        | Building 3                   | 100      | -5          | 59                             | 52            | 53           | 61    |
| 4        | Buildings 4 & 5              | 70       | -5          | 62                             | 54            | 56           | 63    |
| 5        | Building 6                   | 220      | -10         | 49                             | 41            | 43           | 51    |
| 6        | Common Outdoor Activity Area | 380      | -10         | 46                             | 38            | 40           | 47    |

##### Traffic Noise Contours (No Calibration Offset):

| L <sub>dn</sub> Contour, dB | Distance from Centerline, (ft) |
|-----------------------------|--------------------------------|
| 75                          | 25                             |
| 70                          | 54                             |
| 65                          | 115                            |
| 60                          | 248                            |

**Notes:** Future Average Daily Traffic Volume was obtained from the City of Suisun 2035 General Plan EIR. The offsets are due to shielding of Railroad Avenue by intervening structures and the proposed 8-foot tall sound wall along the northern boundary of the project.

**Appendix C-2****FHWA Traffic Noise Prediction Model (FHWA-RD-77-108)****Noise Prediction Worksheet****Project Information:**

Job Number: 2020-127  
 Project Name: Blossom Avenue Apartments - Upper Floors  
 Roadway Name: Railroad Avenue

**Traffic Data:**

Year: Future  
 Average Daily Traffic Volume: 27,800  
 Percent Daytime Traffic: 85  
 Percent Nighttime Traffic: 15  
 Percent Medium Trucks (2 axle): 2  
 Percent Heavy Trucks (3+ axle): 1  
 Assumed Vehicle Speed (mph): 40  
 Intervening Ground Type (hard/soft): **Soft**

**Traffic Noise Levels:**

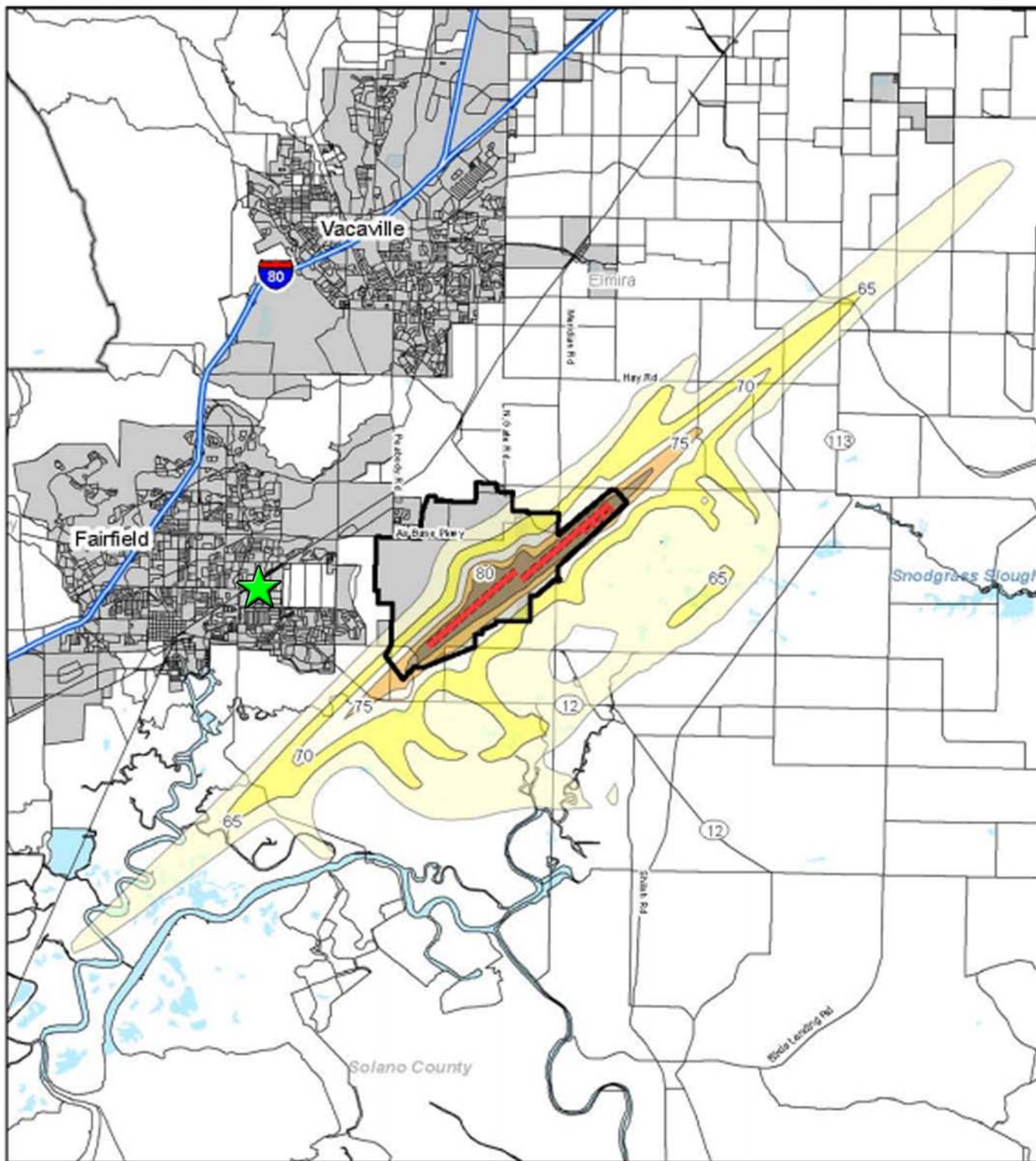
|          |                              | -----L <sub>dn</sub> , dB----- |             |                      |               |              |       |
|----------|------------------------------|--------------------------------|-------------|----------------------|---------------|--------------|-------|
| Location | Description                  | Distance                       | Offset (dB) | Autos                | Medium Trucks | Heavy Trucks | Total |
| 1        | Building 1                   | 170                            | 0           | 61.0                 | 53            | 55           | 62    |
| 2        | Building 2                   | 75                             | 3           | 69                   | 61            | 63           | 71    |
| 3        | Building 3                   | 100                            | 3           | 67                   | 60            | 61           | 69    |
| 4        | Buildings 4 & 5              | 70                             | 3           | 70                   | 62            | 64           | 71    |
| 5        | Building 6                   | 220                            | -5          | 54                   | 46            | 48           | 56    |
| 6        | Common Outdoor Activity Area |                                |             | n/a (no upper floor) |               |              |       |

**Traffic Noise Contours (No Calibration Offset):**

| L <sub>dn</sub> Contour, dB | Distance from Centerline, (ft) |
|-----------------------------|--------------------------------|
| 75                          | 25                             |
| 70                          | 54                             |
| 65                          | 115                            |
| 60                          | 248                            |

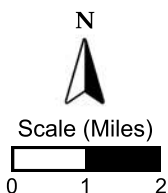
**Notes:** Future Average Daily Traffic Volume was obtained from the City of Suisun 2035 General Plan EIR. The offsets are due to shielding of Railroad Avenue by intervening structures, including the proposed 8-foot tall sound wall along the northern boundary of the project.





#### Legend

- |                                                                                     |              |                                                                                     |                  |
|-------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|------------------|
|  | DNL 80+ dB   |  | Interstate       |
|  | DNL 75-79 dB |  | Runway           |
|  | DNL 70-74 dB |  | City Limits      |
|  | DNL 65-69 dB |  | Travis AFB       |
|  | DNL 60-64 dB |  | Project Location |



#### Blossom Avenue Apartments Suisun City, California

Travis Air Force Base 2009 AICUZ  
Study Noise Contours

Appendix D





## **Appendix J    VEHICLE MILES TRAVELED IMPACT ANALYSIS MEMORANDUM**





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|       |             |       |                                     |
|-------|-------------|-------|-------------------------------------|
| To:   | John Kearns | From: | Daryl Zerfass and Sandhya Perumalla |
|       | Suisun City |       | Stantec                             |
| File: | 185705223   | Date: | January 29, 2021                    |

---

**Reference: VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California**

Stantec Consulting Service Inc. (Stantec) has prepared a vehicle-miles traveled (VMT) impact analysis for the Blossom Avenue Apartments (Project) located in the northwestern portion of Suisun City in Solano County, California. The purpose of this memo is to document the findings of the VMT impact analysis prepared in support of the Project's environmental documentation and complies with the updated California Environmental Quality Act (CEQA) guidelines that incorporate the requirements of Senate Bill 743 (SB 743).

### **Project Description**

The Project site is bordered by Blossom Avenue to the west and Railroad Avenue to the north, which defines the City's northern boundary with the City of Fairfield. The Project includes construction of a garden-style apartment complex that consists of nine separate three-story buildings. The buildings would provide 180 multi-family units total with a mix of one, two and three-bedroom units. The Project site is currently undeveloped land. Primary access to the Project site would be via a new driveway on Blossom Avenue. Two emergency access points would be constructed on the north and south of the Project site at Railroad Avenue and Amber Drive, respectively. The Union Pacific Railroad is directly north of the Project site and runs parallel to Railroad Avenue. The railroad extends through the City and serves both major freight and Amtrak trains. See **Figure 1** for the Project Location Map and **Figure 2** for the Project Site Plan.

### **VMT Analysis Methodology and Performance Criteria**

This VMT analysis was prepared in support of the Project's environmental documentation and complies with the updated California Environmental Quality Act (CEQA) guidelines that incorporates the requirements of Senate Bill 743 (SB 743). Generally, SB 743 moves away from using delay-based level of service (LOS) as the metric for identifying a project's significant impact to instead use VMT.

SB 743 required the Governor's Office of Planning and Research (OPR) to establish recommendations for identifying and mitigating transportation impacts within CEQA, the document is referred to in this memorandum as OPR's Technical Advisory<sup>1</sup>. OPR's Technical Advisory recommends methodologies for quantifying VMT, significance thresholds for identifying a transportation impact, and screening criteria to quickly identify if a Project can be presumed to have a less than significant impact without conducting a full VMT analysis. Lead agencies are to adopt local guidelines appropriate for their jurisdiction. At this time, the Suisun City VMT program is still being developed but VMT thresholds of significance have been adopted. Therefore, in the interim the City has determined that they will apply the recommended screening methodology set forth in OPR's Technical Advisory guidance and the City's adopted VMT thresholds of significance (Resolution No. 2020-122<sup>2</sup>).

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<sup>1</sup> Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.

<sup>2</sup> Resolution No. 2020-122 A Resolution of the City Council of the City of Suisun City Approving Vehicle Miles Traveled (VMT) Based California Environmental Quality Act (CEQA) Thresholds, September 15, 2020.

