The following is a summary of the environmental mitigation measures to be incorporated into the approved plans or the conditions of approval. Each mitigation measure listed below is proposed to lessen the level of environmental impact of the project to a level of non-significance.

Explanation of Headings:

1. **Type**: when the measure is applicable:
   a. Project – during construction of underground infrastructure
   b. Ongoing – during construction and operation of underground infrastructure
2. **Monitoring Department or Agency**: Department or Agency responsible for enforcement/approval of the mitigation measure.
3. **Shown on Plans**: Verification that the mitigation measure is shown on the plans, this column will be initialed and dated when the measure is completed.
4. **Verified Implementation**: Responsibility of implementation verification, this column will be initialed and dated when the measure is completed.
5. **Timing**: When the measure must occur to be in compliance.

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
BR-1: Environmental Awareness Training An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known or determined to have potential to occur, as well as other sensitive resources requiring avoidance near the project alignment. The training shall also include a description of protection measures required by any discretionary permits, an overview of the Federal and State Endangered Species Acts, and implications of noncompliance with these regulations, and required avoidance, minimization, and mitigation measures.	Project	City of Paso Robles / County of San Luis Obispo		City of Paso Robles	Prior to start of project activities

Mitigation Measure	**Type**	**Monitoring Department or Agency**	**Shown on Plans**	**Verified Implementation**	**Timing / Remarks**
BR-2: Site Maintenance and General Operations The following general measures are recommended to minimize impacts during active construction: • The use of heavy equipment and vehicles shall be limited to the proposed project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits. • In the vicinity of sensitive resources and habitats (e.g., vernal pools, drainages, etc.), signs shall be posted at the boundary of the work area indicating the presence of sensitive resources. • Project plans, drawings, and specifications shall show the boundaries of all sensitive resource areas and the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources. • Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls. No staging areas shall be located within 100 feet of sensitive habitat or jurisdictional aquatic resources, including drainages and vernal pools (and their associated watershed). • Secondary containment such as drip pans shall be used to prevent leaks and spills of potential contaminants. • Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in	On-going	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	1. Prior to start of project activities 2. During project construction

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
designated staging areas, a minimum of 100 feet from sensitive habitat or jurisdictional aquatic resources, including drainages and vernal pools (and their associated watershed). Sandbags and/or absorbent pads and spill control kits shall be available on site at all times to prevent water and/or spilled fuel from leaving the site. • Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.					
BR-3: Paso Robles City Oak Tree Preservation Ordinance Measures In accordance with the Paso Robles City Oak Tree Preservation Ordinance, the City shall implement the necessary measures to protect oak trees adjacent to the project alignment. At a minimum the following avoidance and minimization measures shall be implemented to address protection and avoidance of oak trees on site per Paso Robles City Oak Tree Preservation Ordinance: • Prior to ground-breaking, oak tree protection fencing shall be installed at the edge of the critical root zone of all trees located within 100 feet of construction that will be preserved. Critical root zone (CRZ) is defined as an area of root space that is within a circle circumscribed around the truck of a tree using a radius of one foot per inch diameter at breast height (DBH) (e.g., a twenty-inch diameter tree has a CRZ	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	1. Prior to start of project activities 2. During project construction

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
with a radius of twenty feet as measured from the center of the tree). The fencing shall be in place and maintained throughout the duration of construction. Plastic orange safety fencing shall not be used as it may entangle wildlife. Other demarcation such as t-posts and yellow rope are adequate. • No equipment shall be allowed, and no materials stored within the CRZ. • No grading or placement of fill will occur without prior approval and then only to the extent authorized by the City. • Damage to any oak tree during construction shall be immediately reported. • All root pruning is to be done by hand.					
BR-4: Pre-construction Survey for American Badger and SJKF A qualified biologist shall conduct a pre-construction survey within 30 days prior to the start of initial project activities to ensure badger or SJKF are not present within proposed work areas. If potential dens are discovered, they shall be monitored with a remote camera or tracking medium for at least three days to determine if they are occupied. If the qualified biologist determines that the potential dens may be active, an exclusion buffer shall be established within 50 feet of the den and the appropriate resource agencies shall be contacted for further guidance. If active dens are found during the breeding and rearing season, no activity shall occur within 200 feet	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	Within 30 days prior to the start of initial project activities

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
(American badger) or 500 feet (SJKF) of the den without agency guidance and approval. Pre-activity surveys will include a general assessment for all sensitive resources with potential to be impacted.					
BR-5: County Standard Mitigation of Impacts to SJKF Habitat In accordance with the County Guide to SJKF Mitigation Procedures under CEQA, the City shall adopt the Standard Kit Fox CEQA Mitigation Measures and shall include these measures on development plans. The following summarizes those that are applicable to this project: • The applicant shall mitigate for the loss of SJKF habitat either by: 1. Establishing a conservation easement on-site or off-site in a suitable San Luis Obispo County location and provide a non-wasting endowment for management and monitoring of the property in perpetuity; 2. Depositing funds into an approved in-lieu fee program; or 3. Purchasing credits in an approved conservation bank in San Luis Obispo County. • A maximum 25 mph speed limit shall be required at the project site during construction activities. • All construction activities shall cease at dusk and	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	1. Prior to start of project activities 2. During project construction

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
not start before dawn. • A qualified biologist shall be on-site immediately prior to initiation of project activities to inspect for any large burrows (e.g., known and potential dens) and to ensure no wildlife are injured during project activities. If dens are encountered, they should be avoided as discussed below. • Exclusion zone boundaries shall be established around all known and potential SJKF dens. • All excavations deeper than 2 feet shall be completely covered at the end of each working day. • All pipes, culverts, or similar structures shall be inspected for SJKF and other wildlife before burying, capping, or moving. • All exposed openings of pipes, culverts, or similar structures shall be capped or temporarily sealed prior to the end of each working day. • All food-related trash shall be removed from the site at the end of each workday. • Project-related equipment shall be prohibited outside of designated work areas and access routes. • Disturbance to burrows shall be avoided to the greatest extent feasible. • No rodenticides or herbicides should be applied in the project area. • Permanent fences shall allow for SJKF passage					

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
through or underneath (i.e., an approximate 4-inch passage gap shall remain at ground level).					
BR-6: Surveys and Monitoring for Special-status Amphibians and Reptiles A qualified biologist shall conduct a pre-activity survey within one week prior to the start of initial project activities to ensure special-status amphibians and reptiles are not present within proposed work areas. To minimize the potential for impacts to dispersing amphibians, work within 100 feet of drainages and suitable aquatic habitat shall occur during dry conditions. If work within 100 feet of suitable aquatic habitat is scheduled to start during the typical rainy season (i.e., November through May), when frogs and toads are most likely to be dispersing through upland habitat, a qualified biologist shall conduct daily site inspections, prior to the start of work each morning. All vehicles, equipment, and materials staged on site overnight shall be inspected. If special-status wildlife is found within the work area, it shall be allowed to leave on its own volition and, as appropriate, the resource agencies shall be contacted.	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	1. Within one week prior to the start of initial project activities 2. Daily during the typical rainy season (November through May)
BR-7: Vernal Pool Fairy Shrimp Critical Habitat The boundaries of the vernal pool habitat area on site and associated watershed shall be included on all project plans. The limits of all workspaces, access routes, and staging areas shall also be included on project plans and clearly delineated in the field with brightly colored	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	1. Prior to start of project activities 2. Weekly during construction

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
flagging and/or fencing. In addition, a biologist familiar with vernal pool characteristics and associated watersheds shall conduct weekly site inspections to document compliance with species and permit protection measures, including maintenance of workspace delineation fencing. Weekly biological monitoring reports shall be submitted to the City. If compliance deficiencies are identified during monitoring, the deficiency shall be documented, and follow-up actions will be required under the direction of the City representative to alleviate the compliance concern. In addition to the protection measures identified in Measures 1 and 2 above, these measures provide protection for VPFS by ensuring that no unanticipated impacts occur within suitable habitat for this species. Approximately 0.04 acre of vernal pool habitat will be permanently impacted as a result of road re-alignment. These impacts will be mitigated for through on-site creation of vernal pool habitat in the vicinity of proposed project activities, in accordance with permit conditions. A Compensatory Mitigation Plan is being prepared for the project that will detail restoration objectives, techniques, success criteria, monitoring, and reporting. The Compensatory Mitigation Plan will be provided upon availability.					
BR-8: Pre-construction Survey for Nesting Birds If work is planned to occur between February 1 and	Project	City of Paso Robles,		City of Paso Robles	One week prior to activity

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
September 15, a qualified biologist shall survey the area for nesting birds within one week prior to activity beginning on site. In addition, if work is planned to occur as early as January 1, a qualified biologist shall complete a focused survey for nesting golden eagles within one-quarter mile of the project site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active. A non-disturbance buffer of 50 feet shall be placed around non-listed, passerine species, and a 250-foot buffer will be implemented for raptor species. All activity will remain outside of that buffer until a qualified biologist has determined that the young have fledged or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified, no work will begin until an appropriate buffer is determined in consultation with the local CDFW biologist, and/or the USFWS.		County of San Luis Obispo, CDFW, and/or USFWS			beginning on site (between January 1 and September 15)
BR-9: Burrowing Owl If work is planned to occur within 150 meters (approximately 492 feet) of burrowing owl habitat, within the breeding or non-breeding seasons, a qualified biologist shall conduct a preconstruction survey for this species within 14 days of the onset of construction. A second survey shall be completed immediately prior to construction (i.e., within the preceding 24 hours). The	Project	City of Paso Robles, County of San Luis Obispo, CDFW, and/or USFWS		City of Paso Robles	1. 14 days prior to project activities 2. 24 hours prior to project activities

<table>
<tr><th>Mitigation Measure</th><th>Type</th><th>Monitoring Department or Agency</th><th>Shown on Plans</th><th>Verified Implementation</th><th>Timing / Remarks</th></tr>
<tr><td>surveys shall be consistent with the methods outlined in Appendix D of the California Department of Fish and Wildlife 2012 Staff Report on Burrowing Owl Mitigation, walking 7 to 20 meter transects through the survey area and scanning the entire visible project area for sign and individuals. These surveys may be completed concurrently with any necessary SJKF, American badger, or other special-status species surveys.
If occupied burrowing owl burrows are identified, the following buffer distances shall be observed by construction, unless otherwise authorized by CDFW:
<table>
<tr><th rowspan="2">Location</th><th rowspan="2">Time of Year</th><th colspan="3">Level of Disturbance</th></tr>
<tr><th>Low</th><th>Medium</th><th>High</th></tr>
<tr><td>Nesting Sites</td><td>April 1–Aug 15</td><td>656 feet</td><td>1,640 feet</td><td>1,640 feet</td></tr>
<tr><td>Nesting Sites</td><td>Aug 16–Oct 15</td><td>656 feet</td><td>656 feet</td><td>1,640 feet</td></tr>
<tr><td>Any Occupied Burrow</td><td>Oct 16–Mar 31</td><td>164 feet</td><td>328 feet</td><td>1,640 feet</td></tr>
</table>
If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the Staff Report, and in coordination with CDFW.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>*BR-10: Federal and State Waters and Wetlands*
In addition to Measure 2, the following recommendations are made to protect drainage features and aquatic</td><td>Project</td><td>City of Paso Robles, Count of San Luis</td><td></td><td>City of Paso Robles</td><td>During project construction</td></tr>
</table>

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
resources. Construction activity within 100 feet of drainages and the vernal pool shall occur only when conditions are dry. For short-term, temporary stabilization, an erosion and sedimentation control plan shall be developed outlining Best Management Practices (BMPs), which shall be implemented to prevent erosion and sedimentation into drainages and vernal pools during construction. Acceptable stabilization methods include the use of weed-free, natural fiber (i.e., non-monofilament) fiber rolls, jute or coir netting, and/or other industry standards. BMPs shall be installed and maintained for the duration of the project. The following general measures are recommended to minimize impacts to sensitive resources: • The use of heavy equipment and vehicles shall be limited to the proposed project limits, roadway, and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with visible flagging and/or fencing. No work shall occur outside these limits. • Prior to project initiation, all applicable agency permits with jurisdiction over the project area (i.e., Corps, CDFW, and RWQCB) should be obtained, as necessary. All additional mitigation measures required by these agencies would be implemented as necessary throughout the project.		Obispo, Corps, CDFW, and/or RWQCB			

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
BR-11: Restoration of Federal and State Waters A restoration plan shall be developed that addresses restoration of all temporary impact areas within and immediately adjacent to drainages. At a minimum, the plan shall include following: • Discussion of the proposed construction methods, construction schedule, and the implementation schedule of activities. • Quantification of the anticipated impact areas within jurisdictional areas. • Description of the methods for site stabilization immediately following the completion of work within the channel, using acceptable procedures (e.g., weed-free, natural fiber rolls, jute or coir netting, etc.). • Methods for the revegetation of disturbed areas using native seed mixes and/or plantings obtained from local sources. • Recommended species to use in seed mixes and/or for plantings, based on regional occurrence, baseline conditions, and local availability. • Requirements for monitoring of restored areas,	Project	City of Paso Robles		City of Paso Robles	Prior to start of project acitivites

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
including photographic documentation. • Requirement for monitoring reports.					
HM-1: Hazardous Materials Contingency Plan Prior to initiation of construction activities, the Contractor shall prepare and submit to the City of Paso Robles a contingency plan for handling hazardous materials, whether found or introduced on-site during construction. This plan shall include standard construction measures as specified in local, state and federal regulations for hazardous materials, removal of on-site debris, and confirmation of presence of pipelines on-site. At a minimum, the following measures shall be included in the contingency plan: a. If contaminated soils or other hazardous materials are encountered during any soil moving operation during construction (e.g., trenching, excavation, grading), construction shall be halted and the Hazardous Material Control Plan (HMCP) implemented. b. Instruct workers on recognition and reporting of materials that may be hazardous. c. Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations. d. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and	Project	City of Paso Robles, County of San Luis Obispo		City of Paso Robles	Prior to start of project activities

Mitigation Measure	Type	Monitoring Department or Agency	Shown on Plans	Verified Implementation	Timing / Remarks
regulations. e. Forward to engineer, copies of reports, permits, receipts, and other documentation related to remedial work. f. Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations. g. File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract.					