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

The City's VMT thresholds specify new significance thresholds that constitute a significant transportation impact and that are consistent with OPR's Technical Advisory recommendation. For projects that do not qualify for any of the screening criteria presented in OPR's Technical Advisory, Suisun City will apply the following thresholds of significance when analyzing the VMT transportation impacts of residential land use projects under CEQA:

- The project would cause a significant transportation impact if the project would generate an average home-based VMT per resident that is greater than 85 percent of the Citywide average.
- If the threshold mentioned above is exceeded, the project's VMT impact could still be found to be less than significant if it does not cause the total City-wide VMT to increase.

If a significant impact is identified based on the significance thresholds, mitigation to reduce VMT would be necessary.

Since the Project is comprised of residential land use, it is evaluated based on home-based (HB) VMT per capita and a threshold of significance of 15 percent lower than the Citywide average HB VMT per capita.

The City provides guidance that the City of Fairfield Travel Demand Model shall be used to conduct VMT analysis, consistent with OPR's recommendation to use a travel demand model for VMT calculations. The model's VMT estimates are key in setting baseline values that are used for the VMT thresholds. As stated in the Suisun City SB 743 Implementation Draft Memorandum<sup>3</sup>, the base year thresholds rely on a "rolling baseline", where the base year baseline metric value should be re-considered on a project-by-project basis. Therefore, the baseline residential VMT estimate for Suisun City and corresponding VMT threshold of significance is derived using the latest version of the Fairfield Travel Demand Model. See **Attachment A** for Fairfield Travel Demand Model VMT Calculation Methodology.

Readily available VMT statistics—HB VMT per single family dwelling unit (SFDU) and HB VMT per Multifamily dwelling unit (MFDU) by traffic analysis zone (TAZ) from the Fairfield Travel Demand Model—were obtained from the City of Fairfield staff. The VMT statistics were converted from HB VMT per SFDU and HB VMT per MFDU to HB VMT per resident using occupancy rates from the American Community Survey 2012-2016 Five-Year Estimates<sup>4</sup>. **Table 1** summarizes the conversion process described above and the resulting residential VMT threshold utilized in this analysis.

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<sup>3</sup> Suisun City SB 743 Implementation: Summary of Findings and Recommendations for VMT-Based CEQA Thresholds Draft Memorandum, City of Suisun City, July 10, 2020.

<sup>4</sup> Fairfield Guidelines for Project VMT Screening Transportation Analysis, Version 1.1, City of Fairfield, 12-22-2020.

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

**Table 1 Suisun City Residential VMT Threshold**

|                                                                                                                            | HB VMT per SFDU | HB VMT per MFDU | SFDU HB VMT per Capita (Occupancy Rate 2.78) | MFDU HB VMT per Capita (Occupancy Rate 2.33) | Number of SFDU | Number of MFDU | Average Residential HB VMT per Capita |
|----------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|----------------------------------------------|----------------------------------------------|----------------|----------------|---------------------------------------|
| Suisun City Average Baseline                                                                                               | 79.6            | 56.6            | 28.6                                         | 24.3                                         | 6,733          | 1,273          | 27.9                                  |
| Threshold (85% of Average Baseline)                                                                                        |                 |                 |                                              |                                              |                |                | 23.7                                  |
| HB - Home Based<br>VMT - Vehicle Miles Traveled<br>SFDU - Single Family Dwelling Unit<br>MFDU - Multi Family Dwelling Unit |                 |                 |                                              |                                              |                |                |                                       |

### Project Screening

Prior to undertaking a detailed VMT analysis, OPR's Technical Advisory advises that lead agencies conduct a screening process. If a project satisfies one or more of the screening criteria, the Project could be presumed to have a less-than-significant impact. OPR's Technical Advisory suggests that lead agencies may screen out VMT impacts using project size, maps depicting areas of low VMT, transit availability and provision of affordable housing screening criteria as shown in **Table 2**.

**Table 2 Project Screening Criteria and Threshold**

| Category                           | Criteria/Screening                                                                                                                                                                       | Threshold                                                                                                                                                      | Screened Out (Yes/No) |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Trip generation screening          | Small projects can be screened out from completing a full VMT analysis.                                                                                                                  | If the Project generates less than 110 trips per day, the Project is assumed to have a less than significant impact.                                           | No                    |
| Map-based screening                | Projects that are located in areas with low VMT can be screened out from completing a full VMT analysis.                                                                                 | If the Project is in a low VMT area, the Project is assumed to have a less than significant impact.                                                            | No                    |
| Proximity to transit               | Projects within ½ mile of a major transit stop or a stop located along a high-quality transit corridor reduce VMT and therefore can be screened out from completing a full VMT analysis. | If the Project is within ½ mile of a major or high-quality transit stop/corridor, the Project is assumed to have a less than significant impact.               | No                    |
| Affordable residential development | Affordable housing in infill locations can be screened out from completing a full VMT analysis.                                                                                          | If the Project is comprised 100% of affordable units and is located in an infill location, then the Project is assumed to have a less than significant impact. | No                    |

**Trip Generation Screening** - The project is estimated to generate 979 average daily trips as shown below. Since the Project is estimated to generate more than 110 daily trips, the small project screening criteria does not apply.

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

| Trip Rates                                                                                                      | Amount | Units | AM Peak Hour |      |       | PM Peak Hour |      |       | ADT  |
|-----------------------------------------------------------------------------------------------------------------|--------|-------|--------------|------|-------|--------------|------|-------|------|
|                                                                                                                 |        |       | In           | Out  | Total | In           | Out  | Total |      |
| Multifamily Housing Mid-Rise (221)                                                                              |        | DU    | 0.09         | 0.27 | 0.36  | 0.27         | 0.17 | 0.44  | 5.44 |
| <b>Trip Generation</b>                                                                                          |        |       |              |      |       |              |      |       |      |
| Blossom Ave Apartments                                                                                          | 180    | DU    | 17           | 48   | 65    | 48           | 31   | 79    | 979  |
| Trip Rate Source: Institute of Transportation Engineers (ITE), 10th Edition, 2017, with ITE code in parentheses |        |       |              |      |       |              |      |       |      |
| ADT - Average Daily Trips                                                                                       |        |       |              |      |       |              |      |       |      |
| DU - Dwelling Unit                                                                                              |        |       |              |      |       |              |      |       |      |

**Map-Based Screening** – OPR's Technical Advisory recommends that projects that are located in areas with low VMT per capita, and that incorporate similar features to the existing development in those areas, will exhibit similarly low VMT per capita and therefore will have less than significant impacts to VMT. At this time, Solano County and Suisun City have not developed a map-based resource or database for identifying areas in the County or the City with low VMT per capita. Therefore, this screening criteria cannot be applied to the Project.

**Proximity to High-Quality Transit** – OPR's Technical Advisory indicates that a project can be screened out as having a less than significant impact on VMT if the project is within a half-mile of an "existing major transit stop or an existing stop along a high-quality transit corridor". A major transit stop is defined as the intersection of two or more major bus routes with a frequency service interval of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined as an existing corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

The Fairfield and Suisun Transit (FAST) has two fixed local bus routes—Route 2 and Route 6—in the vicinity of the Project with the service intervals at 30 minutes and 45 minutes, respectively. Based on the definition describe above, the Project would not be eligible to be screened out under this threshold since it is not within a half-mile of either type of transit facility.

**Affordable Housing** – OPR's Technical Advisory indicates that 100% affordable housing projects located in infill locations can be assumed to have a less than significant impact on VMT. The Project is not comprised 100% of affordable housing in an infill area, so this screening threshold does not apply.

Since the Project does not meet any of the screening criteria described above, a VMT analysis is required.

## VMT Analysis

OPR's Technical Advisory indicates that a lead agency may elect to use a traffic model to estimate a project's VMT. As such, Suisun City has elected to use the City of Fairfield travel demand model to assess VMT resulting from land use projects.

The Project is located in traffic analysis zone (TAZ) 513 (see **Figure 3**), which includes residential land uses similar in nature to the proposed Project. Since the Project's land uses are comparable to the land use in TAZ 513, the Project can be expected to exhibit trip generation and trip length characteristics similar to the other residential land use in the TAZ. The HB VMT per capita for TAZ 513 has been refined based on specific Project characteristics. Certain Project characteristics that result in VMT reductions from the zonal baseline

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

have been evaluated and the estimated VMT reduction (detailed discussion can be found later in this memorandum) applied to the zonal VMT rate, which is referred to as the Project VMT in **Table 3**.

As shown in **Table 3**, the zonal VMT is 25.1 VMT per capita. When VMT reductions from Project characteristics are applied, the Project VMT is 23.4 VMT per capita, which is below the Citywide average of 23.7 VMT per capita. Therefore, the Project would result in a less than significant impact on VMT.

**Table 3 VMT Analysis Summary**

| Description                                                   | Residential HB VMT per Capita   |
|---------------------------------------------------------------|---------------------------------|
| <b>Project</b>                                                |                                 |
| Zonal Home-Based VMT per Capita (2020)                        | 25.1 VMT per capita             |
| % VMT reduction due to Project Components (See Table 4)       | 6.9%                            |
| Project VMT                                                   | 23.4                            |
| <b>Threshold</b>                                              |                                 |
| Suisun City Average Baseline Home-Based VMT per Capita (2020) | 27.9 VMT per capita             |
| Threshold of Significance (15% reduction from baseline)       | 23.7 VMT per capita             |
|                                                               |                                 |
| Difference (Project minus Threshold of Significance)          | -0.3 VMT per capita             |
| Is Project above or below Threshold of Significance           | Below Threshold of Significance |
| Significant Transportation Impact                             | No                              |
| Source:<br>City of Fairfield Travel Demand Model              |                                 |

### **VMT Reductions from Project Components**

As shown in the previously referenced **Table 3**, the Project contains characteristics that would reduce VMT. Quantification methodologies from CAPCOA are utilized to estimate the VMT reduction from Project characteristics. The Project includes the following project characteristics.

**PC-1: The Project will increase density.** CAPCOA describes that designing the project with increased densities reduces VMT, and thereby Green House Gas (GHG) emissions associated with travel in several ways. Density is generally measured in terms of persons, jobs, or dwellings per unit area. Increasing the Project density will affect the distance people travel and provide greater options to choose for the mode of travel. The Project site plan shows the gross density is 19.8 dwelling units per acre. To calculate the estimated VMT reductions from this measure, CAPCOA's quantification methodology was utilized. This measure would result in a Project VMT reduction of approximately 11%. However, CAPCOA recommends maximum reductions for transportation measures based on the project's location. A project is able to achieve more VMT reductions if located in an urban setting and less VMT reduction in a suburban setting. Since the Project is located in a suburban setting, this measure would result in a maximum VMT reduction of **5%**.

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

Below is the estimated VMT reduction based on CAPCOA's **LUT-1 Land Use/Location Transportation-Increase Density** methodology:

**Mitigation Method:**

$$\% \text{ VMT Reduction} = A \times B \text{ [not to exceed 30\%]}$$

where A = Percentage increase in housing units per acre

= (the Project's number of housing units per acre – number of housing units per acre for typical ITE development) / (number of housing units per acre for typical ITE development)

\*Per CAPCOA Table C-1 housing units per acre for typical ITE development = 7.6

$$= (19.8 - 7.6) / 7.6$$

$$= 1.6$$

B = Elasticity of VMT with respect to density

$$= 0.07$$

$$\% \text{ VMT Reduction} = 1.6 \times 0.07 = 11\%$$

**Adjusted VMT Reduction based on the Project being located in a suburban setting = 5%**

Source: CAPCOA

**PC-2: The Project will improve pedestrian connectivity by constructing an on-site pedestrian network.**

The Project will construct pedestrian pathways that will facilitate pedestrian movements throughout the Project and connect to new off-site pedestrian improvements along the Project frontage. The Project will improve the existing off-site pedestrian network by filling in gaps in the sidewalk system for pedestrian connectivity. The Site Plan shows on-site pedestrian pathways that connect to Railroad Avenue, Blossom Avenue and Amber Drive. The Project will construct sidewalks on Railroad Avenue that will connect off-site. Sidewalk is present on the east side of Blossom Avenue, and on Amber Drive. The construction in new sidewalks on Railroad Avenue will fill in gaps in the existing sidewalk system. To quantify the VMT reductions related to this site design feature, SDT-1 Improve Pedestrian Network from CAPCOA is utilized. This measure would result in a Project VMT reduction of 2.0%.

Below is the estimated VMT reduction based on CAPCOA's **SDT-1 Neighborhood/Site Enhancements- Provide Pedestrian Network Improvements** methodology:

**Mitigation Method:**

| Estimated VMT Reduction | Extent of Pedestrian Accommodations         | Context        |
|-------------------------|---------------------------------------------|----------------|
| 2%                      | Within Project Site and Connecting Off-Site | Urban/Suburban |
| 1%                      | Within Project Site                         | Urban/Suburban |
| < 1%                    | Within Project Site and Connecting Off-Site | Rural          |

Source: CAPCOA

**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

**Table 4** summarizes the two project components described above and the resulting overall VMT reduction.

**Table 4 VMT Reductions from Project Characteristics Summary**

| Description                                                                                                                                                                                                                                      | Residential VMT Reduction (HB VMT) | Source                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------|
| <b>Project Characteristics</b>                                                                                                                                                                                                                   |                                    |                                              |
| PC-1. The Project will increase density.                                                                                                                                                                                                         | 5.0%                               | CAPCOA Land Use/ Location LUT-1              |
| PC-2. The Project will improve pedestrian connectivity by constructing an on-site pedestrian network.                                                                                                                                            | 2.0%                               | CAPCOA Neighborhood / Site Enhancement SDT-1 |
| <b>Total VMT Reductions from Project Components</b>                                                                                                                                                                                              | 6.9% <sup>1</sup>                  |                                              |
| <sup>1</sup> The calculated reductions do not sum up to the total since individual strategies are multiplicative and not additive. e.g., overall % VMT Reduction = 1-(1-A)*(1-B)*(1-C) where A, B, C equals reductions for individual strategies |                                    |                                              |

As shown in **Table 4**, the Project's components would result in a 6.9 percent overall VMT reduction to the Project's VMT.

### Cumulative Impact Analysis

According to OPR's Technical Advisory<sup>5</sup>, if a project is found to have a less than significant impact at the project level, it implies that the project would have a less than significant cumulative impact. Since the Project was found to have a less than significant impact, the Project would have a less than significant cumulative impact.

### RTP/SCS Consistency

The Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) have prepared the Final Bay Area 2040, the long-range Regional Transportation Plan and Sustainable Communities Strategy for the nine-county San Francisco Bay Area. Plan Bay Area 2050, an update to the RTP/SCS, is currently in progress. The preparation of the Final Bay Area 2040 RTP/SCS included an extensive public outreach program where members of the public and member agencies were engaged to provide input to the RTP/SCS. In addition, an environmental impact report was prepared and certified and the comment period allowed for members of the public and member agencies to review and comment on the RTP/SCS assumptions. Suisun City is within the ABAG planning area and the City's General Plan assumptions would have been considered and included in the RTP/SCS. Therefore, if the Project is consistent with the City's General Plan, then the Project is consistent with the RTP/SCS.

The project site is zoned for Medium-Density Residential. This zoning district is consistent with the Medium-Density Residential land use designation in the City's General Plan. Multi-family apartments are permitted in

<sup>5</sup> Page 6 from Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, State of California, December 2018.



**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

the Medium-Density Residential zoning district with approval of a Conditional Use Permit. Therefore, the Project is consistent with the General Plan and is consistent with the RTP/SCS.

### **Active Transportation**

There is a sidewalk on the east side of Blossom Avenue but there are no sidewalks on both sides of Railroad Avenue. To facilitate pedestrian movement throughout the Project site, the Project would construct driveways, frontage improvements and landscaping. There are no designated existing bicycle facilities around the Project site. However, there is a future Class II bicycle facility on Railroad Avenue. See **Figure 4** for the existing and future bicycle facilities.

The Project would not block, remove, or create barriers for walking and biking, but rather it would provide facilities to encourage non-motorized mode of transportation throughout the Project site, which would reduce local vehicle trips.

### **Transit**

Fairfield and Suisun Transit (FAST) provide general public fixed route services through eight local and two intercity/commuter routes. Local transit routes provide services to the cities of Fairfield and Suisun City and are operated Monday through Saturday. Local routes are managed and operated by the City of Fairfield. Route 2 and Route 6 provide service in the vicinity of the Project site with service intervals at 30 minutes and 45 minutes, respectively. The Solano Express intercity/commuter routes consist of the Blue and the Green Express Lines, managed by Solano Transportation Authority and operated by the City of Fairfield. The Blue Line operates between Pleasant Hill BART and Sacramento, and the Green Line operates between Suisun City/Fairfield and El Cerrito del Norte BART. The Project would not block, remove, or create barriers for transit utilization.

### **Conclusion**

A VMT analysis was conducted for the Project using guidance outlined in the OPR's Technical Advisory and the City's adopted thresholds of significance. Based on OPR's Technical Advisory screening criteria, the Project would not meet any of the screening criteria and therefore a VMT analysis is required.

VMT data was obtained from the City of Fairfield travel demand model and used for analysis of the Project. The Citywide average baseline residential VMT rate is 27.9 HB VMT per capita. A 15 percent reduction was applied to the average baseline and results in a significance threshold of 23.7 HB VMT per capita.

Project characteristics that would reduce the Project's VMT were identified and quantified based on CAPCOA quantification methodologies. VMT reductions due to specific Project characteristics were applied to the zonal baseline residential VMT estimate and are referred to as the Project VMT. The Project includes certain characteristics that reduce VMT. Specifically, the Project will increase density and the Project will include improvements to the pedestrian connectivity by constructing an on-site pedestrian network. Quantification methodologies from CAPCOA are utilized to estimate the VMT reduction from Project characteristics. The two Project characteristics combined would result in a VMT reduction of 6.9 percent, which was applied to the zonal VMT rate.

The Project VMT rate is 23.4 HB VMT per capita, which is below the residential threshold of significance of 23.7 HB VMT per capita. Therefore, the Project would result in a less than significant impact on VMT.

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**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

Since the Project was found to have a less than significant impact, the Project would also have a less than significant impact in the cumulative setting. In addition, since the Project is consistent with the City's General Plan, the Project is also consistent with the RTP/SCS.

Regarding active transportation, the Project will not block, remove, or create barriers for walking and biking, but rather provide facilities to encourage non-motorized mode of transportation around the Project site. Lastly, the Project would not block, remove, or create barriers for transit utilization.

If you have any questions on the above material, please feel free to contact Daryl or Sandhya to discuss.

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Attachment: Attachment A - Fairfield Travel Demand Model VMT Calculation Methodology  
Figure 1 Project Location Map  
Figure 2 Project Site Plan  
Figure 3 TAZ MAP  
Figure 4 Existing and Future Bicycle Facilities - Suisun City

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**Reference:** VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

### **Attachment A:**

#### **Fairfield Travel Demand Model VMT Calculation Methodology**

Residential VMT per capita was estimated using readily available VMT statistics from the latest “off the shelf” version of the Fairfield Travel Demand Model and was obtained from City staff in January 2021.

Prior to the VMT analysis Stantec consulted with Suisun City staff on the progress of the “Next Steps” outlined in the SB 743 Draft Memorandum. City staff indicated that no changes have been made on the status of revising the screening criteria or the City of Fairfield Travel Demand Model. The version of the Fairfield Travel Demand Model used for the Blossom Apartments VMT analysis may differ from the model version that was used in the SB 743 Draft Memorandum. Since the SB 743 Draft memorandum does not outline the VMT calculation methodology used to derive the Suisun City VMT Metric Estimates from the City of Fairfield Model (as shown in the Table 2 of the SB 743 Draft Memorandum), the methodology used to calculate the residential VMT per capita is consistent with the methodology used by the City of Fairfield.

City of Fairfield staff provided readily available VMT statistics by traffic analysis zone (TAZ) from the latest version of the Fairfield Travel Demand Model. The City of Fairfield has adopted VMT thresholds of significance that utilizes VMT per unit as the VMT metric for residential uses (with separate categories for Single Family Residential and Multi Family Residential). Scripts and a “VMT analysis spreadsheet” that uses trip generation rates, 2020 land use, VMT by purposes extracted from the model (by TAZ) and calculated average trip lengths (by TAZ) are used to estimate VMT generation rates per unit. The “VMT analysis spreadsheet” was provided to Stantec.

Since Suisun City utilizes the VMT per capita metric for analysis of residential projects, the City of Fairfield’s VMT per unit was converted to VMT per capita. Occupancy factors derived by the City of Fairfield from the American Community Survey 2012-2016 Five-Year Estimates were used to convert VMT per unit to VMT per capita. Specifically, for single family dwelling unit an occupancy factor of 2.78 was used and for multi-family dwelling unit an occupancy factor of 2.33 was used. A weighted average VMT per capita was then calculated from the single family and multi-family categories. Table 1 summarizes the conversion described above and the resulting VMT per capita. Table 2 provides a printout of model output data contained in the “VMT analysis spreadsheet”.