Dry Creek Road Re-alignment DPW 17-21B

San Luis Obispo County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	3.23	140,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021

Utility Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - non-default

Land Use - User defined - Roads not included as a Land Use Subtype

Construction Phase - Total days for each phase provided by Wallace Group (including no architectural coating)

Off-road Equipment - No architectural coating.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals water truck and dump truck. Plate compactors includes wacker/rammer. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Concrete/Industrial Saws equals saw cutting machine and pavement grinder. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway trucks equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Plate compactors includes wacker/rammer. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Trips and VMT - Based on Wallace Group excel sheet.

On-road Fugitive Dust - Defaults used

Grading - Based on Wallace Group excel sheet.

Architectural Coating - No architectural coating.

Road Dust - San Luis Obispo region.

Woodstoves - N/A

Consumer Products - N/A

Area Coating - N/A

Landscape Equipment - N/A

Energy Use - N/A

Water And Wastewater - N/A

Solid Waste - N/A

Land Use Change - N/A

Sequestration - N/A

Energy Mitigation - N/A

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps - N/A

Stationary Sources - Process Boilers - N/A

Stationary Sources - User Defined - N/A

Stationary Sources - Emergency Generators and Fire Pumps EF - N/A

Stationary Sources - Process Boilers EF - N/A

Table Name	Column Name	Default Value	New Value
tblApplianceMitigation	PercentImprovement	30.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	50.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	70,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	210,750.00	0.00
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	30.00
tblGrading	AcresOfGrading	20.00	3.23
tblLandUse	LandUseSquareFeet	0.00	140,500.00
tblLandUse	LotAcreage	0.00	3.23
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	641.35
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblTripsAndVMT	HaulingTripNumber	0.00	168.00
tblTripsAndVMT	HaulingTripNumber	0.00	250.00

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					
2020	0.1617	1.6809	1.0714	2.0800e-003	0.4116	0.0817	0.4933	0.2203	0.0754	0.2957	0.0000	184.6549	184.6549	0.0487	0.0000	185.8733
Maximum	**0.1617**	**1.6809**	**1.0714**	**2.0800e-003**	**0.4116**	**0.0817**	**0.4933**	**0.2203**	**0.0754**	**0.2957**	**0.0000**	**184.6549**	**184.6549**	**0.0487**	**0.0000**	**185.8733**

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					
2020	0.1617	1.6809	1.0714	2.0800e-003	0.4116	0.0817	0.4933	0.2203	0.0754	0.2957	0.0000	184.6547	184.6547	0.0487	0.0000	185.8731
Maximum	**0.1617**	**1.6809**	**1.0714**	**2.0800e-003**	**0.4116**	**0.0817**	**0.4933**	**0.2203**	**0.0754**	**0.2957**	**0.0000**	**184.6547**	**184.6547**	**0.0487**	**0.0000**	**185.8731**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2020**	**8-31-2020**	1.2724	1.2724
2	**9-1-2020**	**9-30-2020**	0.2825	0.2825
		Highest	1.2724	1.2724

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	0.7115	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.7115**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.7115	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.7115**	**0.0000**	**0.0000**	**0.0000**	**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**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/12/2020	5	10	
2	Site Preparation	Site Preparation	6/15/2020	7/24/2020	5	30	
3	Grading	Grading	7/24/2020	9/17/2020	5	40	
4	Building Construction	Building Construction	9/17/2020	10/14/2020	5	20	
5	Paving	Paving	10/14/2020	11/10/2020	5	20	
6	Architectural Coating	Architectural Coating	11/10/2020	11/9/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.23

Acres of Paving: 0

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
Demolition	Concrete/Industrial Saws	1	4.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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	4.00	231	0.29
Building Construction	Forklifts	3	4.00	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	4.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	168.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	59.00	23.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

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	0.0155	0.1578	0.0996	1.8000e-004		7.8000e-003	7.8000e-003		7.2100e-003	7.2100e-003	0.0000	15.6552	15.6552	4.7100e-003	0.0000	15.7730
Total	**0.0155**	**0.1578**	**0.0996**	**1.8000e-004**		**7.8000e-003**	**7.8000e-003**		**7.2100e-003**	**7.2100e-003**	**0.0000**	**15.6552**	**15.6552**	**4.7100e-003**	**0.0000**	**15.7730**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.0000e-004	2.5800e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6041	0.6041	2.0000e-005	0.0000	0.6046
Total	**3.3000e-004**	**3.0000e-004**	**2.5800e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6041**	**0.6041**	**2.0000e-005**	**0.0000**	**0.6046**

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	0.0155	0.1578	0.0996	1.8000e-004		7.8000e-003	7.8000e-003		7.2100e-003	7.2100e-003	0.0000	15.6551	15.6551	4.7100e-003	0.0000	15.7730
Total	**0.0155**	**0.1578**	**0.0996**	**1.8000e-004**		**7.8000e-003**	**7.8000e-003**		**7.2100e-003**	**7.2100e-003**	**0.0000**	**15.6551**	**15.6551**	**4.7100e-003**	**0.0000**	**15.7730**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.0000e-004	2.5800e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6041	0.6041	2.0000e-005	0.0000	0.6046
Total	**3.3000e-004**	**3.0000e-004**	**2.5800e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6041**	**0.6041**	**2.0000e-005**	**0.0000**	**0.6046**

3.3 Site Preparation - 2020

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	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5515
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.2710**	**0.0330**	**0.3040**	**0.1490**	**0.0303**	**0.1793**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5515**

3.3 Site Preparation - 2020

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	0.0270	5.8700e-003	7.0000e-005	1.4300e-003	1.2000e-004	1.5500e-003	3.9000e-004	1.1000e-004	5.1000e-004	0.0000	6.4616	6.4616	3.7000e-004	0.0000	6.4708
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	1.1800e-003	1.0700e-003	9.2900e-003	2.0000e-005	2.6000e-003	2.0000e-005	2.6200e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.1746	2.1746	7.0000e-005	0.0000	2.1764
Total	**1.9100e-003**	**0.0281**	**0.0152**	**9.0000e-005**	**4.0300e-003**	**1.4000e-004**	**4.1700e-003**	**1.0800e-003**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**8.6362**	**8.6362**	**4.4000e-004**	**0.0000**	**8.6472**

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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5514
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.2710**	**0.0330**	**0.3040**	**0.1490**	**0.0303**	**0.1793**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5514**

3.3 Site Preparation - 2020

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	0.0270	5.8700e-003	7.0000e-005	1.4300e-003	1.2000e-004	1.5500e-003	3.9000e-004	1.1000e-004	5.1000e-004	0.0000	6.4616	6.4616	3.7000e-004	0.0000	6.4708
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	1.1800e-003	1.0700e-003	9.2900e-003	2.0000e-005	2.6000e-003	2.0000e-005	2.6200e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.1746	2.1746	7.0000e-005	0.0000	2.1764
Total	**1.9100e-003**	**0.0281**	**0.0152**	**9.0000e-005**	**4.0300e-003**	**1.4000e-004**	**4.1700e-003**	**1.0800e-003**	**1.3000e-004**	**1.2200e-003**	**0.0000**	**8.6362**	**8.6362**	**4.4000e-004**	**0.0000**	**8.6472**

3.4 Grading - 2020

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					0.1222	0.0000	0.1222	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0486	0.5277	0.3211	5.9000e-004		0.0255	0.0255		0.0234	0.0234	0.0000	52.1175	52.1175	0.0169	0.0000	52.5389
Total	**0.0486**	**0.5277**	**0.3211**	**5.9000e-004**	**0.1222**	**0.0255**	**0.1476**	**0.0664**	**0.0234**	**0.0898**	**0.0000**	**52.1175**	**52.1175**	**0.0169**	**0.0000**	**52.5389**

3.4 Grading - 2020

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	1.0900e-003	0.0402	8.7400e-003	1.0000e-004	2.1300e-003	1.8000e-004	2.3100e-003	5.9000e-004	1.7000e-004	7.5000e-004	0.0000	9.6155	9.6155	5.4000e-004	0.0000	9.6291
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	1.3100e-003	1.1900e-003	0.0103	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4162	2.4162	8.0000e-005	0.0000	2.4182
Total	**2.4000e-003**	**0.0414**	**0.0191**	**1.3000e-004**	**5.0200e-003**	**2.0000e-004**	**5.2200e-003**	**1.3600e-003**	**1.9000e-004**	**1.5400e-003**	**0.0000**	**12.0317**	**12.0317**	**6.2000e-004**	**0.0000**	**12.0473**

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					0.1222	0.0000	0.1222	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0486	0.5277	0.3211	5.9000e-004		0.0255	0.0255		0.0234	0.0234	0.0000	52.1174	52.1174	0.0169	0.0000	52.5388
Total	**0.0486**	**0.5277**	**0.3211**	**5.9000e-004**	**0.1222**	**0.0255**	**0.1476**	**0.0664**	**0.0234**	**0.0898**	**0.0000**	**52.1174**	**52.1174**	**0.0169**	**0.0000**	**52.5388**

3.4 Grading - 2020

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	1.0900e-003	0.0402	8.7400e-003	1.0000e-004	2.1300e-003	1.8000e-004	2.3100e-003	5.9000e-004	1.7000e-004	7.5000e-004	0.0000	9.6155	9.6155	5.4000e-004	0.0000	9.6291
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	1.3100e-003	1.1900e-003	0.0103	3.0000e-005	2.8900e-003	2.0000e-005	2.9100e-003	7.7000e-004	2.0000e-005	7.9000e-004	0.0000	2.4162	2.4162	8.0000e-005	0.0000	2.4182
Total	**2.4000e-003**	**0.0414**	**0.0191**	**1.3000e-004**	**5.0200e-003**	**2.0000e-004**	**5.2200e-003**	**1.3600e-003**	**1.9000e-004**	**1.5400e-003**	**0.0000**	**12.0317**	**12.0317**	**6.2000e-004**	**0.0000**	**12.0473**

3.5 Building Construction - 2020

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	0.0156	0.1443	0.1340	2.1000e-004		8.4500e-003	8.4500e-003		7.9700e-003	7.9700e-003	0.0000	18.3046	18.3046	4.2500e-003	0.0000	18.4107
Total	**0.0156**	**0.1443**	**0.1340**	**2.1000e-004**		**8.4500e-003**	**8.4500e-003**		**7.9700e-003**	**7.9700e-003**	**0.0000**	**18.3046**	**18.3046**	**4.2500e-003**	**0.0000**	**18.4107**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6000e-004	0.0239	7.2500e-003	5.0000e-005	1.0400e-003	1.3000e-004	1.1800e-003	3.0000e-004	1.2000e-004	4.3000e-004	0.0000	4.4249	4.4249	2.7000e-004	0.0000	4.4316
Worker	2.5800e-003	2.3400e-003	0.0203	5.0000e-005	5.6800e-003	4.0000e-005	5.7200e-003	1.5100e-003	3.0000e-005	1.5400e-003	0.0000	4.7519	4.7519	1.6000e-004	0.0000	4.7558
Total	**3.4400e-003**	**0.0263**	**0.0275**	**1.0000e-004**	**6.7200e-003**	**1.7000e-004**	**6.9000e-003**	**1.8100e-003**	**1.5000e-004**	**1.9700e-003**	**0.0000**	**9.1768**	**9.1768**	**4.3000e-004**	**0.0000**	**9.1874**

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	0.0156	0.1443	0.1340	2.1000e-004		8.4500e-003	8.4500e-003		7.9700e-003	7.9700e-003	0.0000	18.3045	18.3045	4.2500e-003	0.0000	18.4107
Total	**0.0156**	**0.1443**	**0.1340**	**2.1000e-004**		**8.4500e-003**	**8.4500e-003**		**7.9700e-003**	**7.9700e-003**	**0.0000**	**18.3045**	**18.3045**	**4.2500e-003**	**0.0000**	**18.4107**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6000e-004	0.0239	7.2500e-003	5.0000e-005	1.0400e-003	1.3000e-004	1.1800e-003	3.0000e-004	1.2000e-004	4.3000e-004	0.0000	4.4249	4.4249	2.7000e-004	0.0000	4.4316
Worker	2.5800e-003	2.3400e-003	0.0203	5.0000e-005	5.6800e-003	4.0000e-005	5.7200e-003	1.5100e-003	3.0000e-005	1.5400e-003	0.0000	4.7519	4.7519	1.6000e-004	0.0000	4.7558
Total	**3.4400e-003**	**0.0263**	**0.0275**	**1.0000e-004**	**6.7200e-003**	**1.7000e-004**	**6.9000e-003**	**1.8100e-003**	**1.5000e-004**	**1.9700e-003**	**0.0000**	**9.1768**	**9.1768**	**4.3000e-004**	**0.0000**	**9.1874**

3.6 Paving - 2020

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	0.0118	0.1180	0.1228	1.9000e-004		6.5100e-003	6.5100e-003		6.0100e-003	6.0100e-003	0.0000	16.3720	16.3720	5.1400e-003	0.0000	16.5006
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.1180**	**0.1228**	**1.9000e-004**		**6.5100e-003**	**6.5100e-003**		**6.0100e-003**	**6.0100e-003**	**0.0000**	**16.3720**	**16.3720**	**5.1400e-003**	**0.0000**	**16.5006**

3.6 Paving - 2020

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	8.7000e-004	7.9000e-004	6.8800e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6108	1.6108	5.0000e-005	0.0000	1.6121
Total	**8.7000e-004**	**7.9000e-004**	**6.8800e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9400e-003**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.6108**	**1.6108**	**5.0000e-005**	**0.0000**	**1.6121**

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	0.0118	0.1180	0.1228	1.9000e-004		6.5100e-003	6.5100e-003		6.0100e-003	6.0100e-003	0.0000	16.3720	16.3720	5.1400e-003	0.0000	16.5006
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.1180**	**0.1228**	**1.9000e-004**		**6.5100e-003**	**6.5100e-003**		**6.0100e-003**	**6.0100e-003**	**0.0000**	**16.3720**	**16.3720**	**5.1400e-003**	**0.0000**	**16.5006**

3.6 Paving - 2020

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	8.7000e-004	7.9000e-004	6.8800e-003	2.0000e-005	1.9300e-003	1.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6108	1.6108	5.0000e-005	0.0000	1.6121
Total	**8.7000e-004**	**7.9000e-004**	**6.8800e-003**	**2.0000e-005**	**1.9300e-003**	**1.0000e-005**	**1.9400e-003**	**5.1000e-004**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**1.6108**	**1.6108**	**5.0000e-005**	**0.0000**	**1.6121**

3.7 Architectural Coating - 2020

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	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	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**

3.7 Architectural Coating - 2020

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	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	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**

3.7 Architectural Coating - 2020

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	0.0000	0.0000	0.0000	0.0000	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

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	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
User Defined Industrial	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

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

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					
User Defined Industrial	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**

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					
User Defined Industrial	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**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	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

	ROG	NOx	CO	SO2	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	0.7115	0.0000	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	0.7115	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 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	0.1628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	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	**0.7115**	**0.0000**	**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

	ROG	NOx	CO	SO2	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	0.1628					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5487					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	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	**0.7115**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	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			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	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			
User Defined Industrial	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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Dry Creek Road Re-alignment DPW 17-21B

San Luis Obispo County APCD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	0	No Change	0.00
Cement and Mortar Mixers	Diesel	No Change	0	2	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Excavators	Diesel	No Change	0	4	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	1	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	11	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cement and Mortar Mixers	8.80000E-004	5.52000E-003	4.63000E-003	1.00000E-005	2.10000E-004	2.10000E-004	0.00000E+000	6.87410E-001	6.87410E-001	7.00000E-005	0.00000E+000	6.89200E-001
Concrete/Industrial Saws	1.05000E-003	8.25000E-003	9.22000E-003	2.00000E-005	5.00000E-004	5.00000E-004	0.00000E+000	1.34414E+000	1.34414E+000	9.00000E-005	0.00000E+000	1.34627E+000
Cranes	2.27000E-003	2.69600E-002	1.05800E-002	3.00000E-005	1.11000E-003	1.02000E-003	0.00000E+000	2.53463E+000	2.53463E+000	8.20000E-004	0.00000E+000	2.55512E+000
Excavators	8.57000E-003	8.44400E-002	1.14370E-001	1.80000E-004	4.09000E-003	3.76000E-003	0.00000E+000	1.58795E+001	1.58795E+001	5.14000E-003	0.00000E+000	1.60079E+001
Forklifts	2.16000E-003	1.94600E-002	1.77000E-002	2.00000E-005	1.45000E-003	1.33000E-003	0.00000E+000	2.01437E+000	2.01437E+000	6.50000E-004	0.00000E+000	2.03066E+000
Generator Sets	3.99000E-003	3.47900E-002	3.70600E-002	7.00000E-005	1.96000E-003	1.96000E-003	0.00000E+000	5.65207E+000	5.65207E+000	3.20000E-004	0.00000E+000	5.66003E+000
Graders	9.52000E-003	1.26510E-001	3.62900E-002	1.30000E-004	4.04000E-003	3.72000E-003	0.00000E+000	1.16613E+001	1.16613E+001	3.77000E-003	0.00000E+000	1.17556E+001
Pavers	2.63000E-003	2.81000E-002	2.89800E-002	5.00000E-005	1.37000E-003	1.26000E-003	0.00000E+000	4.13016E+000	4.13016E+000	1.34000E-003	0.00000E+000	4.16355E+000
Paving Equipment	3.11000E-003	3.21200E-002	3.80200E-002	6.00000E-005	1.61000E-003	1.48000E-003	0.00000E+000	5.36865E+000	5.36865E+000	1.74000E-003	0.00000E+000	5.41206E+000
Rollers	3.12000E-003	3.12200E-002	2.84000E-002	4.00000E-005	1.99000E-003	1.83000E-003	0.00000E+000	3.45728E+000	3.45728E+000	1.12000E-003	0.00000E+000	3.48523E+000
Rubber Tired Dozers	8.09600E-002	8.49920E-001	3.09870E-001	6.40000E-004	4.16200E-002	3.82900E-002	0.00000E+000	5.62914E+001	5.62914E+001	1.82100E-002	0.00000E+000	5.67466E+001
Tractors/Loaders/ Backhoes	3.27300E-002	3.28930E-001	3.56200E-001	4.90000E-004	2.08000E-002	1.91400E-002	0.00000E+000	4.26332E+001	4.26332E+001	1.37900E-002	0.00000E+000	4.29779E+001
Welders	1.71000E-003	7.86000E-003	8.84000E-003	1.00000E-005	4.30000E-004	4.30000E-004	0.00000E+000	9.41100E-001	9.41100E-001	1.40000E-004	0.00000E+000	9.44580E-001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cement and Mortar Mixers	8.80000E-004	5.52000E-003	4.63000E-003	1.00000E-005	2.10000E-004	2.10000E-004	0.00000E+000	6.87410E-001	6.87410E-001	7.00000E-005	0.00000E+000	6.89200E-001
Concrete/Industrial Saws	1.05000E-003	8.25000E-003	9.22000E-003	2.00000E-005	5.00000E-004	5.00000E-004	0.00000E+000	1.34414E+000	1.34414E+000	9.00000E-005	0.00000E+000	1.34627E+000
Cranes	2.27000E-003	2.69600E-002	1.05800E-002	3.00000E-005	1.11000E-003	1.02000E-003	0.00000E+000	2.53462E+000	2.53462E+000	8.20000E-004	0.00000E+000	2.55512E+000
Excavators	8.57000E-003	8.44400E-002	1.14370E-001	1.80000E-004	4.09000E-003	3.76000E-003	0.00000E+000	1.58795E+001	1.58795E+001	5.14000E-003	0.00000E+000	1.60079E+001
Forklifts	2.16000E-003	1.94600E-002	1.77000E-002	2.00000E-005	1.45000E-003	1.33000E-003	0.00000E+000	2.01437E+000	2.01437E+000	6.50000E-004	0.00000E+000	2.03065E+000
Generator Sets	3.99000E-003	3.47900E-002	3.70600E-002	7.00000E-005	1.96000E-003	1.96000E-003	0.00000E+000	5.65207E+000	5.65207E+000	3.20000E-004	0.00000E+000	5.66002E+000
Graders	9.52000E-003	1.26510E-001	3.62900E-002	1.30000E-004	4.04000E-003	3.72000E-003	0.00000E+000	1.16613E+001	1.16613E+001	3.77000E-003	0.00000E+000	1.17556E+001
Pavers	2.63000E-003	2.81000E-002	2.89800E-002	5.00000E-005	1.37000E-003	1.26000E-003	0.00000E+000	4.13015E+000	4.13015E+000	1.34000E-003	0.00000E+000	4.16355E+000
Paving Equipment	3.11000E-003	3.21200E-002	3.80200E-002	6.00000E-005	1.61000E-003	1.48000E-003	0.00000E+000	5.36864E+000	5.36864E+000	1.74000E-003	0.00000E+000	5.41205E+000
Rollers	3.12000E-003	3.12200E-002	2.84000E-002	4.00000E-005	1.99000E-003	1.83000E-003	0.00000E+000	3.45727E+000	3.45727E+000	1.12000E-003	0.00000E+000	3.48523E+000
Rubber Tired Dozers	8.09600E-002	8.49920E-001	3.09870E-001	6.40000E-004	4.16200E-002	3.82900E-002	0.00000E+000	5.62914E+001	5.62914E+001	1.82100E-002	0.00000E+000	5.67465E+001
Tractors/Loaders/Backhoes	3.27300E-002	3.28930E-001	3.56200E-001	4.90000E-004	2.08000E-002	1.91400E-002	0.00000E+000	4.26332E+001	4.26332E+001	1.37900E-002	0.00000E+000	4.29779E+001
Welders	1.71000E-003	7.86000E-003	8.84000E-003	1.00000E-005	4.30000E-004	4.30000E-004	0.00000E+000	9.41100E-001	9.41100E-001	1.40000E-004	0.00000E+000	9.44580E-001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cement and Mortar Mixers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	3.94535E-006	3.94535E-006	0.00000E+000	0.00000E+000	0.00000E+000
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.25949E-006	1.25949E-006	0.00000E+000	0.00000E+000	1.24938E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	4.92451E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.76678E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	8.57538E-007	8.57538E-007	0.00000E+000	0.00000E+000	1.70132E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.42121E-006	2.42121E-006	0.00000E+000	0.00000E+000	0.00000E+000
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.86267E-006	1.86267E-006	0.00000E+000	0.00000E+000	1.84773E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.89245E-006	2.89245E-006	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.24353E-006	1.24353E-006	0.00000E+000	0.00000E+000	1.23355E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.17279E-006	1.17279E-006	0.00000E+000	0.00000E+000	1.16339E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction		PM2.5 Reduction			
No	Replace Ground Cover of Area Disturbed	PM10 Reduction		PM2.5 Reduction			
No	Water Exposed Area	PM10 Reduction		PM2.5 Reduction		Frequency (per day)	

No	Unpaved Road Mitigation	Moisture Content %		Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.12	0.07	0.12	0.07	0.00	0.00
Grading	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.27	0.15	0.27	0.15	0.00	0.00
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	Use Low VOC Paint (Parking)	0.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		0.00
DishWasher		0.00
Fan		0.00
Refrigerator		0.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value

Dry Creek Road Re-alignment DPW 17-21B

San Luis Obispo County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	3.23	140,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021

Utility Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - non-default

Land Use - User defined - Roads not included as a Land Use Subtype

Construction Phase - Total days for each phase provided by Wallace Group (including no architectural coating)

Off-road Equipment - No architectural coating.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals water truck and dump truck. Plate compactors includes wacker/rammer. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Concrete/Industrial Saws equals saw cutting machine and pavement grinder. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway trucks equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Plate compactors includes wacker/rammer. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Trips and VMT - Based on Wallace Group excel sheet.

On-road Fugitive Dust - Defaults used

Grading - Based on Wallace Group excel sheet.

Architectural Coating - No architectural coating.

Road Dust - San Luis Obispo region.