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Reference: VMT Impact Analysis of The Blossom Avenue Apartments Project located in the City of Suisun City, Solano County, California

**Table 1: Residential VMT per Capita Calculation Summary**

| Zones within Suisun City Boundary               | Fairfield Model VMT per SFDU | Fairfield Model VMT per MFDU | SFDU Occupancy Rate = 2.78 | MFDU Occupancy Rate = 2.33 | Number of SFDU | Number of MFDU | Weighted Average Residential VMT per Capita |
|-------------------------------------------------|------------------------------|------------------------------|----------------------------|----------------------------|----------------|----------------|---------------------------------------------|
|                                                 | A                            | B                            | C=A/2.78                   | D=B/2.33                   |                |                |                                             |
| 502                                             | 81.78                        | 58.14                        | 29.4                       | 25.0                       | 400            | 0              | 29.4                                        |
| 503                                             | 80.73                        | 57.49                        | 29.0                       | 24.7                       | 120            | 0              | 29.0                                        |
| 504                                             | 90.31                        | 64.21                        | 32.5                       | 27.6                       | 735            | 0              | 32.5                                        |
| 505                                             | 84.08                        | 59.78                        | 30.2                       | 25.7                       | 247            | 0              | 30.2                                        |
| 506                                             | 88.18                        | 62.70                        | 31.7                       | 26.9                       | 491            | 0              | 31.7                                        |
| 507                                             | 82.24                        | 58.51                        | 29.6                       | 25.1                       | 602            | 0              | 29.6                                        |
| 508                                             | 83.46                        | 59.33                        | 30.0                       | 25.5                       | 330            | 0              | 30.0                                        |
| 509                                             | 87.31                        | 62.03                        | 31.4                       | 26.6                       | 12             | 0              | 31.4                                        |
| 510                                             | 92.08                        | 65.44                        | 33.1                       | 28.1                       | 122            | 0              | 33.1                                        |
| 511                                             | 87.82                        | 62.43                        | 31.6                       | 26.8                       | 340            | 0              | 31.6                                        |
| 512                                             | 80.52                        | 57.26                        | 29.0                       | 24.6                       | 376            | 0              | 29.0                                        |
| 513                                             | 71.30                        | 50.72                        | 25.6                       | 21.8                       | 396            | 64             | 25.1                                        |
| 514                                             | 68.47                        | 48.72                        | 24.6                       | 20.9                       | 3              | 0              | 24.6                                        |
| 515                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 516                                             | 72.60                        | 51.68                        | 26.1                       | 22.2                       | 583            | 252            | 24.9                                        |
| 517                                             | 74.59                        | 53.07                        | 26.8                       | 22.8                       | 485            | 271            | 25.4                                        |
| 518                                             | 79.80                        | 56.77                        | 28.7                       | 24.4                       | 170            | 0              | 28.7                                        |
| 519                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 520                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 521                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 522                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 523                                             | 72.34                        | 51.49                        | 26.0                       | 22.1                       | 98             | 0              | 26.0                                        |
| 524                                             | 72.63                        | 51.69                        | 26.1                       | 22.2                       | 6              | 0              | 26.1                                        |
| 526                                             | 72.30                        | 51.64                        | 26.0                       | 22.2                       | 735            | 0              | 26.0                                        |
| 527                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 528                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 529                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 530                                             | 73.49                        | 52.37                        | 26.4                       | 22.5                       | 300            | 150            | 25.1                                        |
| 531                                             | --                           | --                           | --                         | --                         | --             | --             | --                                          |
| 532                                             | 75.02                        | 53.43                        | 27.0                       | 22.9                       | 24             | 513            | 23.1                                        |
| 533                                             | 77.16                        | 54.96                        | 27.8                       | 23.6                       | 158            | 23             | 27.2                                        |
| Citywide Average                                | 79.5                         | 56.6                         | 28.6                       | 24.3                       | 6733           | 1273           | 27.9                                        |
| Citywide Average with 15% Reduction (Threshold) |                              |                              |                            |                            |                |                | 23.7                                        |

Table 2 Fairfield Travel Demand Model Output Sheets from the "VMT Analysis Spreadsheet"

| VMT by purpose extracted from model |          |          |          |           |             |         |         |            |            |            |            |         |           |           |           |            |              |           |          |             |             |             |             |          |          |
|-------------------------------------|----------|----------|----------|-----------|-------------|---------|---------|------------|------------|------------|------------|---------|-----------|-----------|-----------|------------|--------------|-----------|----------|-------------|-------------|-------------|-------------|----------|----------|
| z                                   | P_HBW_tr | P_HBO_tr | P_NHB_tr | P_HBSC_tr | P_Travis_tr | P_IX_tr | P_XI_tr | P_HBWIX_tr | P_HBWXI_tr | P_TraIX_tr | P_TraXI_tr | P_XX_tr | P_HBW_vmt | P_HBO_vmt | P_NHB_vmt | P_HBSC_vmt | P_Travis_vmt | P_IX_vmt  | P_XI_vmt | P_HBWIX_vmt | P_HBWXI_vmt | P_TraIX_vmt | P_TraXI_vmt | P_XX_vmt | A_HBW_tr |
| 502                                 | 856.67   | 1469.31  | 28.56    | 203.17    | 0.00        | 390.33  | 0.00    | 323.29     | 0.00       | 0.00       | 0.00       | 0.00    | 4814.21   | 7420.16   | 120.69    | 881.47     | 0.00         | 8966.31   | 0.00     | 10108.12    | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 503                                 | 257.11   | 440.79   | 8.42     | 60.95     | 0.00        | 117.09  | 0.00    | 96.99      | 0.00       | 0.00       | 0.00       | 0.00    | 1409.88   | 2081.16   | 35.48     | 204.76     | 0.00         | 2747.21   | 0.00     | 3063.82     | 0.00        | 0.00        | 0.00        | 0.00     | 66.63    |
| 504                                 | 1573.98  | 2700.00  | 63.41    | 373.34    | 0.00        | 719.11  | 0.00    | 594.06     | 0.00       | 0.00       | 0.00       | 0.00    | 9851.32   | 15658.62  | 323.43    | 2094.75    | 0.00         | 18247.92  | 0.00     | 19455.28    | 0.00        | 0.00        | 0.00        | 0.00     | 28.73    |
| 505                                 | 528.97   | 907.32   | 17.45    | 125.45    | 0.00        | 241.03  | 0.00    | 199.64     | 0.00       | 0.00       | 0.00       | 0.00    | 2950.60   | 4569.04   | 77.00     | 591.53     | 0.00         | 5922.88   | 0.00     | 6384.44     | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 506                                 | 1051.49  | 1803.70  | 45.87    | 249.43    | 0.00        | 481.01  | 0.00    | 396.86     | 0.00       | 0.00       | 0.00       | 0.00    | 6297.47   | 9788.48   | 220.91    | 1306.95    | 0.00         | 12278.02  | 0.00     | 12930.72    | 0.00        | 0.00        | 0.00        | 0.00     | 28.58    |
| 507                                 | 1289.22  | 2211.41  | 55.75    | 305.80    | 0.00        | 589.63  | 0.00    | 486.57     | 0.00       | 0.00       | 0.00       | 0.00    | 6854.15   | 10056.79  | 231.98    | 1342.80    | 0.00         | 14791.26  | 0.00     | 15575.95    | 0.00        | 0.00        | 0.00        | 0.00     | 33.47    |
| 508                                 | 706.75   | 1212.20  | 30.66    | 167.63    | 0.00        | 323.29  | 0.00    | 266.73     | 0.00       | 0.00       | 0.00       | 0.00    | 3788.54   | 5652.74   | 131.34    | 823.36     | 0.00         | 8220.42   | 0.00     | 8595.14     | 0.00        | 0.00        | 0.00        | 0.00     | 19.09    |
| 509                                 | 25.73    | 44.06    | 0.71     | 6.09      | 0.00        | 11.71   | 0.00    | 9.70       | 0.00       | 0.00       | 0.00       | 0.00    | 149.15    | 227.95    | 3.26      | 33.72      | 0.00         | 304.17    | 0.00     | 315.87      | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 510                                 | 261.32   | 448.20   | 12.14    | 61.96     | 0.00        | 119.67  | 0.00    | 98.62      | 0.00       | 0.00       | 0.00       | 0.00    | 1640.72   | 2563.73   | 64.71     | 384.02     | 0.00         | 3195.44   | 0.00     | 3271.59     | 0.00        | 0.00        | 0.00        | 0.00     | 9.59     |
| 511                                 | 728.09   | 1249.05  | 35.01    | 172.70    | 0.00        | 333.67  | 0.00    | 274.80     | 0.00       | 0.00       | 0.00       | 0.00    | 4212.65   | 6367.01   | 169.52    | 991.60     | 0.00         | 8789.93   | 0.00     | 8992.65     | 0.00        | 0.00        | 0.00        | 0.00     | 28.61    |
| 512                                 | 805.17   | 1381.20  | 33.99    | 190.98    | 0.00        | 368.16  | 0.00    | 303.89     | 0.00       | 0.00       | 0.00       | 0.00    | 4058.61   | 5782.78   | 133.32    | 867.81     | 0.00         | 9330.39   | 0.00     | 9687.32     | 0.00        | 0.00        | 0.00        | 0.00     | 19.13    |
| 513                                 | 943.22   | 1628.64  | 38.79    | 217.69    | 0.00        | 432.70  | 0.00    | 355.96     | 0.00       | 0.00       | 0.00       | 0.00    | 4047.18   | 5325.45   | 118.86    | 701.32     | 0.00         | 9921.26   | 0.00     | 10866.85    | 0.00        | 0.00        | 0.00        | 0.00     | 19.12    |
| 514                                 | 6.39     | 10.97    | 0.09     | 1.51      | 0.00        | 2.94    | 0.00    | 2.41       | 0.00       | 0.00       | 0.00       | 0.00    | 25.55     | 30.81     | 0.17      | 4.40       | 0.00         | 67.43     | 0.00     | 72.86       | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 515                                 | 0.00     | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00      | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 516                                 | 1623.00  | 2826.39  | 90.63    | 361.38    | 0.00        | 752.37  | 0.00    | 612.53     | 0.00       | 0.00       | 0.00       | 0.00    | 7027.37   | 8952.89   | 276.40    | 1255.12    | 0.00         | 18075.34  | 0.00     | 18866.67    | 0.00        | 0.00        | 0.00        | 0.00     | 57.29    |
| 517                                 | 1441.34  | 2517.96  | 135.61   | 316.49    | 0.00        | 678.97  | 0.00    | 543.97     | 0.00       | 0.00       | 0.00       | 0.00    | 6508.96   | 8308.24   | 432.87    | 1224.09    | 0.00         | 16702.23  | 0.00     | 16974.07    | 0.00        | 0.00        | 0.00        | 0.00     | 255.01   |
| 518                                 | 364.06   | 624.42   | 12.01    | 86.36     | 0.00        | 165.90  | 0.00    | 137.39     | 0.00       | 0.00       | 0.00       | 0.00    | 1792.25   | 2504.86   | 46.78     | 409.22     | 0.00         | 4218.32   | 0.00     | 4357.55     | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 519                                 | 0.00     | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00      | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 520                                 | 0.00     | 0.00     | 868.66   | 0.00      | 0.00        | 150.89  | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 2642.09   | 0.00       | 0.00         | 3729.46   | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 461.07   |
| 521                                 | 0.00     | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00      | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 522                                 | 0.00     | 0.00     | 635.92   | 0.00      | 0.00        | 110.47  | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 1843.60   | 0.00       | 0.00         | 2683.88   | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 337.44   |
| 523                                 | 209.88   | 359.96   | 8.55     | 49.79     | 0.00        | 95.95   | 0.00    | 79.20      | 0.00       | 0.00       | 0.00       | 0.00    | 886.48    | 1127.00   | 25.84     | 180.24     | 0.00         | 2307.47   | 0.00     | 2440.12     | 0.00        | 0.00        | 0.00        | 0.00     | 4.58     |
| 524                                 | 12.82    | 22.00    | 0.26     | 3.05      | 0.00        | 5.85    | 0.00    | 4.86       | 0.00       | 0.00       | 0.00       | 0.00    | 51.02     | 66.30     | 0.68      | 11.63      | 0.00         | 145.69    | 0.00     | 151.61      | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 526                                 | 1574.07  | 2699.94  | 82.22    | 373.34    | 0.00        | 722.37  | 0.00    | 594.04     | 0.00       | 0.00       | 0.00       | 0.00    | 6612.58   | 8489.05   | 254.76    | 1510.64    | 0.00         | 17991.82  | 0.00     | 18478.65    | 0.00        | 0.00        | 0.00        | 0.00     | 30.95    |
| 527                                 | 0.00     | 0.00     | 211.15   | 0.00      | 0.00        | 36.68   | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 631.13    | 0.00       | 0.00         | 918.24    | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 603.29   |
| 528                                 | 0.00     | 0.00     | 1.66     | 0.00      | 0.00        | 0.31    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 4.61      | 0.00       | 0.00         | 7.41      | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 6.27     |
| 529                                 | 0.00     | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00      | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 0.00     |
| 530                                 | 865.37   | 1509.63  | 572.96   | 191.22    | 0.00        | 492.68  | 0.00    | 326.61     | 0.00       | 0.00       | 0.00       | 0.00    | 3476.45   | 4592.06   | 1716.98   | 799.95     | 0.00         | 12393.15  | 0.00     | 10167.45    | 0.00        | 0.00        | 0.00        | 0.00     | 227.14   |
| 531                                 | 0.00     | 0.00     | 434.33   | 0.00      | 0.00        | 75.46   | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 1343.06   | 0.00       | 0.00         | 1908.59   | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     | 330.35   |
| 532                                 | 813.68   | 1482.09  | 283.50   | 144.97    | 0.00        | 428.55  | 0.00    | 307.11     | 0.00       | 0.00       | 0.00       | 0.00    | 3449.71   | 4769.59   | 899.20    | 629.43     | 0.00         | 10881.30  | 0.00     | 9626.40     | 0.00        | 0.00        | 0.00        | 0.00     | 173.74   |
| 533                                 | 372.58   | 642.93   | 91.30    | 86.21     | 0.00        | 184.06  | 0.00    | 140.60     | 0.00       | 0.00       | 0.00       | 0.00    | 1661.58   | 2255.26   | 315.60    | 398.36     | 0.00         | 4714.13   | 0.00     | 4439.85     | 0.00        | 0.00        | 0.00        | 0.00     | 166.67   |
| Total Suisun                        | 16310.91 | 28192.17 | 3799.61  | 3749.51   | 0.00        | 8030.85 | 0.00    | 6155.83    | 0.00       | 0.00       | 0.00       | 0.00    | 81566.43  | 116589.98 | 12064.25  | 16647.16   | 0.00         | 199459.66 | 0.00     | 194822.99   | 0.00        | 0.00        | 0.00        | 0.00     | 2906.75  |