Woodstoves - N/A

Consumer Products - N/A

Area Coating - N/A

Landscape Equipment - N/A

Energy Use - N/A

Water And Wastewater - N/A

Solid Waste - N/A

Land Use Change - N/A

Sequestration - N/A

Energy Mitigation - N/A

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps - N/A

Stationary Sources - Process Boilers - N/A

Stationary Sources - User Defined - N/A

Stationary Sources - Emergency Generators and Fire Pumps EF - N/A

Stationary Sources - Process Boilers EF - N/A

Table Name	Column Name	Default Value	New Value
tblApplianceMitigation	PercentImprovement	30.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	50.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	70,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	210,750.00	0.00
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	30.00
tblGrading	AcresOfGrading	20.00	3.23
tblLandUse	LandUseSquareFeet	0.00	140,500.00
tblLandUse	LotAcreage	0.00	3.23
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	641.35
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblTripsAndVMT	HaulingTripNumber	0.00	168.00
tblTripsAndVMT	HaulingTripNumber	0.00	250.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	6.7481	72.6594	39.5435	0.0801	24.7070	3.4894	28.1964	13.3933	3.2108	16.6042	0.0000	7,873.5163	7,873.5163	2.1869	0.0000	7,928.1889
Maximum	**6.7481**	**72.6594**	**39.5435**	**0.0801**	**24.7070**	**3.4894**	**28.1964**	**13.3933**	**3.2108**	**16.6042**	**0.0000**	**7,873.5163**	**7,873.5163**	**2.1869**	**0.0000**	**7,928.1889**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	6.7481	72.6594	39.5435	0.0801	24.7070	3.4894	28.1964	13.3933	3.2108	16.6042	0.0000	7,873.5163	7,873.5163	2.1869	0.0000	7,928.1889
Maximum	**6.7481**	**72.6594**	**39.5435**	**0.0801**	**24.7070**	**3.4894**	**28.1964**	**13.3933**	**3.2108**	**16.6042**	**0.0000**	**7,873.5163**	**7,873.5163**	**2.1869**	**0.0000**	**7,928.1889**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	**3.8988**	**0.0000**	**0.0000**	**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 Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	**3.8988**	**0.0000**	**0.0000**	**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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/12/2020	5	10	
2	Site Preparation	Site Preparation	6/15/2020	7/24/2020	5	30	
3	Grading	Grading	7/24/2020	9/17/2020	5	40	
4	Building Construction	Building Construction	9/17/2020	10/14/2020	5	20	
5	Paving	Paving	10/14/2020	11/10/2020	5	20	
6	Architectural Coating	Architectural Coating	11/10/2020	11/9/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.23

Acres of Paving: 0

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
Demolition	Concrete/Industrial Saws	1	4.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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	4.00	231	0.29
Building Construction	Forklifts	3	4.00	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	4.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	168.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	59.00	23.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1030	31.5517	19.9099	0.0357		1.5596	1.5596		1.4428	1.4428		3,451.3726	3,451.3726	1.0392		3,477.3520
Total	**3.1030**	**31.5517**	**19.9099**	**0.0357**		**1.5596**	**1.5596**		**1.4428**	**1.4428**		**3,451.3726**	**3,451.3726**	**1.0392**		**3,477.3520**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.0642**	**0.0535**	**0.5325**	**1.3900e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**138.5831**	**138.5831**	**4.5200e-003**		**138.6960**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1030	31.5517	19.9099	0.0357		1.5596	1.5596		1.4428	1.4428	0.0000	3,451.3726	3,451.3726	1.0392		3,477.3520
Total	**3.1030**	**31.5517**	**19.9099**	**0.0357**		**1.5596**	**1.5596**		**1.4428**	**1.4428**	**0.0000**	**3,451.3726**	**3,451.3726**	**1.0392**		**3,477.3520**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.0642**	**0.0535**	**0.5325**	**1.3900e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**138.5831**	**138.5831**	**4.5200e-003**		**138.6960**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0481	1.7667	0.3807	4.4300e-003	0.0977	7.7800e-003	0.1055	0.0268	7.4400e-003	0.0342		477.7943	477.7943	0.0265		478.4572
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
Worker	0.0770	0.0642	0.6389	1.6700e-003	0.1780	1.1400e-003	0.1791	0.0472	1.0500e-003	0.0483		166.2997	166.2997	5.4200e-003		166.4352
Total	**0.1250**	**1.8309**	**1.0196**	**6.1000e-003**	**0.2757**	**8.9200e-003**	**0.2846**	**0.0740**	**8.4900e-003**	**0.0825**		**644.0940**	**644.0940**	**0.0319**		**644.8924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0481	1.7667	0.3807	4.4300e-003	0.0977	7.7800e-003	0.1055	0.0268	7.4400e-003	0.0342		477.7943	477.7943	0.0265		478.4572
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
Worker	0.0770	0.0642	0.6389	1.6700e-003	0.1780	1.1400e-003	0.1791	0.0472	1.0500e-003	0.0483		166.2997	166.2997	5.4200e-003		166.4352
Total	**0.1250**	**1.8309**	**1.0196**	**6.1000e-003**	**0.2757**	**8.9200e-003**	**0.2846**	**0.0740**	**8.4900e-003**	**0.0825**		**644.0940**	**644.0940**	**0.0319**		**644.8924**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1077	0.0000	6.1077	3.3195	0.0000	3.3195			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1077**	**1.2734**	**7.3812**	**3.3195**	**1.1716**	**4.4910**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0536	1.9717	0.4249	4.9500e-003	0.1091	8.6800e-003	0.1177	0.0299	8.3000e-003	0.0382		533.2525	533.2525	0.0296		533.9924
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
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.1178**	**2.0253**	**0.9573**	**6.3400e-003**	**0.2574**	**9.6300e-003**	**0.2670**	**0.0692**	**9.1800e-003**	**0.0784**		**671.8356**	**671.8356**	**0.0341**		**672.6884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1077	0.0000	6.1077	3.3195	0.0000	3.3195			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1077**	**1.2734**	**7.3812**	**3.3195**	**1.1716**	**4.4910**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0536	1.9717	0.4249	4.9500e-003	0.1091	8.6800e-003	0.1177	0.0299	8.3000e-003	0.0382		533.2525	533.2525	0.0296		533.9924
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
Worker	0.0642	0.0535	0.5325	1.3900e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		138.5831	138.5831	4.5200e-003		138.6960
Total	**0.1178**	**2.0253**	**0.9573**	**6.3400e-003**	**0.2574**	**9.6300e-003**	**0.2670**	**0.0692**	**9.1800e-003**	**0.0784**		**671.8356**	**671.8356**	**0.0341**		**672.6884**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5628	14.4323	13.4013	0.0212		0.8453	0.8453		0.7968	0.7968		2,017.7318	2,017.7318	0.4679		2,029.4303
Total	**1.5628**	**14.4323**	**13.4013**	**0.0212**		**0.8453**	**0.8453**		**0.7968**	**0.7968**		**2,017.7318**	**2,017.7318**	**0.4679**		**2,029.4303**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.3737	0.6802	4.6400e-003	0.1068	0.0129	0.1197	0.0308	0.0123	0.0431		494.0438	494.0438	0.0284		494.7540
Worker	0.2524	0.2105	2.0943	5.4700e-003	0.5833	3.7300e-003	0.5870	0.1547	3.4400e-003	0.1581		545.0935	545.0935	0.0178		545.5377
Total	**0.3358**	**2.5842**	**2.7745**	**0.0101**	**0.6900**	**0.0166**	**0.7067**	**0.1855**	**0.0158**	**0.2012**		**1,039.1373**	**1,039.1373**	**0.0462**		**1,040.2917**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5628	14.4323	13.4013	0.0212		0.8453	0.8453		0.7968	0.7968	0.0000	2,017.7318	2,017.7318	0.4679		2,029.4303
Total	**1.5628**	**14.4323**	**13.4013**	**0.0212**		**0.8453**	**0.8453**		**0.7968**	**0.7968**	**0.0000**	**2,017.7318**	**2,017.7318**	**0.4679**		**2,029.4303**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0834	2.3737	0.6802	4.6400e-003	0.1068	0.0129	0.1197	0.0308	0.0123	0.0431		494.0438	494.0438	0.0284		494.7540
Worker	0.2524	0.2105	2.0943	5.4700e-003	0.5833	3.7300e-003	0.5870	0.1547	3.4400e-003	0.1581		545.0935	545.0935	0.0178		545.5377
Total	**0.3358**	**2.5842**	**2.7745**	**0.0101**	**0.6900**	**0.0166**	**0.7067**	**0.1855**	**0.0158**	**0.2012**		**1,039.1373**	**1,039.1373**	**0.0462**		**1,040.2917**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1837**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0855	0.0714	0.7099	1.8600e-003	0.1977	1.2600e-003	0.1990	0.0524	1.1700e-003	0.0536		184.7775	184.7775	6.0200e-003		184.9280
Total	**0.0855**	**0.0714**	**0.7099**	**1.8600e-003**	**0.1977**	**1.2600e-003**	**0.1990**	**0.0524**	**1.1700e-003**	**0.0536**		**184.7775**	**184.7775**	**6.0200e-003**		**184.9280**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1837**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0855	0.0714	0.7099	1.8600e-003	0.1977	1.2600e-003	0.1990	0.0524	1.1700e-003	0.0536		184.7775	184.7775	6.0200e-003		184.9280
Total	**0.0855**	**0.0714**	**0.7099**	**1.8600e-003**	**0.1977**	**1.2600e-003**	**0.1990**	**0.0524**	**1.1700e-003**	**0.0536**		**184.7775**	**184.7775**	**6.0200e-003**		**184.9280**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	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-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	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**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	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-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	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**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	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
User Defined Industrial	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8921					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	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	**3.8988**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8921					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	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	**3.8988**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Dry Creek Road Re-alignment DPW 17-21B

San Luis Obispo County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	0.00	User Defined Unit	3.23	140,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.2	**Precipitation Freq (Days)**	44
Climate Zone	4			**Operational Year**	2021

Utility Company

CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - non-default

Land Use - User defined - Roads not included as a Land Use Subtype

Construction Phase - Total days for each phase provided by Wallace Group (including no architectural coating)

Off-road Equipment - No architectural coating.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals water truck and dump truck. Plate compactors includes wacker/rammer. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Concrete/Industrial Saws equals saw cutting machine and pavement grinder. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway trucks equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Off-highway truck equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Off-road Equipment - Based on equipment list provided by Wallace Group. Plate compactors includes wacker/rammer. Off-highway truck equals water truck and dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

Trips and VMT - Based on Wallace Group excel sheet.

On-road Fugitive Dust - Defaults used

Grading - Based on Wallace Group excel sheet.

Architectural Coating - No architectural coating.

Road Dust - San Luis Obispo region.

Woodstoves - N/A

Consumer Products - N/A

Area Coating - N/A

Landscape Equipment - N/A

Energy Use - N/A

Water And Wastewater - N/A

Solid Waste - N/A

Land Use Change - N/A

Sequestration - N/A

Energy Mitigation - N/A

Operational Off-Road Equipment - N/A

Stationary Sources - Emergency Generators and Fire Pumps - N/A

Stationary Sources - Process Boilers - N/A

Stationary Sources - User Defined - N/A

Stationary Sources - Emergency Generators and Fire Pumps EF - N/A

Stationary Sources - Process Boilers EF - N/A

Table Name	Column Name	Default Value	New Value
tblApplianceMitigation	PercentImprovement	30.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	50.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	70,250.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	210,750.00	0.00
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	18.00	0.00
tblConstructionPhase	NumDays	230.00	20.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	30.00
tblGrading	AcresOfGrading	20.00	3.23
tblLandUse	LandUseSquareFeet	0.00	140,500.00
tblLandUse	LotAcreage	0.00	3.23
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0	0.029
tblProjectCharacteristics	CO2IntensityFactor	0	641.35
tblProjectCharacteristics	N2OIntensityFactor	0	0.006
tblTripsAndVMT	HaulingTripNumber	0.00	168.00
tblTripsAndVMT	HaulingTripNumber	0.00	250.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	6.7706	72.7013	39.5619	0.0798	24.7070	3.4897	28.1967	13.3933	3.2112	16.6045	0.0000	7,844.3901	7,844.3901	2.1884	0.0000	7,899.0994
Maximum	**6.7706**	**72.7013**	**39.5619**	**0.0798**	**24.7070**	**3.4897**	**28.1967**	**13.3933**	**3.2112**	**16.6045**	**0.0000**	**7,844.3901**	**7,844.3901**	**2.1884**	**0.0000**	**7,899.0994**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	6.7706	72.7013	39.5619	0.0798	24.7070	3.4897	28.1967	13.3933	3.2112	16.6045	0.0000	7,844.3901	7,844.3901	2.1884	0.0000	7,899.0994
Maximum	**6.7706**	**72.7013**	**39.5619**	**0.0798**	**24.7070**	**3.4897**	**28.1967**	**13.3933**	**3.2112**	**16.6045**	**0.0000**	**7,844.3901**	**7,844.3901**	**2.1884**	**0.0000**	**7,899.0994**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	**3.8988**	**0.0000**	**0.0000**	**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 Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	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	**3.8988**	**0.0000**	**0.0000**	**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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2020	6/12/2020	5	10	
2	Site Preparation	Site Preparation	6/15/2020	7/24/2020	5	30	
3	Grading	Grading	7/24/2020	9/17/2020	5	40	
4	Building Construction	Building Construction	9/17/2020	10/14/2020	5	20	
5	Paving	Paving	10/14/2020	11/10/2020	5	20	
6	Architectural Coating	Architectural Coating	11/10/2020	11/9/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.23