Table 2 Fairfield Travel Demand Model Output Sheets from the "VMT Analysis Spreadsheet"

| VMT by purpose extracted from model |          |          |           |             |         |         |            |            |            |            |         |           |           |           |            |              |          |          |             |             |             |             |          |
|-------------------------------------|----------|----------|-----------|-------------|---------|---------|------------|------------|------------|------------|---------|-----------|-----------|-----------|------------|--------------|----------|----------|-------------|-------------|-------------|-------------|----------|
| z                                   | A HBO_tr | A NHB_tr | A HBSC_tr | A Travis_tr | A IX_tr | A XI_tr | A HBWIX_tr | A HBWXI_tr | A TraIX_tr | A TraXI_tr | A XX_tr | A HBW_vmt | A HBO_vmt | A NHB_vmt | A HBSC_vmt | A Travis_vmt | A IX_vmt | A XI_vmt | A HBWIX_vmt | A HBWXI_vmt | A TraIX_vmt | A TraXI_vmt | A XX_vmt |
| 502                                 | 0.00     | 28.58    | 0.00      | 78.99       | 0.00    | 5.00    | 0.00       | 0.00       | 0.00       | 0.02       | 0.00    | 0.00      | 0.00      | 120.44    | 0.00       | 334.92       | 0.00     | 97.64    | 0.00        | 0.00        | 0.00        | 0.25        | 0.00     |
| 503                                 | 15.55    | 8.41     | 719.63    | 33.03       | 0.00    | 3.47    | 0.00       | 15.61      | 0.00       | 0.01       | 0.00    | 238.04    | 45.80     | 35.45     | 2137.92    | 161.52       | 0.00     | 70.56    | 0.00        | 373.75      | 0.00        | 0.16        | 0.00     |
| 504                                 | 5.26     | 63.48    | 0.00      | 145.87      | 0.00    | 11.76   | 0.00       | 6.71       | 0.00       | 0.03       | 0.00    | 121.17    | 14.40     | 324.55    | 0.00       | 751.23       | 0.00     | 251.96   | 0.00        | 167.04      | 0.00        | 0.43        | 0.00     |
| 505                                 | 0.00     | 17.50    | 0.00      | 48.78       | 0.00    | 3.11    | 0.00       | 0.00       | 0.00       | 0.01       | 0.00    | 0.00      | 0.00      | 77.52     | 0.00       | 231.71       | 0.00     | 64.78    | 0.00        | 0.00        | 0.00        | 0.16        | 0.00     |
| 506                                 | 5.28     | 45.86    | 0.00      | 97.68       | 0.00    | 8.71    | 0.00       | 6.72       | 0.00       | 0.02       | 0.00    | 115.40    | 14.04     | 221.27    | 0.00       | 503.05       | 0.00     | 186.86   | 0.00        | 166.15      | 0.00        | 0.27        | 0.00     |
| 507                                 | 6.25     | 55.77    | 0.00      | 119.72      | 0.00    | 10.51   | 0.00       | 7.84       | 0.00       | 0.02       | 0.00    | 119.00    | 15.38     | 232.35    | 0.00       | 669.23       | 0.00     | 225.48   | 0.00        | 193.55      | 0.00        | 0.28        | 0.00     |
| 508                                 | 3.40     | 30.67    | 0.00      | 65.65       | 0.00    | 5.83    | 0.00       | 4.49       | 0.00       | 0.01       | 0.00    | 70.93     | 8.35      | 131.55    | 0.00       | 351.23       | 0.00     | 125.63   | 0.00        | 110.75      | 0.00        | 0.16        | 0.00     |
| 509                                 | 0.00     | 0.71     | 0.00      | 2.37        | 0.00    | 0.14    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 3.21      | 0.00       | 11.64        | 0.00     | 3.09     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 510                                 | 1.49     | 12.17    | 0.00      | 24.33       | 0.00    | 2.38    | 0.00       | 2.23       | 0.00       | 0.00       | 0.00    | 45.24     | 4.55      | 65.03     | 0.00       | 136.25       | 0.00     | 53.28    | 0.00        | 57.23       | 0.00        | 0.00        | 0.00     |
| 511                                 | 5.28     | 34.94    | 0.00      | 67.87       | 0.00    | 6.81    | 0.00       | 6.73       | 0.00       | 0.01       | 0.00    | 126.98    | 17.70     | 169.52    | 0.00       | 402.47       | 0.00     | 151.60   | 0.00        | 171.30      | 0.00        | 0.17        | 0.00     |
| 512                                 | 3.48     | 34.00    | 0.00      | 74.73       | 0.00    | 6.42    | 0.00       | 4.47       | 0.00       | 0.02       | 0.00    | 67.92     | 8.70      | 133.74    | 0.00       | 426.71       | 0.00     | 138.87   | 0.00        | 110.30      | 0.00        | 0.28        | 0.00     |
| 513                                 | 3.48     | 38.76    | 0.00      | 91.88       | 0.00    | 7.22    | 0.00       | 4.47       | 0.00       | 0.02       | 0.00    | 58.47     | 7.92      | 119.65    | 0.00       | 479.61       | 0.00     | 146.20   | 0.00        | 105.59      | 0.00        | 0.27        | 0.00     |
| 514                                 | 0.00     | 0.09     | 0.00      | 0.59        | 0.00    | 0.03    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.17      | 0.00       | 3.28         | 0.00     | 0.52     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 515                                 | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00     | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 516                                 | 67.40    | 90.69    | 0.00      | 172.28      | 0.00    | 24.20   | 0.00       | 13.41      | 0.00       | 0.03       | 0.00    | 177.52    | 163.85    | 279.00    | 0.00       | 1075.03      | 0.00     | 507.85   | 0.00        | 324.49      | 0.00        | 0.46        | 0.00     |
| 517                                 | 48.84    | 135.62   | 0.00      | 157.83      | 0.00    | 29.69   | 0.00       | 59.78      | 0.00       | 0.03       | 0.00    | 838.30    | 125.68    | 431.71    | 0.00       | 1006.96      | 0.00     | 636.05   | 0.00        | 1464.89     | 0.00        | 0.47        | 0.00     |
| 518                                 | 0.00     | 12.04    | 0.00      | 33.57       | 0.00    | 2.13    | 0.00       | 0.00       | 0.00       | 0.01       | 0.00    | 0.00      | 0.00      | 47.17     | 0.00       | 216.86       | 0.00     | 46.70    | 0.00        | 0.00        | 0.00        | 0.18        | 0.00     |
| 519                                 | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00     | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 520                                 | 2822.96  | 868.87   | 0.00      | 193.95      | 0.00    | 504.35  | 0.00       | 108.08     | 0.00       | 0.03       | 0.00    | 1575.43   | 7845.92   | 2668.69   | 0.00       | 1332.44      | 0.00     | 10906.72 | 0.00        | 2660.34     | 0.00        | 0.49        | 0.00     |
| 521                                 | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00     | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 522                                 | 2066.27  | 636.04   | 0.00      | 141.96      | 0.00    | 369.17  | 0.00       | 79.11      | 0.00       | 0.03       | 0.00    | 1095.92   | 5487.55   | 1846.70   | 0.00       | 892.93       | 0.00     | 7860.18  | 0.00        | 1921.27     | 0.00        | 0.46        | 0.00     |
| 523                                 | 0.59     | 8.62     | 0.00      | 19.47       | 0.00    | 1.65    | 0.00       | 1.11       | 0.00       | 0.00       | 0.00    | 15.16     | 1.46      | 26.07     | 0.00       | 122.86       | 0.00     | 35.19    | 0.00        | 26.99       | 0.00        | 0.00        | 0.00     |
| 524                                 | 0.00     | 0.32     | 0.00      | 1.18        | 0.00    | 0.07    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.87      | 0.00       | 7.67         | 0.00     | 1.66     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 526                                 | 76.38    | 82.31    | 0.00      | 150.63      | 0.00    | 23.91   | 0.00       | 7.28       | 0.00       | 0.03       | 0.00    | 109.51    | 219.60    | 256.75    | 0.00       | 1092.07      | 0.00     | 520.59   | 0.00        | 179.57      | 0.00        | 0.51        | 0.00     |
| 527                                 | 158.00   | 211.19   | 0.00      | 17.33       | 0.00    | 56.46   | 0.00       | 141.42     | 0.00       | 0.00       | 0.00    | 2193.18   | 501.63    | 662.55    | 0.00       | 116.11       | 0.00     | 1255.85  | 0.00        | 3561.68     | 0.00        | 0.00        | 0.00     |
| 528                                 | 0.80     | 1.66     | 0.00      | 0.14        | 0.00    | 0.47    | 0.00       | 1.47       | 0.00       | 0.00       | 0.00    | 26.17     | 3.19      | 4.55      | 0.00       | 1.23         | 0.00     | 10.12    | 0.00        | 36.28       | 0.00        | 0.00        | 0.00     |
| 529                                 | 0.00     | 0.00     | 0.00      | 0.00        | 0.00    | 0.00    | 0.00       | 0.00       | 0.00       | 0.00       | 0.00    | 0.00      | 0.00      | 0.00      | 0.00       | 0.00         | 0.00     | 0.00     | 0.00        | 0.00        | 0.00        | 0.00        | 0.00     |
| 530                                 | 710.46   | 573.10   | 0.00      | 126.97      | 0.00    | 188.49  | 0.00       | 53.26      | 0.00       | 0.02       | 0.00    | 890.82    | 2406.49   | 1656.44   | 0.00       | 1032.27      | 0.00     | 4193.32  | 0.00        | 1336.75     | 0.00        | 0.34        | 0.00     |
| 531                                 | 142.51   | 434.39   | 0.00      | 6.03        | 0.00    | 93.27   | 0.00       | 77.44      | 0.00       | 0.00       | 0.00    | 1254.25   | 465.55    | 1215.36   | 0.00       | 46.97        | 0.00     | 2061.63  | 0.00        | 1933.28     | 0.00        | 0.00        | 0.00     |
| 532                                 | 780.36   | 283.48   | 0.00      | 164.68      | 0.00    | 146.93  | 0.00       | 40.73      | 0.00       | 0.03       | 0.00    | 658.22    | 2474.46   | 827.75    | 0.00       | 1269.68      | 0.00     | 3258.37  | 0.00        | 1020.84     | 0.00        | 0.52        | 0.00     |
| 533                                 | 102.32   | 91.31    | 0.00      | 44.80       | 0.00    | 28.70   | 0.00       | 39.08      | 0.00       | 0.00       | 0.00    | 664.61    | 352.33    | 287.10    | 0.00       | 355.71       | 0.00     | 641.34   | 0.00        | 985.97      | 0.00        | 0.00        | 0.00     |
| Total Suisun                        | 7026.36  | 3800.58  | 719.63    | 2082.31     | 0.00    | 1540.88 | 0.00       | 681.44     | 0.00       | 0.38       | 0.00    | 10462.24  | 20184.56  | 11845.17  | 2137.92    | 13031.62     | 0.00     | 33452.02 | 0.00        | 16907.99    | 0.00        | 5.86        | 0.00     |

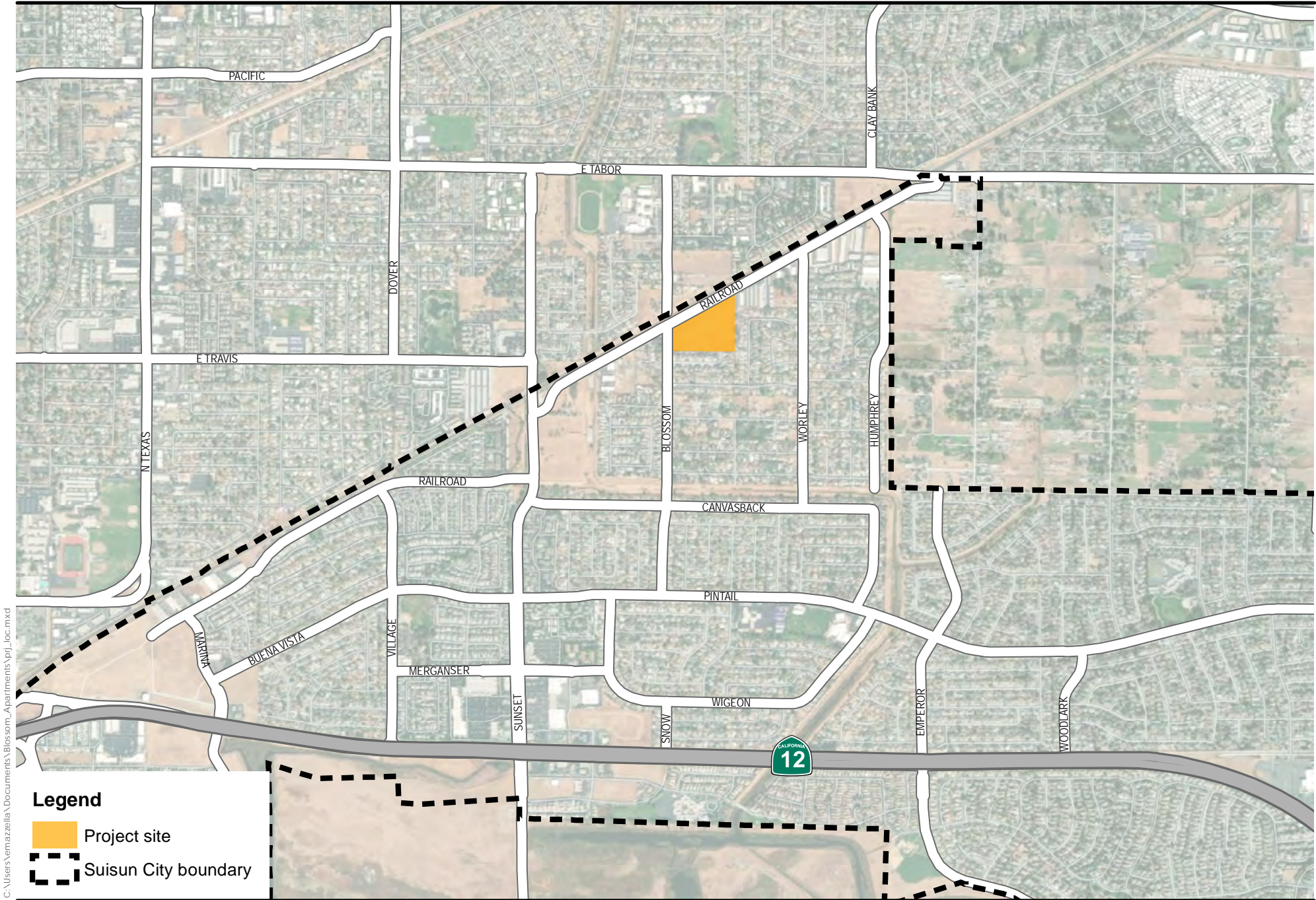
Table 2 Fairfield Travel Demand Model Output Sheets from the "VMT Analysis Spreadsheet"