Acres of Paving: 0

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
Demolition	Concrete/Industrial Saws	1	4.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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	4.00	231	0.29
Building Construction	Forklifts	3	4.00	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	4.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Demolition	6	15.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	168.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	59.00	23.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	12.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1030	31.5517	19.9099	0.0357		1.5596	1.5596		1.4428	1.4428		3,451.3726	3,451.3726	1.0392		3,477.3520
Total	**3.1030**	**31.5517**	**19.9099**	**0.0357**		**1.5596**	**1.5596**		**1.4428**	**1.4428**		**3,451.3726**	**3,451.3726**	**1.0392**		**3,477.3520**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.0731**	**0.0607**	**0.5180**	**1.3300e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**132.0941**	**132.0941**	**4.3700e-003**		**132.2033**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day								lb/day		
Off-Road	3.1030	31.5517	19.9099	0.0357		1.5596	1.5596		1.4428	1.4428	0.0000	3,451.3726	3,451.3726	1.0392		3,477.3520
Total	**3.1030**	**31.5517**	**19.9099**	**0.0357**		**1.5596**	**1.5596**		**1.4428**	**1.4428**	**0.0000**	**3,451.3726**	**3,451.3726**	**1.0392**		**3,477.3520**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.0731**	**0.0607**	**0.5180**	**1.3300e-003**	**0.1483**	**9.5000e-004**	**0.1492**	**0.0393**	**8.8000e-004**	**0.0402**		**132.0941**	**132.0941**	**4.3700e-003**		**132.2033**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0494	1.7790	0.4044	4.3700e-003	0.0977	7.9500e-003	0.1057	0.0268	7.6100e-003	0.0344		470.7764	470.7764	0.0274		471.4605
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
Worker	0.0878	0.0729	0.6216	1.5900e-003	0.1780	1.1400e-003	0.1791	0.0472	1.0500e-003	0.0483		158.5129	158.5129	5.2400e-003		158.6439
Total	**0.1371**	**1.8519**	**1.0260**	**5.9600e-003**	**0.2757**	**9.0900e-003**	**0.2848**	**0.0740**	**8.6600e-003**	**0.0826**		**629.2893**	**629.2893**	**0.0326**		**630.1045**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0494	1.7790	0.4044	4.3700e-003	0.0977	7.9500e-003	0.1057	0.0268	7.6100e-003	0.0344		470.7764	470.7764	0.0274		471.4605
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
Worker	0.0878	0.0729	0.6216	1.5900e-003	0.1780	1.1400e-003	0.1791	0.0472	1.0500e-003	0.0483		158.5129	158.5129	5.2400e-003		158.6439
Total	**0.1371**	**1.8519**	**1.0260**	**5.9600e-003**	**0.2757**	**9.0900e-003**	**0.2848**	**0.0740**	**8.6600e-003**	**0.0826**		**629.2893**	**629.2893**	**0.0326**		**630.1045**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1077	0.0000	6.1077	3.3195	0.0000	3.3195			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1077**	**1.2734**	**7.3812**	**3.3195**	**1.1716**	**4.4910**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.9855	0.4513	4.8700e-003	0.1091	8.8700e-003	0.1179	0.0299	8.4900e-003	0.0384		525.4201	525.4201	0.0305		526.1836
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
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.1282**	**2.0462**	**0.9693**	**6.2000e-003**	**0.2574**	**9.8200e-003**	**0.2672**	**0.0692**	**9.3700e-003**	**0.0786**		**657.5142**	**657.5142**	**0.0349**		**658.3869**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1077	0.0000	6.1077	3.3195	0.0000	3.3195			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.1077**	**1.2734**	**7.3812**	**3.3195**	**1.1716**	**4.4910**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0551	1.9855	0.4513	4.8700e-003	0.1091	8.8700e-003	0.1179	0.0299	8.4900e-003	0.0384		525.4201	525.4201	0.0305		526.1836
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
Worker	0.0731	0.0607	0.5180	1.3300e-003	0.1483	9.5000e-004	0.1492	0.0393	8.8000e-004	0.0402		132.0941	132.0941	4.3700e-003		132.2033
Total	**0.1282**	**2.0462**	**0.9693**	**6.2000e-003**	**0.2574**	**9.8200e-003**	**0.2672**	**0.0692**	**9.3700e-003**	**0.0786**		**657.5142**	**657.5142**	**0.0349**		**658.3869**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5628	14.4323	13.4013	0.0212		0.8453	0.8453		0.7968	0.7968		2,017.7318	2,017.7318	0.4679		2,029.4303
Total	**1.5628**	**14.4323**	**13.4013**	**0.0212**		**0.8453**	**0.8453**		**0.7968**	**0.7968**		**2,017.7318**	**2,017.7318**	**0.4679**		**2,029.4303**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0882	2.3619	0.7659	4.5000e-003	0.1068	0.0133	0.1201	0.0308	0.0127	0.0435		479.1145	479.1145	0.0304		479.8739
Worker	0.2877	0.2389	2.0375	5.2200e-003	0.5833	3.7300e-003	0.5870	0.1547	3.4400e-003	0.1581		519.5700	519.5700	0.0172		519.9995
Total	**0.3759**	**2.6008**	**2.8035**	**9.7200e-003**	**0.6900**	**0.0170**	**0.7071**	**0.1855**	**0.0162**	**0.2016**		**998.6845**	**998.6845**	**0.0476**		**999.8734**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5628	14.4323	13.4013	0.0212		0.8453	0.8453		0.7968	0.7968	0.0000	2,017.7318	2,017.7318	0.4679		2,029.4303
Total	**1.5628**	**14.4323**	**13.4013**	**0.0212**		**0.8453**	**0.8453**		**0.7968**	**0.7968**	**0.0000**	**2,017.7318**	**2,017.7318**	**0.4679**		**2,029.4303**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0882	2.3619	0.7659	4.5000e-003	0.1068	0.0133	0.1201	0.0308	0.0127	0.0435		479.1145	479.1145	0.0304		479.8739
Worker	0.2877	0.2389	2.0375	5.2200e-003	0.5833	3.7300e-003	0.5870	0.1547	3.4400e-003	0.1581		519.5700	519.5700	0.0172		519.9995
Total	**0.3759**	**2.6008**	**2.8035**	**9.7200e-003**	**0.6900**	**0.0170**	**0.7071**	**0.1855**	**0.0162**	**0.2016**		**998.6845**	**998.6845**	**0.0476**		**999.8734**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005		1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1837**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**		**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0975	0.0810	0.6907	1.7700e-003	0.1977	1.2600e-003	0.1990	0.0524	1.1700e-003	0.0536		176.1254	176.1254	5.8200e-003		176.2710
Total	**0.0975**	**0.0810**	**0.6907**	**1.7700e-003**	**0.1977**	**1.2600e-003**	**0.1990**	**0.0524**	**1.1700e-003**	**0.0536**		**176.1254**	**176.1254**	**5.8200e-003**		**176.2710**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1837	11.8015	12.2823	0.0189		0.6509	0.6509		0.6005	0.6005	0.0000	1,804.7070	1,804.7070	0.5670		1,818.8830
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1837**	**11.8015**	**12.2823**	**0.0189**		**0.6509**	**0.6509**		**0.6005**	**0.6005**	**0.0000**	**1,804.7070**	**1,804.7070**	**0.5670**		**1,818.8830**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
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
Worker	0.0975	0.0810	0.6907	1.7700e-003	0.1977	1.2600e-003	0.1990	0.0524	1.1700e-003	0.0536		176.1254	176.1254	5.8200e-003		176.2710
Total	**0.0975**	**0.0810**	**0.6907**	**1.7700e-003**	**0.1977**	**1.2600e-003**	**0.1990**	**0.0524**	**1.1700e-003**	**0.0536**		**176.1254**	**176.1254**	**5.8200e-003**		**176.2710**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	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-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	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**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	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-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	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**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	13.00	5.00	5.00	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
User Defined Industrial	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383	0.002368	0.001236	0.005232	0.000797	0.001552

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	3.8988	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8921					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	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	**3.8988**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8921					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.0067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	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	**3.8988**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

tblProjectCharacteristics

ProjectNan	LocationSc	EMFAC_ID	WindSpeed	Precipitatio	ClimateZon	Urbanizatic	Operationa	UtilityComp
Dry Creek I	AD	SLOCAPCI	3.2	44	4	Urban	2021	

CO2Intens	CH4Intensi	N2OIntens	TotalPopul	TotalLotAc	UsingHisto	ConstructionPhaseStartDate
641.35	0.029	0.006	0	3.23	0	2020/06/01

PollutantSe	PollutantFu	PollutantName
1	Reactive O	ROG
1	Nitrogen O	NOX
1	Carbon Mo	CO
1	Sulfur Diox	SO2
1	Particulate	PM10
1	Particulate	PM2_5
1	Fugitive PM	PM10_FUG
1	Fugitive PM	PM25_FUG
1	Biogenic C	CO2_BIO
1	Non-Bioger	CO2_NBIO
1	Carbon Dic	CO2
1	Methane (C	CH4
1	Nitrous Oxi	N2O
1	CO2 Equiv	CO2E

LandUseTy	LandUseSu	LandUseUn	LandUseSi	LotAcreage	LandUseSq	Population	BuildingSp	GreenSpac
Industrial	User Define	0	User Define	3.23	140500	0	140500	0

RecSwimmingAreaAllowEdit
0

tblConstructionPhase

PhaseNum	PhaseNam	PhaseType	PhaseStar	PhaseEnd	NumDaysW	NumDays	PhaseDescription
1	Demolition	Demolition	2020/06/0	2020/06/1	5	10	
2	Site Prepa	Site Prepa	2020/06/1	2020/07/2	5	30	
3	Grading	Grading	2020/07/2	2020/09/1	5	40	
4	Building C	Building C	2020/09/1	2020/10/1	5	20	
5	Paving	Paving	2020/10/1	2020/11/1	5	20	
6	Architectur	Architectur	2020/11/1	2020/11/0	5	0	

PhaseNam	OffRoadEq	OffRoadEc	UsageHou	HorsePowe	LoadFactor
Demolition	Concrete/Ir	1	4	81	0.73
Demolition	Excavators	3	8	158	0.38
Demolition	Rubber Tire	2	8	247	0.4
Site Prepai	Rubber Tire	3	8	247	0.4
Site Prepai	Tractors/Lc	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tire	1	8	247	0.4
Grading	Tractors/Lc	3	8	97	0.37
Building Cc	Cranes	1	4	231	0.29
Building Cc	Forklifts	3	4	89	0.2
Building Cc	Generator	1	8	84	0.74
Building Cc	Tractors/Lc	3	7	97	0.37
Building Cc	Welders	1	4	46	0.45
Paving	Cement an	2	6	9	0.56
Paving	Pavers	1	8	130	0.42
Paving	Paving Equ	2	6	132	0.36
Paving	Rollers	2	6	80	0.38
Paving	Tractors/Lc	1	8	97	0.37
Architectura	Air Compre	0	6	78	0.48

PhaseNam	WorkerTripN	VendorTrip	HaulingTrip	WorkerTripN	VendorTrip	HaulingTrip	WorkerVeh	VendorVeh
Demolition	15	0	0	13	5	20	LD_Mix	HDT_Mix
Site Prepar	18	0	168	13	5	20	LD_Mix	HDT_Mix
Grading	15	0	250	13	5	20	LD_Mix	HDT_Mix
Building Co	59	23	0	13	5	20	LD_Mix	HDT_Mix
Paving	20	0	0	13	5	20	LD_Mix	HDT_Mix
Architectura	12	0	0	13	5	20	LD_Mix	HDT_Mix

HaulingVehicleClass
HHDT
HHDT
HHDT
HHDT
HHDT
HHDT

PhaseNam	WorkerPer	VendorPer	HaulingPer	RoadSiltLo	MaterialSilt	MaterialMo	AverageVe	MeanVehic
Demolition	100	100	100	0.1	8.5	0.5	2.4	40
Site Prepar	100	100	100	0.1	8.5	0.5	2.4	40
Grading	100	100	100	0.1	8.5	0.5	2.4	40
Building Co	100	100	100	0.1	8.5	0.5	2.4	40
Paving	100	100	100	0.1	8.5	0.5	2.4	40
Architectura	100	100	100	0.1	8.5	0.5	2.4	40

cleSpeed

PhaseNam	Demolition	DemolitionUnitAmount
Demolition		

PhaseNam	MaterialImp	MaterialExp	GradingSiz	ImportExpo	MeanVehic	AcresOfGra	MaterialMo	MaterialMo
Site Prepar	0	0	Cubic Yard	0	7.1	0	7.9	12
Grading	0	0	Cubic Yard	0	7.1	3.23	7.9	12

MaterialSiltContent
6.9
6.9

PhaseNam	Architectur	Architectur	EF_Reside	ConstArea_	EF_Reside	ConstArea_	EF_Nonres	ConstArea_
Architectur	1900/01/0	2040/12/3	250	0	250	0	250	0

EF_Nonres	ConstArea_	EF_Parking	ConstArea_Parking
250	0	150	0

ParkingLotAcreage

VehicleTrip	VehicleTrip	WD_TR	ST_TR	SU_TR	HW_TL	HS_TL	HO_TL	CC_TL
User Defin	User Defin	0	0	0	0	0	0	5

CW_TL	CNW_TL	PR_TP	DV_TP	PB_TP	HW_TTP	HS_TTP	HO_TTP	CC_TTP
13	5	0	0	0	0	0	0	0

CW_TTP	CNW_TTP
0	0

Season	EmissionTy	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD
A	CH4_IDLE	0	0	0	0	0.004825	0.002982	0.017115
A	CH4_RUNE	0.004818	0.012142	0.010388	0.015767	0.025269	0.010809	0.008687
A	CH4_STRE	0.008153	0.017224	0.016241	0.026865	0.020361	0.007919	0.07217
A	CO_IDLEX	0	0	0	0	0.135995	0.111093	0.432924
A	CO_RUNE	0.582583	1.306912	1.100302	1.615338	1.548901	0.870456	0.579757
A	CO_STRE	1.622347	3.466023	3.054798	4.56591	2.690652	1.056219	8.810478
A	CO2_NBIC	0	0	0	0	9.540135	15.2924	142.8703
A	CO2_NBIC	249.4456	307.3965	360.2555	481.4679	693.1723	715.7031	1213.805
A	CO2_NBIC	59.45897	72.99626	85.54653	112.4936	26.77179	18.59274	60.38325
A	NOX_IDLE	0	0	0	0	0.105237	0.139513	0.798075
A	NOX_RUN	0.061973	0.153888	0.159178	0.247354	2.796353	2.137224	2.201475
A	NOX_STR	0.109259	0.208396	0.294135	0.473351	0.930499	0.441737	10.95839
A	PM10_IDL	0	0	0	0	0.001142	0.001513	0.002773
A	PM10_PM	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034
A	PM10_PM	0.008	0.008	0.008	0.008	0.010335	0.011017	0.012
A	PM10_RU	0.001734	0.002417	0.001791	0.001857	0.027919	0.025544	0.013975
A	PM10_ST	0.002384	0.003141	0.002618	0.002732	0.000982	0.000378	0.001154
A	PM25_IDL	0	0	0	0	0.001093	0.001448	0.002653
A	PM25_PM	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586
A	PM25_PM	0.002	0.002	0.002	0.002	0.002584	0.002754	0.003
A	PM25_RU	0.001601	0.002234	0.001647	0.001714	0.026663	0.02442	0.013365
A	PM25_ST	0.002192	0.002889	0.002407	0.002515	0.000903	0.000347	0.001061
A	ROG_DIU	0.033607	0.080567	0.063811	0.07221	0.002381	0.000757	0.001313
A	ROG_HTS	0.113607	0.234912	0.193922	0.225431	0.104963	0.03485	0.062073
A	ROG_IDLE	0	0	0	0	0.015968	0.01294	0.033587
A	ROG_RES	0.027522	0.06289	0.053988	0.065081	0.001287	0.000447	0.000715
A	ROG_RUN	0.012224	0.030684	0.025849	0.043847	0.182945	0.150394	0.081064
A	ROG_RUN	0.038539	0.154434	0.121396	0.140129	0.384498	0.092084	0.035149
A	ROG_STR	0.109964	0.23231	0.219041	0.362482	0.274586	0.106799	0.518946
A	SO2_IDLE	0	0	0	0	0.000095	0.000148	0.001376
A	SO2_RUN	0.002498	0.00309	0.003614	0.00483	0.006787	0.006936	0.011645
A	SO2_STR	0.000623	0.000791	0.000909	0.001207	0.000319	0.000206	0.000758
A	TOG_DIU	0.033607	0.080567	0.063811	0.07221	0.002381	0.000757	0.001313
A	TOG_HTS	0.113607	0.234912	0.193922	0.225431	0.104963	0.03485	0.062073
A	TOG_IDLE	0	0	0	0	0.021842	0.016867	0.045022
A	TOG_RES	0.027522	0.06289	0.053988	0.065081	0.001287	0.000447	0.000715
A	TOG_RUN	0.017724	0.044521	0.037659	0.061877	0.223313	0.174643	0.0967
A	TOG_RUN	0.038539	0.154434	0.121396	0.140129	0.384498	0.092084	0.035149
A	TOG_STR	0.120392	0.254336	0.239817	0.39677	0.300637	0.116932	0.568181
S	CH4_IDLE	0	0	0	0	0.004825	0.002982	0.015737
S	CH4_RUNE	0.0051	0.012691	0.010946	0.016563	0.025881	0.010936	0.008871
S	CH4_STRE	0.007059	0.014784	0.014056	0.023242	0.019354	0.007544	0.068418
S	CO_IDLEX	0	0	0	0	0.135995	0.111093	0.28942
S	CO_RUNE	0.6327	1.395314	1.186036	1.719712	1.57424	0.875742	0.589357
S	CO_STRE	1.349091	2.858049	2.536926	3.804604	2.518662	0.991532	8.211071
S	CO2_NBIC	0	0	0	0	9.540135	15.2924	151.6628
S	CO2_NBIC	259.9866	319.8666	374.9704	500.6934	693.1723	715.7031	1213.805
S	CO2_NBIC	59.45897	72.99626	85.54653	112.4936	26.77179	18.59274	60.38325

S	NOX_IDLE	0	0	0	0	0.105237	0.139513	0.823779
S	NOX_RUNI	0.055825	0.137614	0.142685	0.221944	2.697278	2.067502	2.123208
S	NOX_STRI	0.099241	0.18935	0.267196	0.430053	0.875732	0.416958	10.88654
S	PM10_IDLI	0	0	0	0	0.001142	0.001513	0.002338
S	PM10_PMI	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034
S	PM10_PM	0.008	0.008	0.008	0.008	0.010335	0.011017	0.012
S	PM10_RUI	0.001734	0.002417	0.001791	0.001857	0.027919	0.025544	0.013975
S	PM10_STF	0.002384	0.003141	0.002618	0.002732	0.000982	0.000378	0.001154
S	PM25_IDLI	0	0	0	0	0.001093	0.001448	0.002237
S	PM25_PMI	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586
S	PM25_PM	0.002	0.002	0.002	0.002	0.002584	0.002754	0.003
S	PM25_RUI	0.001601	0.002234	0.001647	0.001714	0.026663	0.02442	0.013365
S	PM25_STF	0.002192	0.002889	0.002407	0.002515	0.000903	0.000347	0.001061
S	ROG_DIUF	0.059163	0.142381	0.111752	0.125417	0.004177	0.001315	0.002368
S	ROG_HTSI	0.117889	0.243975	0.201281	0.232738	0.108163	0.035822	0.064382
S	ROG_IDLE	0	0	0	0	0.015968	0.01294	0.031136
S	ROG_RES	0.047592	0.108924	0.092926	0.111613	0.002152	0.000744	0.001242
S	ROG_RUN	0.012921	0.032032	0.027226	0.045479	0.184461	0.150708	0.081518
S	ROG_RUN	0.03553	0.138965	0.10928	0.126744	0.36663	0.087787	0.033362
S	ROG_STRI	0.095209	0.199401	0.189568	0.313586	0.26101	0.101734	0.491971
S	SO2_IDLE	0	0	0	0	0.000095	0.000148	0.001458
S	SO2_RUNI	0.002604	0.003216	0.003762	0.005023	0.006787	0.006936	0.011645
S	SO2_STRE	0.000618	0.00078	0.0009	0.001193	0.000315	0.000205	0.000748
S	TOG_DIUF	0.059163	0.142381	0.111752	0.125417	0.004177	0.001315	0.002368
S	TOG_HTSI	0.117889	0.243975	0.201281	0.232738	0.108163	0.035822	0.064382
S	TOG_IDLE	0	0	0	0	0.021842	0.016867	0.041675
S	TOG_RES	0.047592	0.108924	0.092926	0.111613	0.002152	0.000744	0.001242
S	TOG_RUNI	0.018743	0.046491	0.03967	0.064407	0.225526	0.175101	0.097363
S	TOG_RUNI	0.03553	0.138965	0.10928	0.126744	0.36663	0.087787	0.033362
S	TOG_STRI	0.104239	0.218308	0.207549	0.343253	0.285773	0.111386	0.538646
W	CH4_IDLE	0	0	0	0	0.004825	0.002982	0.01814
W	CH4_RUNE	0.004746	0.01203	0.01025	0.015588	0.024938	0.01074	0.00859
W	CH4_STRE	0.008646	0.018335	0.017225	0.028504	0.020909	0.008124	0.074213
W	CO_IDLEX	0	0	0	0	0.135995	0.111093	0.549768
W	CO_RUNE	0.573504	1.293221	1.085301	1.604157	1.53543	0.867644	0.57468
W	CO_STRE	1.752437	3.756659	3.301427	4.93041	2.782242	1.090547	9.132574
W	CO2_NBIC	0	0	0	0	9.540135	15.2924	131.4733
W	CO2_NBIC	247.3468	304.9135	357.3256	477.6398	693.1723	715.7031	1213.805
W	CO2_NBIC	59.45897	72.99626	85.54653	112.4936	26.77179	18.59274	60.38325
W	NOX_IDLE	0	0	0	0	0.105237	0.139513	0.762638
W	NOX_RUNI	0.062881	0.156421	0.161714	0.251205	2.774201	2.118866	2.181656
W	NOX_STRI	0.11431	0.217983	0.307713	0.495189	0.962455	0.456227	10.9997
W	PM10_IDLI	0	0	0	0	0.001142	0.001513	0.003374
W	PM10_PMI	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034
W	PM10_PM	0.008	0.008	0.008	0.008	0.010335	0.011017	0.012
W	PM10_RUI	0.001734	0.002417	0.001791	0.001857	0.027919	0.025544	0.013975
W	PM10_STF	0.002384	0.003141	0.002618	0.002732	0.000982	0.000378	0.001154
W	PM25_IDLI	0	0	0	0	0.001093	0.001448	0.003228
W	PM25_PMI	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586

W	PM25_PMT	0.002	0.002	0.002	0.002	0.002584	0.002754	0.003
W	PM25_RUN	0.001601	0.002234	0.001647	0.001714	0.026663	0.02442	0.013365
W	PM25_STR	0.002192	0.002889	0.002407	0.002515	0.000903	0.000347	0.001061
W	ROG_DIUR	0.02595	0.062247	0.049269	0.055768	0.001753	0.00056	0.00095
W	ROG_HTSK	0.122234	0.260264	0.210207	0.239666	0.121464	0.039173	0.067925
W	ROG_IDLE	0	0	0	0	0.015968	0.01294	0.035815
W	ROG_RES	0.02085	0.047545	0.040984	0.049482	0.001013	0.000353	0.000559
W	ROG_RUN	0.012047	0.030417	0.025509	0.043618	0.182126	0.150223	0.080822
W	ROG_RUN	0.044397	0.184796	0.145145	0.166434	0.421973	0.101102	0.03906
W	ROG_STRE	0.116605	0.247296	0.232309	0.384596	0.281985	0.109556	0.533639
W	SO2_IDLE	0	0	0	0	0.000095	0.000148	0.001268
W	SO2_RUNE	0.002477	0.003065	0.003585	0.004791	0.006787	0.006936	0.011645
W	SO2_STRE	0.000625	0.000796	0.000913	0.001213	0.00032	0.000206	0.000764
W	TOG_DIUR	0.02595	0.062247	0.049269	0.055768	0.001753	0.00056	0.00095
W	TOG_HTSK	0.122234	0.260264	0.210207	0.239666	0.121464	0.039173	0.067925
W	TOG_IDLE	0	0	0	0	0.021842	0.016867	0.047956
W	TOG_REST	0.02085	0.047545	0.040984	0.049482	0.001013	0.000353	0.000559
W	TOG_RUNE	0.017465	0.044127	0.037162	0.061449	0.222117	0.174394	0.096347
W	TOG_RUNE	0.044397	0.184796	0.145145	0.166434	0.421973	0.101102	0.03906
W	TOG_STRE	0.127663	0.270742	0.254343	0.420973	0.308739	0.11995	0.584268