| Calculated Average Trip Lengths |       |       |       |        |          |       |       |       |       |       |       |       |       |       |        |          |       |       |       |       |       |       |
|---------------------------------|-------|-------|-------|--------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----------|-------|-------|-------|-------|-------|-------|
| z                               | HBW_P | HBO_P | NHB_P | HBSC_P | TRAVIS_P | IX    | XI    | HBWIX | HBWXI | TraIX | TraXI | HBW_A | HBO_A | NHB_A | HBSC_A | TRAVIS_A | IX    | XI    | HBWIX | HBWXI | TraIX | TraXI |
| 502                             | 5.62  | 5.05  | 4.23  | 4.34   | 8.59     | 22.97 | 20.07 | 31.27 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 4.21  | 3.52   | 4.24     | 22.01 | 19.53 | 29.37 | 23.13 | 18.37 | 12.58 |
| 503                             | 5.48  | 4.72  | 4.21  | 3.36   | 8.59     | 23.46 | 20.07 | 31.59 | 23.13 | 18.37 | 17.38 | 3.57  | 2.95  | 4.21  | 2.97   | 4.89     | 22.01 | 20.33 | 29.37 | 23.94 | 18.37 | 15.78 |
| 504                             | 6.26  | 5.80  | 5.10  | 5.61   | 8.59     | 25.38 | 20.07 | 32.75 | 23.13 | 18.37 | 17.38 | 4.22  | 2.74  | 5.11  | 3.52   | 5.15     | 22.01 | 21.43 | 29.37 | 24.89 | 18.37 | 14.34 |
| 505                             | 5.58  | 5.04  | 4.41  | 4.72   | 8.59     | 24.57 | 20.07 | 31.98 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 4.43  | 3.52   | 4.75     | 22.01 | 20.83 | 29.37 | 23.13 | 18.37 | 15.65 |
| 506                             | 5.99  | 5.43  | 4.82  | 5.24   | 8.59     | 25.53 | 20.07 | 32.58 | 23.13 | 18.37 | 17.38 | 4.04  | 2.66  | 4.82  | 3.52   | 5.15     | 22.01 | 21.45 | 29.37 | 24.72 | 18.37 | 13.50 |
| 507                             | 5.32  | 4.55  | 4.16  | 4.39   | 8.59     | 25.09 | 20.07 | 32.01 | 23.13 | 18.37 | 17.38 | 3.56  | 2.46  | 4.17  | 3.52   | 5.59     | 22.01 | 21.45 | 29.37 | 24.69 | 18.37 | 13.93 |
| 508                             | 5.36  | 4.66  | 4.28  | 4.91   | 8.59     | 25.43 | 20.07 | 32.22 | 23.13 | 18.37 | 17.38 | 3.72  | 2.46  | 4.29  | 3.52   | 5.35     | 22.01 | 21.55 | 29.37 | 24.67 | 18.37 | 16.24 |
| 509                             | 5.80  | 5.17  | 4.59  | 5.54   | 8.59     | 25.98 | 20.07 | 32.56 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 4.53  | 3.52   | 4.91     | 22.01 | 22.04 | 29.37 | 23.13 | 18.37 | 17.38 |
| 510                             | 6.28  | 5.72  | 5.33  | 6.20   | 8.59     | 26.70 | 20.07 | 33.17 | 23.13 | 18.37 | 17.38 | 4.72  | 3.06  | 5.34  | 3.52   | 5.60     | 22.01 | 22.39 | 29.37 | 25.66 | 18.37 | 17.38 |
| 511                             | 5.79  | 5.10  | 4.84  | 5.74   | 8.59     | 26.34 | 20.07 | 32.72 | 23.13 | 18.37 | 17.38 | 4.44  | 3.35  | 4.85  | 3.52   | 5.93     | 22.01 | 22.26 | 29.37 | 25.45 | 18.37 | 17.24 |
| 512                             | 5.04  | 4.19  | 3.92  | 4.54   | 8.59     | 25.34 | 20.07 | 31.88 | 23.13 | 18.37 | 17.38 | 3.55  | 2.50  | 3.93  | 3.52   | 5.71     | 22.01 | 21.63 | 29.37 | 24.68 | 18.37 | 14.05 |
| 513                             | 4.29  | 3.27  | 3.06  | 3.22   | 8.59     | 22.93 | 20.07 | 30.53 | 23.13 | 18.37 | 17.38 | 3.06  | 2.28  | 3.09  | 3.52   | 5.22     | 22.01 | 20.25 | 29.37 | 23.62 | 18.37 | 13.55 |
| 514                             | 4.00  | 2.81  | 1.87  | 2.92   | 8.59     | 22.94 | 20.07 | 30.23 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 1.87  | 3.52   | 5.56     | 22.01 | 17.22 | 29.37 | 23.13 | 18.37 | 17.38 |
| 515                             | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 |
| 516                             | 4.33  | 3.17  | 3.05  | 3.47   | 8.59     | 24.02 | 20.07 | 30.80 | 23.13 | 18.37 | 17.38 | 3.10  | 2.43  | 3.08  | 3.52   | 6.24     | 22.01 | 20.99 | 29.37 | 24.20 | 18.37 | 15.43 |
| 517                             | 4.52  | 3.30  | 3.19  | 3.87   | 8.59     | 24.60 | 20.07 | 31.20 | 23.13 | 18.37 | 17.38 | 3.29  | 2.57  | 3.18  | 3.52   | 6.38     | 22.01 | 21.42 | 29.37 | 24.50 | 18.37 | 15.57 |
| 518                             | 4.92  | 4.01  | 3.89  | 4.74   | 8.59     | 25.43 | 20.07 | 31.72 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 3.92  | 3.52   | 6.46     | 22.01 | 21.93 | 29.37 | 23.13 | 18.37 | 17.77 |
| 519                             | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 |
| 520                             | 4.71  | 3.62  | 3.04  | 3.52   | 8.59     | 24.72 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 3.42  | 2.78  | 3.07  | 3.52   | 6.87     | 22.01 | 21.63 | 29.37 | 24.61 | 18.37 | 16.47 |
| 521                             | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 |
| 522                             | 4.71  | 3.62  | 2.90  | 3.52   | 8.59     | 24.30 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 3.25  | 2.66  | 2.90  | 3.52   | 6.29     | 22.01 | 21.29 | 29.37 | 24.29 | 18.37 | 15.48 |
| 523                             | 4.22  | 3.13  | 3.02  | 3.62   | 8.59     | 24.05 | 20.07 | 30.81 | 23.13 | 18.37 | 17.38 | 3.31  | 2.47  | 3.02  | 3.52   | 6.31     | 22.01 | 21.33 | 29.37 | 24.31 | 18.37 | 17.38 |
| 524                             | 3.98  | 3.01  | 2.63  | 3.81   | 8.59     | 24.90 | 20.07 | 31.19 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 2.71  | 3.52   | 6.50     | 22.01 | 23.72 | 29.37 | 23.13 | 18.37 | 17.38 |
| 526                             | 4.20  | 3.14  | 3.10  | 4.05   | 8.59     | 24.91 | 20.07 | 31.11 | 23.13 | 18.37 | 17.38 | 3.54  | 2.88  | 3.12  | 3.52   | 7.25     | 22.01 | 21.77 | 29.37 | 24.67 | 18.37 | 16.85 |
| 527                             | 4.71  | 3.62  | 2.99  | 3.52   | 8.59     | 25.03 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 3.64  | 3.17  | 3.14  | 3.52   | 6.70     | 22.01 | 22.24 | 29.37 | 25.19 | 18.37 | 17.38 |
| 528                             | 4.71  | 3.62  | 2.77  | 3.52   | 8.59     | 23.90 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 4.17  | 3.99  | 2.74  | 3.52   | 8.82     | 22.01 | 21.53 | 29.37 | 24.68 | 18.37 | 17.38 |
| 529                             | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 4.71  | 3.62  | 2.22  | 3.52   | 8.59     | 22.01 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 |
| 530                             | 4.02  | 3.04  | 3.00  | 4.18   | 8.59     | 25.15 | 20.07 | 31.13 | 23.13 | 18.37 | 17.38 | 3.92  | 3.39  | 2.89  | 3.52   | 8.13     | 22.01 | 22.25 | 29.37 | 25.10 | 18.37 | 16.89 |
| 531                             | 4.71  | 3.62  | 3.09  | 3.52   | 8.59     | 25.29 | 20.07 | 29.37 | 23.13 | 18.37 | 17.38 | 3.80  | 3.27  | 2.80  | 3.52   | 7.79     | 22.01 | 22.10 | 29.37 | 24.96 | 18.37 | 17.38 |
| 532                             | 4.24  | 3.22  | 3.17  | 4.34   | 8.59     | 25.39 | 20.07 | 31.35 | 23.13 | 18.37 | 17.38 | 3.79  | 3.17  | 2.92  | 3.52   | 7.71     | 22.01 | 22.18 | 29.37 | 25.06 | 18.37 | 17.31 |
| 533                             | 4.46  | 3.51  | 3.46  | 4.62   | 8.59     | 25.61 | 20.07 | 31.58 | 23.13 | 18.37 | 17.38 | 3.99  | 3.44  | 3.14  | 3.52   | 7.94     | 22.01 | 22.35 | 29.37 | 25.23 | 18.37 | 17.38 |
| Total Suisun                    | 5.00  | 4.14  | 3.18  | 4.44   | 8.59     | 24.84 | 20.07 | 31.65 | 23.13 | 18.37 | 17.38 | 3.60  | 2.87  | 3.12  | 2.97   | 6.26     | 22.01 | 21.71 | 29.37 | 24.81 | 18.37 | 15.42 |

Table 2 Fairfield Travel Demand Model Output Sheets from the "VMT Analysis Spreadsheet"

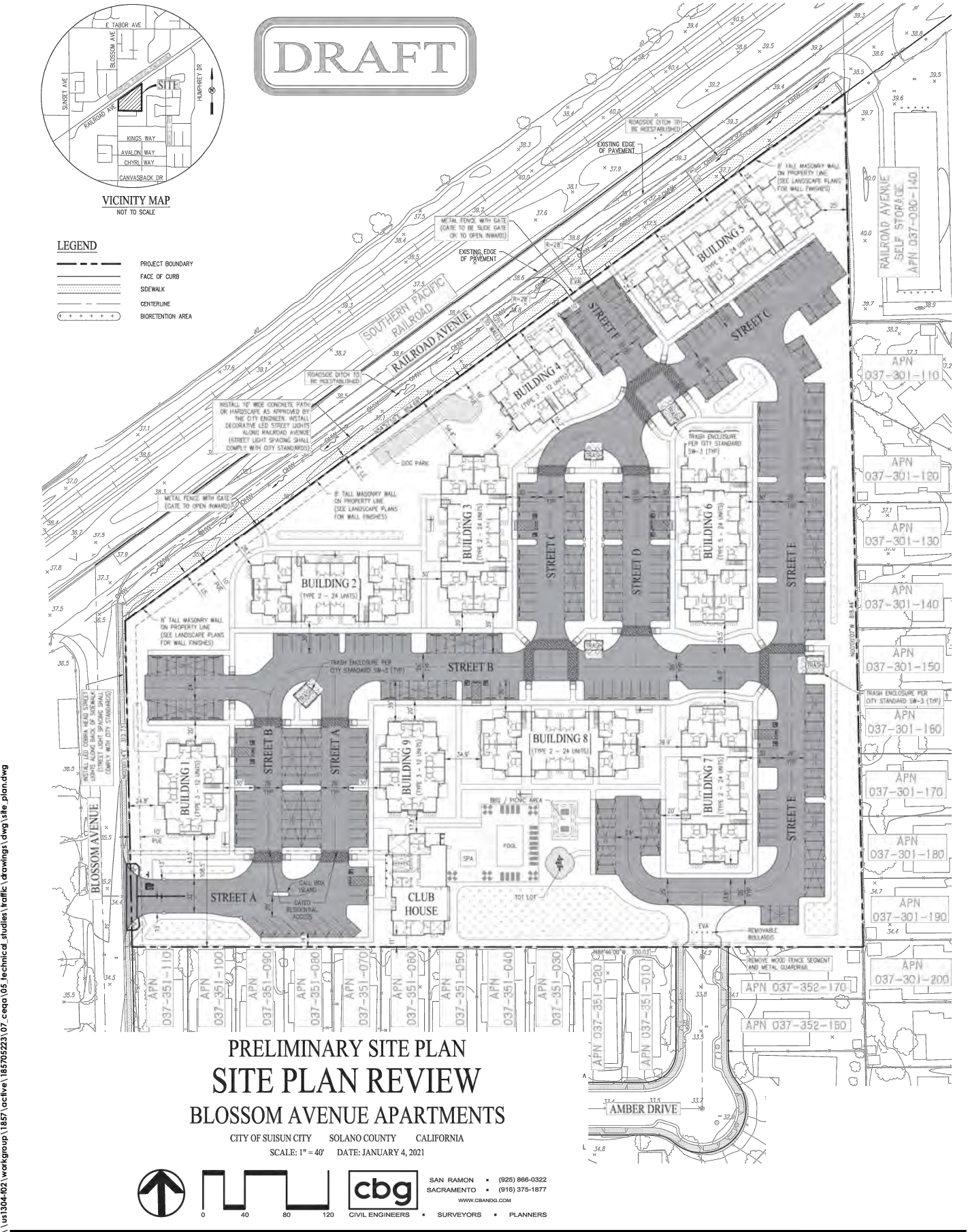
| Calculated VMT Generation Rates per Unit |       |      |         |         |         |         |            |            |            | Usable Calculated VMT Gene |       |
|------------------------------------------|-------|------|---------|---------|---------|---------|------------|------------|------------|----------------------------|-------|
| z                                        | IX_A  | XI_P | HBWIX_A | HBWXI_P | TRAIX_A | TRAXI_P | HIGH_BNDRY | TERMINAL_O | TERMINAL_D | SFDU                       | MFDU  |
| 502                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 81.78                      | 58.14 |
| 503                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 80.73                      | 57.49 |
| 504                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 90.31                      | 64.21 |
| 505                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 84.08                      | 59.78 |
| 506                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 88.18                      | 62.70 |
| 507                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 82.24                      | 58.51 |
| 508                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 83.46                      | 59.33 |
| 509                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 87.31                      | 62.03 |
| 510                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 92.08                      | 65.44 |
| 511                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 87.82                      | 62.43 |
| 512                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 80.52                      | 57.26 |
| 513                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 71.30                      | 50.72 |
| 514                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 68.47                      | 48.72 |
| 515                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.30                      | 51.64 |
| 516                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.60                      | 51.68 |
| 517                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 74.59                      | 53.07 |
| 518                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 79.80                      | 56.77 |
| 519                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.30                      | 51.64 |
| 520                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 74.76                      | 53.31 |
| 521                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.30                      | 51.64 |
| 522                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 74.21                      | 52.88 |
| 523                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.34                      | 51.49 |
| 524                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.63                      | 51.69 |
| 526                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 73.80                      | 52.55 |
| 527                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 75.05                      | 53.50 |
| 528                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 74.28                      | 53.08 |
| 529                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 72.30                      | 51.64 |
| 530                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 73.49                      | 52.37 |
| 531                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 75.48                      | 53.88 |
| 532                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 75.02                      | 53.43 |
| 533                                      | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 77.16                      | 54.96 |
| Total Suisun                             | 11.21 | 5.97 | 14.73   | 3.66    | 79.66   | 0.03    | 0.00       | 0.00       | 0.00       | 79.51                      | 56.58 |





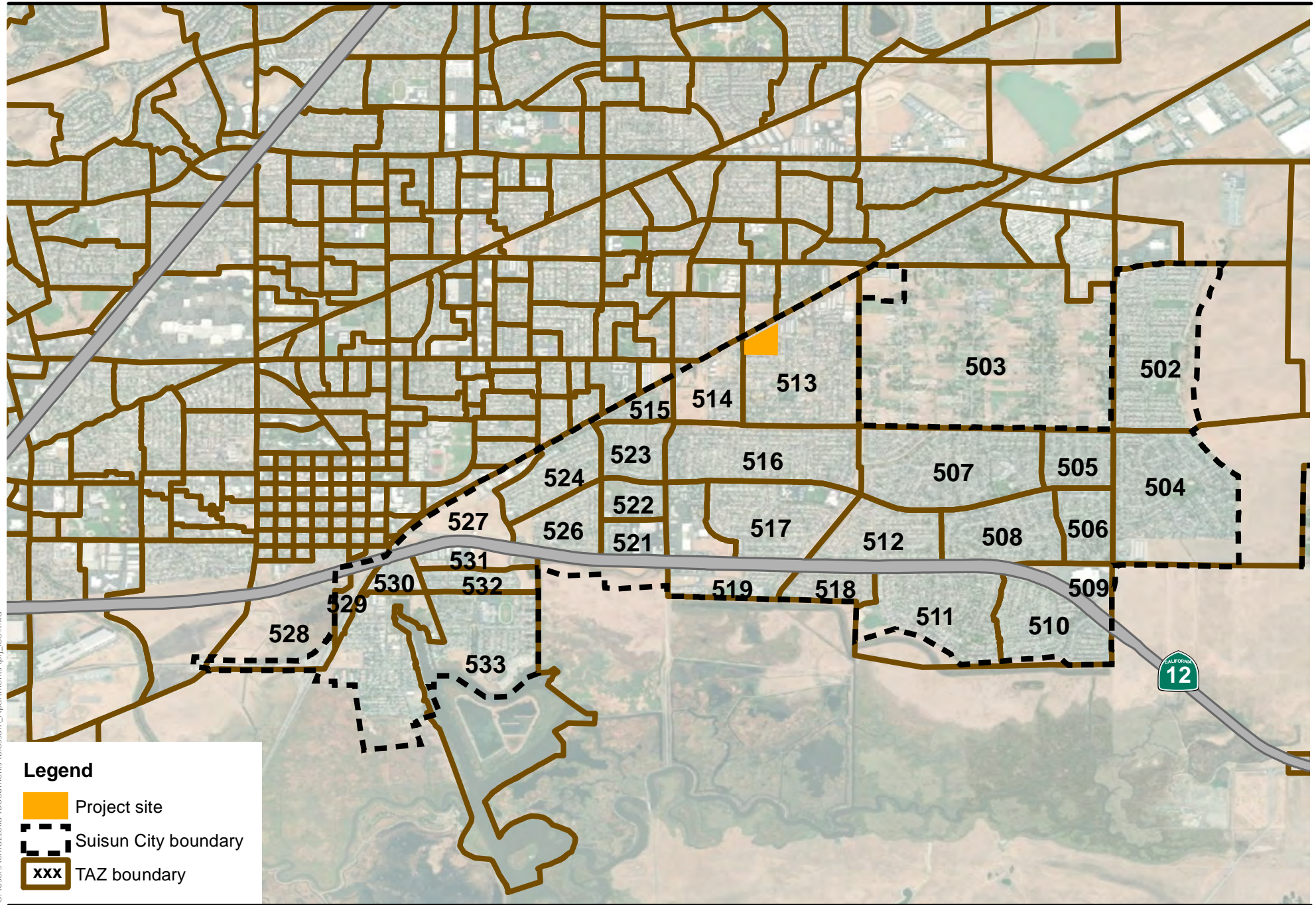
**Figure 1**  
Project Location Map





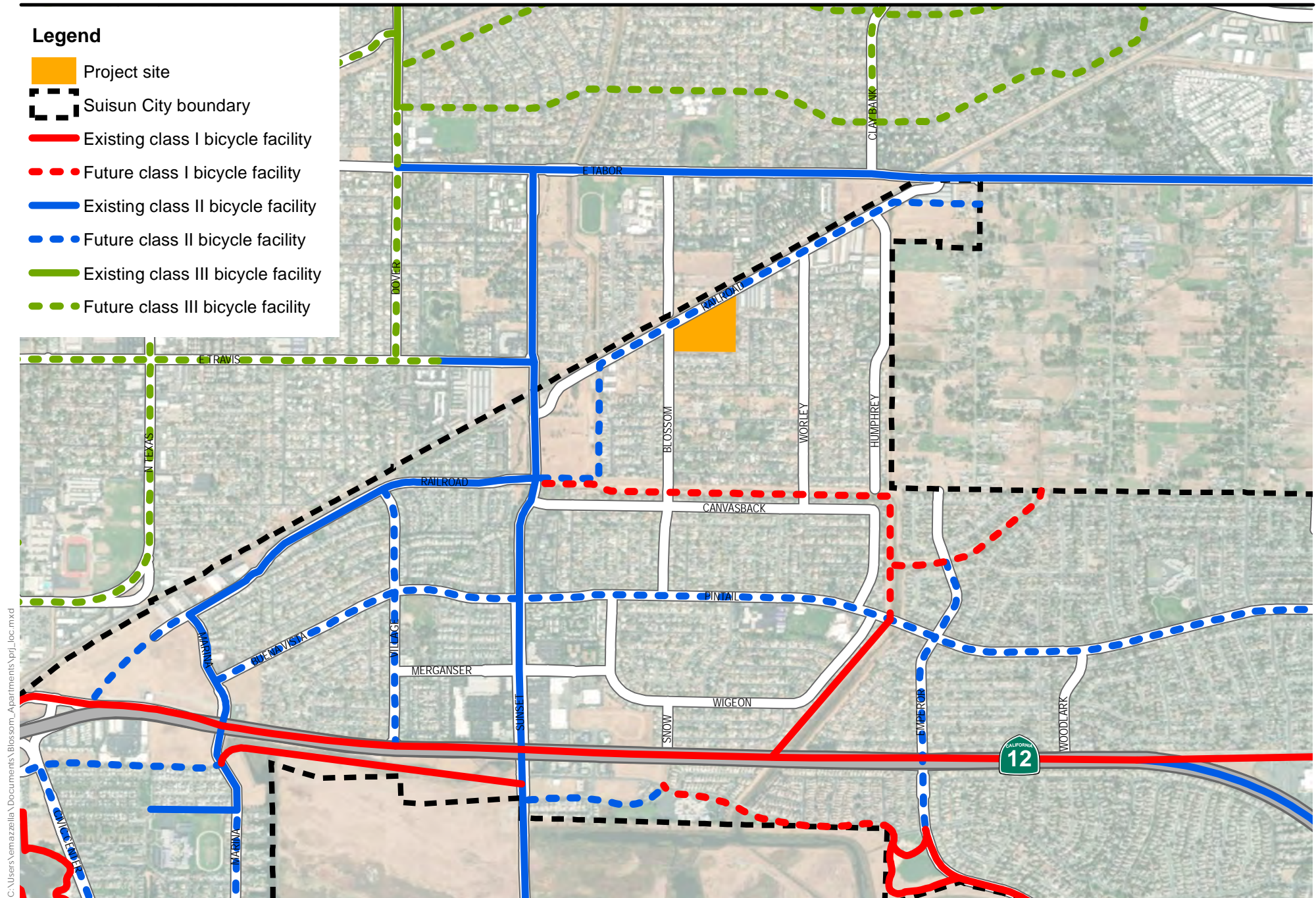
**Figure 2**  
Project Site Plan





**Figure 3**  
TAZ Map





**Figure 4**

Existing and Future Bicycle Facilities - Suisun City