HHD	OBUS	UBUS	MCY	SBUS	MH
0.451844	0.012406	0	0	0.82739	0
0.080952	0.014596	0.095391	0.403386	0.043685	0.056542
0.129462	0.037937	0.057885	0.176767	0.165747	0.031913
2.473695	0.273615	0	0	7.08697	0
1.13743	0.91481	3.953891	22.13438	2.612811	4.12409
4.829532	7.479073	9.962725	10.11387	18.67116	7.59213
4114.244	107.6247	0	0	1183.226	0
1686.697	1326.418	2063.779	162.4392	1103.67	1241.069
13.46408	67.77898	124.2891	49.34583	48.78294	58.3493
20.21886	0.555781	0	0	10.8087	0
4.670833	2.120626	7.715789	1.210164	5.261977	2.182821
19.33012	3.301258	13.67756	0.324774	14.09645	1.004854
0.0398	0.000186	0	0	0.011738	0
0.060477	0.13034	0.552348	0.01176	0.7448	0.13034
0.035098	0.012	0.012	0.004	0.010781	0.012984
0.025759	0.009142	0.150064	0.002047	0.026852	0.046645
0.000135	0.000746	0.001055	0.005353	0.001148	0.001313
0.038079	0.000178	0	0	0.01123	0
0.025919	0.05586	0.236721	0.00504	0.3192	0.05586
0.008774	0.003	0.003	0.001	0.002695	0.003246
0.024644	0.008732	0.143541	0.001926	0.025663	0.044557
0.000124	0.000686	0.00097	0.005079	0.001056	0.001207
0.000152	0.00152	0.003154	0.973951	0.006207	1.093611
0.008714	0.023757	0.062795	1.021524	0.076987	0.097922
0.662692	0.038582	0	0	0.842778	0
0.000102	0.00077	0.002	0.545788	0.00261	0.433365
0.140123	0.092742	0.531907	2.357894	0.189118	0.175139
0.001029	0.050928	0.017135	1.223789	0.039865	0.031819
0.16474	0.460599	0.78064	2.416266	0.866961	0.430386
0.03819	0.001039	0	0	0.011532	0
0.015607	0.012889	0.020018	0.002052	0.01066	0.012342
0.000216	0.000809	0.001423	0.000731	0.000809	0.000716
0.000152	0.00152	0.003154	0.973951	0.006207	1.093611
0.008714	0.023757	0.062795	1.021524	0.076987	0.097922
0.766367	0.052333	0	0	1.212159	0
0.000102	0.00077	0.002	0.545788	0.00261	0.433365
0.234248	0.114808	0.669648	2.842911	0.2466	0.242801
0.001029	0.050928	0.017135	1.223789	0.039865	0.031819
0.18037	0.504298	0.854703	2.626591	0.949214	0.471219
0.426447	0.012369	0	0	0.827011	0
0.08102	0.014943	0.099135	0.388247	0.044795	0.059172
0.122553	0.03597	0.051779	0.150448	0.146881	0.030108
1.806719	0.258597	0	0	6.952765	0
1.147191	0.93382	4.003589	20.69403	2.676678	4.278643
4.497148	6.942893	8.280913	9.058172	15.06673	6.997591
4355.44	113.0314	0	0	1239.228	0
1686.697	1326.418	2063.779	162.4392	1103.67	1241.069
13.46408	67.77898	124.2891	49.34583	48.78294	58.3493

20.85991	0.573588	0	0	11.15426	0
4.51858	2.038787	7.446499	1.090304	5.056459	2.067004
19.30515	3.22779	13.60596	0.302478	14.01659	0.943787
0.034291	0.000157	0	0	0.009895	0
0.060477	0.13034	0.552348	0.01176	0.7448	0.13034
0.035098	0.012	0.012	0.004	0.010781	0.012984
0.025759	0.009142	0.150064	0.002047	0.026852	0.046645
0.000135	0.000746	0.001055	0.005353	0.001148	0.001313
0.032808	0.00015	0	0	0.009467	0
0.025919	0.05586	0.236721	0.00504	0.3192	0.05586
0.008774	0.003	0.003	0.001	0.002695	0.003246
0.024644	0.008732	0.143541	0.001926	0.025663	0.044557
0.000124	0.000686	0.00097	0.005079	0.001056	0.001207
0.000276	0.002628	0.005473	1.858505	0.010789	1.912223
0.008902	0.024219	0.064263	1.090244	0.077518	0.097252
0.625796	0.03787	0	0	0.839614	0
0.000179	0.001258	0.003169	1.065252	0.00433	0.704313
0.140292	0.093599	0.541173	2.247786	0.191865	0.181646
0.00099	0.048958	0.015245	1.135296	0.034269	0.030793
0.155948	0.43672	0.698295	2.056319	0.768281	0.406035
0.040429	0.00109	0	0	0.012066	0
0.015607	0.01289	0.020019	0.002026	0.010661	0.012345
0.00021	0.0008	0.001394	0.000702	0.000749	0.000706
0.000276	0.002628	0.005473	1.858505	0.010789	1.912223
0.008902	0.024219	0.064263	1.090244	0.077518	0.097252
0.723676	0.051523	0	0	1.208557	0
0.000179	0.001258	0.003169	1.065252	0.00433	0.704313
0.234495	0.116058	0.683169	2.714177	0.250609	0.252297
0.00099	0.048958	0.015245	1.135296	0.034269	0.030793
0.170744	0.478153	0.764545	2.23542	0.841171	0.444558
0.486917	0.012457	0	0	0.827913	0
0.080916	0.014411	0.093505	0.412356	0.043129	0.05517
0.133204	0.038891	0.06089	0.190386	0.173326	0.032734
3.394757	0.294353	0	0	7.272301	0
1.132298	0.904727	3.928573	23.13004	2.581121	4.043376
5.007474	7.718611	10.76757	10.68654	20.06836	7.843877
3781.163	100.1584	0	0	1105.889	0
1686.697	1326.418	2063.779	162.4392	1103.67	1241.069
13.46408	67.77898	124.2891	49.34583	48.78294	58.3493
19.3336	0.53119	0	0	10.3315	0
4.631511	2.103926	7.645478	1.219721	5.226792	2.174156
19.34448	3.343454	13.71609	0.336806	14.13463	1.039906
0.047408	0.000227	0	0	0.014283	0
0.060477	0.13034	0.552348	0.01176	0.7448	0.13034
0.035098	0.012	0.012	0.004	0.010781	0.012984
0.025759	0.009142	0.150064	0.002047	0.026852	0.046645
0.000135	0.000746	0.001055	0.005353	0.001148	0.001313
0.045357	0.000217	0	0	0.013665	0
0.025919	0.05586	0.236721	0.00504	0.3192	0.05586

0.008774	0.003	0.003	0.001	0.002695	0.003246
0.024644	0.008732	0.143541	0.001926	0.025663	0.044557
0.000124	0.000686	0.00097	0.005079	0.001056	0.001207
0.00011	0.001147	0.002519	0.72883	0.004782	0.823609
0.009373	0.02479	0.073821	1.303324	0.083078	0.12222
0.713643	0.039566	0	0	0.847147	0
0.000079	0.000617	0.001586	0.387845	0.002071	0.350673
0.140034	0.092282	0.52724	2.422462	0.187743	0.171743
0.001125	0.055144	0.020768	1.395239	0.049975	0.033867
0.169502	0.47219	0.821169	2.602541	0.906604	0.441462
0.0351	0.000967	0	0	0.010794	0
0.015607	0.012889	0.020017	0.00207	0.01066	0.012341
0.000219	0.000813	0.001437	0.000746	0.000832	0.00072
0.00011	0.001147	0.002519	0.72883	0.004782	0.823609
0.009373	0.02479	0.073821	1.303324	0.083078	0.12222
0.825322	0.053453	0	0	1.217133	0
0.000079	0.000617	0.001586	0.387845	0.002071	0.350673
0.234119	0.114137	0.662838	2.918501	0.244593	0.237845
0.001125	0.055144	0.020768	1.395239	0.049975	0.033867
0.185583	0.516989	0.899077	2.829019	0.992617	0.483345

RoadPerce	RoadSiltLo	MaterialSilt	MaterialMo	MobileAver	MeanVehic	CARB_PM_VMT
100	0.1	4.3	0.5	2.4	40	1

Woodstove	NumberCo	NumberCa	NumberNo	NumberPe	Woodstove	Woodstove	WoodMass

FireplacesL	NumberWo	NumberGa	NumberPro	NumberNo	FireplaceH	FireplaceDa	FireplaceWoodMass

ROG_EF	ROG_EF_	ROG_EF_PesticidesFertilizers
2.14E-05	3.54E-07	5.15E-08

Area_EF_F	Area_Resic	Area_EF_F	Area_Resic	Area_EF_N	Area_Nonr	Area_EF_N	Area_Nonr	Reapplicati
250	0	250	0	250	210750	250	70250	10

Area_EF_F	Area_Parking
0	0

NumberSn	NumberSummerDays
0	330

EnergyUse	T24E	NT24E	LightingEle	T24NG	NT24NG
User Define	0	0	0	0	0

WaterLand	WaterLand	IndoorWate	OutdoorWa	ElectricityIn	ElectricityIr	ElectricityIr	ElectricityIr	SepticTank
User Define	User Define	0	0	2117	111	1272	1911	10.33

AerobicPer	Anaerobica	AnaDigest(	AnaDigestCogenCombDigestGasPercent
87.46	2.21	100	0

SolidWaste	SolidWaste	SolidWaste	LandfillNoC	LandfillCap	LandfillCaptureGasEnergyRecovery
User Define	User Define	0	6	94	0

Vegetation	Vegetation	AcresBegir	AcresEnd	CO2peracre

BroadSpec	NumberOfN	CO2perTree

ConstMitiga	FuelType	Tier	NumberOfE	TotalNumb	DPF	OxidationCatalyst
Air Compre	Diesel	No Change	0	0	No Change	0
Cement an	Diesel	No Change	0	2	No Change	0
Concrete/I	Diesel	No Change	0	1	No Change	0
Cranes	Diesel	No Change	0	1	No Change	0
Excavators	Diesel	No Change	0	4	No Change	0
Forklifts	Diesel	No Change	0	3	No Change	0
Generator	Diesel	No Change	0	1	No Change	0
Graders	Diesel	No Change	0	1	No Change	0
Pavers	Diesel	No Change	0	1	No Change	0
Paving Equ	Diesel	No Change	0	2	No Change	0
Rollers	Diesel	No Change	0	2	No Change	0
Rubber Tire	Diesel	No Change	0	6	No Change	0
Tractors/Lo	Diesel	No Change	0	11	No Change	0
Welders	Diesel	No Change	0	1	No Change	0

SoilStabiliz	SoilStabiliz	SoilStabiliz	ReplaceGr	ReplaceGr	ReplaceGr	WaterExpo	WaterExpo	WaterExpo
0			0			0		

WaterExpo	WaterUnpa	WaterUnpa	WaterUnpa	WaterUnpa	CleanPavedRoadPercentReduction
	0	0		0	0

tblLandUseMitigation

ProjectSett	IncreaseDe	IncreaseDe	IncreaseDe	IncreaseDi	ImproveWa	ImproveWa	ImproveDe	ImproveDe

IncreaseTra	IncreaseTra	IntegrateBe	IntegrateBe	ImprovePe	ImprovePe	ProvideTra	ProvideTra	ProvideTra

ImplementI	LimitParkin	LimitParkin	UnbundleF	UnbundleF	OnStreetM	OnStreetM	ProvideBR	ProvideBR

ExpandTra	ExpandTra	IncreaseTra	IncreaseTra	IncreaseTransitFrequencyHeadwaysPercentReduction

Implement	Implement	Implement	TransitSub	TransitSub	TransitSub	ImplementI	ImplementI	WorkplaceI
0			0			0		0

WorkplaceI	WorkplaceI	Encourage	Encourage	Encourage	Encourage	MarketCom	MarketCom	EmployeeV
		0				0		0

Employee\	Employee\	ProvideRid	ProvideRid	Implement	ImplementSchoolBusProgramPercentFamilyU
	2	0		0	

sing

Landscape	Landscape	Landscape	Landscape	Landscape	Landscape	UseLowVC	UseLowVC	UseLowVC
0		0		0		0	250	0

UseLowVC	UseLowVC	UseLowVC	UseLowVC	UseLowVC	HearthOnly	NoHearthC	UseLowVC	UseLowVC
250	0	250	0	250	0	0	0	0

UseLowVOCPaintParkingValue
0

ExceedTitle	ExceedTitle	InstallHighI	InstallHighE	OnSiteRen	KwhGenera	KwhGenera	PercentOfE	PercentOfE

lectricityUseGenerated

tblApplianceMitigation

ApplianceT	ApplianceL	PercentImprovement
ClothWasher		0
DishWasher		0
Fan		0
Refrigerator		0

tblWaterMitigation

ApplyWate	ApplyWate	ApplyWate	UseReclain	PercentOu	PercentInd	UseGreyW	PercentOu	PercentInd
0			0			0		

InstallLowF	PercentRe	InstallLowF	PercentRe	InstallLowF	PercentRe	InstallLowF	PercentRe	TurfReduct
0	32	0	18	0	20	0	20	0

TurfReduct	TurfReduct	UseWaterE	UseWaterE	WaterEffici	MAWA	ETWU
		0	6.1	0		

InstituteRe	InstituteRecyclingAndCompostingServicesWastePercentReduction

tblOperationalOffRoadEquipment

OperOffRo	OperOffRo	OperHours	OperDaysF	OperHorse	OperLoadF	OperFuelType

FleetMixLa	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD
User Defin	0.567875	0.030811	0.198391	0.124124	0.028385	0.006896	0.012949	0.019383

OBUS	UBUS	MCY	SBUS	MH
0.002368	0.001236	0.005232	0.000797	0.001552

tblStationaryGeneratorsPumpsUse

Generators	NumberOfE	Generators	HorsePowe	Load_Fact	HoursPerD	HoursPerY	GeneratorsPumpsEqui

ipmentDescription

BoilerEquip	NumberOfB	BoilerFuelT	BoilerRatin	DailyHeatIn	AnnualHea	BoilerEquipmentDescription

tblStationaryUserDefined

UserDefine	UserDefine	TOG_lb_da	TOG_tpy	ROG_lb_da	ROG_tpy	CO_lb_day	CO_tpy	NOX_lb_da

NOX_tpy	SO2_lb_d	SO2_tpy	PM10_lb_	PM10_tpy	PM2_5_lb_	PM2_5_tp	CO2_lb_d	CO2_tpy

CH4_lb_da	CH4_tpy

tblStationaryGeneratorsPumpsEF

Generators	TOG_EF	TOG_EF_U	ROG_EF	ROG_EF_U	CO_EF	CO_EF_UC	NOX_EF	NOX_EF_U

SO2_EF	SO2_EF_	PM10_EF	PM10_EF_	PM2_5_EF	PM2_5_EF	CO2_EF	CO2_EF_	CH4_EF

CH4_EF_UOM

BoilerEquip	TOG_EF	TOG_EF_U	ROG_EF	ROG_EF_U	CO_EF	CO_EF_UO	NOX_EF	NOX_EF_U

SO2_EF	SO2_EF_U	PM10_EF	PM10_EF_	PM2_5_EF	PM2_5_EF	CO2_EF	CO2_EF_U	CH4_EF

CH4_EF_UOM

SubModule	PhaseNam	Season	Remarks
1			non-default
3			User defined - Roads not included as a Land Use Subtype
4			Total days for each phase provided by Wallace Group (including no a
5	Architectural Coating		No architectural coating.
5	Building Construction		Based on equipment list provided by Wallace Group. Off-highway tru
5	Demolition		Based on equipment list provided by Wallace Group. Concrete/Indus
5	Grading		Based on equipment list provided by Wallace Group. Off-highway tru
5	Paving		Based on equipment list provided by Wallace Group. Off-highway tru
5	Site Preparation		Based on equipment list provided by Wallace Group. Plate compacto
6			Based on Wallace Group excel sheet.
7			Defaults used
9			Based on Wallace Group excel sheet.
10			No architectural coating.
14			San Luis Obispo region.
15			N/A
17			N/A
18			N/A
19			N/A
20			N/A
21			N/A
22			N/A
23			N/A
24			N/A
30			N/A
34			N/A
36			N/A
37			N/A
38			N/A
39			N/A
40			N/A

architectural coating)

ck equals water truck and dump truck. Plate compactors includes wacker/rammer. Other construction eq
strial Saws equals saw cutting machine and pavement grinder. Off-highway truck equals water truck and
cks equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.
ck equals dump truck and water truck. Other construction equipment equals 1 ton and 3/4 ton trucks.
ors includes wacker/rammer. Off-highway truck equals water truck and dump truck. Other construction eq

uipment equals 1 ton and 3/4 ton trucks.
dump truck. Other construction equipment equals 1 ton and 3/4 ton trucks.

uipment equals 1 ton and 3/4 ton trucks.

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

BIOLOGICAL RESOURCES ASSESSMENT

Dry Creek Road Realignment and Improvement Project

City of El Paso de Robles, California

Prepared for:
City of El Paso de Robles
1000 Spring Street
Paso Robles, CA 93446

Prepared by:
Terra Verde Environmental Consulting, LLC
3765 South Higuera Street, Suite 102
San Luis Obispo, California 93401

April 2019

This page intentionally left blank.

EXECUTIVE SUMMARY

This Biological Resources Assessment (BRA) was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) at the request of the City of El Paso de Robles in support of the Dry Creek Road Realignment and Improvement project. The proposed project is located along Dry Creek Road, between Cirrus Way and Jardine Road in the City of El Paso de Robles, San Luis Obispo County, California. The proposed project includes resurfacing and widening, an approximate 0.90-mile section of the road, and realigning a 0.20-mile section where it is currently compromised by a steep, eroding slope around a blind turn.

Terra Verde staff conducted a series of field surveys along the proposed project alignment and surrounding areas between September 2017 and May 2018. The surveys included an inventory of botanical and wildlife species observed, a jurisdictional analysis of aquatic resources identified on site, a formal wetland delineation, and an assessment of habitat, focusing on the potential for special-status species to occur. No special-species status plant or wildlife species were observed directly within the project disturbance corridor.

Several mature blue oak (*Quercus douglasii*) trees were documented within the survey area. No oak trees are proposed for removal, but some may be impacted by trimming or excavation and grading within their critical root zone. In addition, it was determined that seven special-status wildlife species, as well as migratory nesting birds, have potential to occur within the survey area. Further, U.S. Fish and Wildlife Service-designated critical habitat for vernal pool fairy shrimp (VPFS; *Branchinecta lynchi)* overlaps the entire project area. One vernal pool, which may provide suitable habitat for VPFS, was identified and mapped. The project is also located within the County of San Luis Obispo-designated San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) mitigation area. Five ephemeral drainages cross the project alignment via culverts under Dry Creek Road.

As currently designed, the potential for impacts to biological resources is considered low. Direct impacts to special-status wildlife could result from construction-related disturbances such as trampling or crushing from equipment, but no long-term impacts are expected due to the temporary nature of project activities. Direct impacts are proposed within a portion of the vernal pool, where Dry Creek Road will to be realigned away from the eroding slope on its southern edge and straightened in order to eliminate a hazardous blind turn. A series of avoidance, minimization, and mitigation measures have been recommended to reduce potential impacts to a less than significant level.

This page intentionally left blank.

TABLE OF CONTENTS

1.0 INTRODUCTION

This Biological Resources Assessment (BRA) was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) at the request of the City of El Paso de Robles (City) in support of the Dry Creek Road Realignment and Improvement Project in the City of El Paso de Robles, California (see Appendix A - Figure 1: Project Vicinity Map). The proposed project includes resurfacing and partially realigning a section of Dry Creek Road between Cirrus Way and Jardine Road, which is located at the southern edge of the Paso Robles Municipal Airport (Airport).

Most of the proposed project area will be situated within the existing right-of-way of Dry Creek Road. Road resurfacing will occur along the entire approximately 0.90-mile section between Cirrus Way and Jardine Road (see Appendix A - Figure 2: Survey Area Map). In addition, an approximately 0.2-mile-long section of Dry Creek Road will be realigned in an area where it is currently compromised by a steep, eroding slope around a blind turn. The proposed realignment would shift the existing right-of-way approximately 60 to 90 feet north and east into an existing open field, and away from the eroding slope on the southern road edge. In addition, the proposed improvements would straighten this section of Dry Creek Road, to eliminate the hazardous blind turn. As part of the resurfacing, five existing culverts will be replaced, and one will be lengthened, to accommodate the realignment.

1.1 Purpose of the Biological Resources Assessment

The purpose of this BRA is to identify sensitive biological resources that occur or have potential to occur within the proposed project site and surrounding areas. A sensitive resource is defined here as one that is of management concern to local, county, state, and/or federal resource agencies. Recommended avoidance, minimization, and mitigation measures are included in Section 4.2, to reduce any potential impacts to sensitive biological resources to the extent feasible. As necessary, this BRA may be used to support the City’s environmental review process and future project permitting.

1.2 Existing Conditions

The proposed project is located within the Estrella U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, and mostly within Paso Robles City limits and Urban Reserve Line. The eastern-most 0.2 mile of the resurfacing occurs outside City limits, in the County of San Luis Obispo (County) jurisdiction. The project site is located approximately four miles east of the Salinas River in the Upper Salinas River Valley. This section of Dry Creek Road is bordered on the north by rural residential properties and an open field associated with the Airport, and by agricultural properties on the south. The surrounding landscape consists primarily of Airport facilities, active vineyards and other agricultural lands, a golf course, and rural residential and commercial developments. Five ephemeral drainage features and one vernal pool were documented within the project area. Elevations on site range from approximately 835 to 902 feet

(255 to 275 meters). In the undeveloped portions of the project alignment, vegetation is generally ruderal. A review of historical aerial imagery indicates that discing or other vegetation management activities have been ongoing in the open field north of Dry Creek Road, where the vernal pool was mapped, since at least 1994 (Google Earth, 1994-2018).

2.0 METHODOLOGY

Prior to conducting field surveys, Terra Verde staff completed a background review of relevant literature and resources pertaining to sensitive resources known to occur in the project vicinity, which included the following:

- Aerial photographs (Google Earth, 1994-2018) and project site plans
- USGS topographic map of the Estrella 7.5-minute quadrangle (USGS, 2019)
- Online Soil Survey of San Luis Obispo County, California (Natural Resources Conservation Service, 2019)
- Consortium of California Herbaria (CCH) online database of plant collections (CCH, 2019)
- California Natural Diversity Database (CNDDB) list of state and federally listed special-status species documented within the Estrella 7.5-minute quadrangles, and the surrounding eight quadrangles (Cholame Hills, Creston, Paso Robles, San Miguel, Ranchito Canyon, Shandon, Shedd Canyon, and Templeton), (CDFW, 2019)
- CNDDB map of special-status species that have been documented within a 5-mile radius of the project site (CDFW, 2019) (see Appendix A - Figure 3: 5-mile CNDDB and Critical Habitat Map)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for the Estrella 7.5-minute quadrangle and the surrounding eight quadrangles (CNPS, 2019a)
- United States Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS, 2019a)
- USFWS National Wetland Inventory map (NWI) (USFWS, 2019b)

A list of regionally occurring special-status species was compiled based on records reported in the scientific database queries (see Appendix B - Regionally Occurring Special-Status Species). This species list was utilized to focus the field survey effort as well as to determine an appropriate survey period for special-status plant species with potential to occur on site.

Terra Verde biologist Rhett Blanton and botanist Kristen Nelson led a series of surveys within the project area, which focused on the identification of sensitive habitats, including suitable habitat for special-status plants and wildlife, as well as jurisdictional aquatic features. In addition, Ms. Nelson completed a formal wetland delineation with principal biologist Brian Dugas and botanist Amy Golub within the vernal pool identified on site (refer to *Waters and Wetlands Delineation Report for Dry Creek Road Realignment and Improvement Project* [Terra Verde, 2019]). The survey area included the limits of proposed disturbance (i.e., road realignment and potential staging areas), an approximate 100-foot buffer on all sides where access was feasible, and a visual scan of the surrounding areas (see Appendix A – Figure 2). Visibility was suitable to detect potentially occurring wildlife species during each survey. Survey details are summarized in Table 1 below.

Table 1. Summary of Field Surveys

Date	Survey Type	Staff	Site Conditions
09/14/17	Botanical and wildlife inventory, habitat assessment, preliminary jurisdictional analysis	Kristen Nelson Rhett Blanton	Mid 60’s Fahrenheit (F) Light breeze Clear
10/19/17	Focused mapping of waters and culverts	Kristen Nelson	Mid 60’s F Calm Clear
01/10/18	Focused vernal pool habitat assessment; waters and wetlands mapping; jurisdictional determinations	Kristen Nelson Rhett Blanton	Low 60’s F Calm Clear
01/29/18	Oak tree inventory	Kristen Nelson Levi Heit	60 – 70 F Calm Clear
03/03/18	Focused vernal pool/hydrology assessment	Brian Dugas	Mid 50’s F Calm Overcast
03/23/18	Focused vernal pool/hydrology assessment	Kristen Nelson	Low 60’s F Calm Clear
05/08/18	Focused spring botanical survey and waters/wetlands assessment	Amy Golub Kristen Nelson	Mid-80’s F Calm Clear
05/15/18	Formal delineation of waters and wetlands (vernal pool and downstream waters)	Amy Golub Brian Dugas Kristen Nelson	Mid-70’s F Calm Clear

*During the 24 hours preceding the vernal pool habitat assessment on January 10, 2018 a rain event totaling 1.12 inches of precipitation was recorded at the Airport (U.S. Climate Data, 2019).

Surveys were conducted on-foot and lasted approximately three to six hours each day. All detected plant and wildlife species and their sign were documented during the surveys (see Appendix C - Botanical and Wildlife Species Observed). Botanical species identifications and taxonomic nomenclature followed *The Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al., 2012), as well as taxonomic updates provided in the Jepson eFlora (Jepson Flora

Project, 2019). Vegetation communities and land cover types were characterized, and natural communities were classified using the second edition of *A Manual of California Vegetation* (MCV) classification system (Sawyer et al., 2009), as well as updates included in the MCV Online (CNPS, 2019b). The habitat requirements for each regionally occurring, special-status species listed in Appendix B were analyzed and compared to the type and quality of habitats observed on site during the field surveys. Due to a lack of suitable habitat, elevation, lack of appropriate soils/substrate, and/or known distribution/range, it was determined that many regionally occurring special-status species have no potential to occur within the project disturbance area. Surveys included mapping and delineation of the extent of agency jurisdiction for the California Department of Fish and Wildlife (CDFW), the Central Coast Regional Water Quality Control Board (RWQCB), and the U.S. Army Corps of Engineers (Corps). Terra Verde identified several ephemeral drainages, as well as one vernal pool within the project area as part of these survey efforts.

The following section includes a discussion of special-status species that were determined to have potential to occur in the project area; those determined to have no potential to occur are not discussed any further.

2.1 Sufficiency of Biological Data

The field surveys and background research are of sufficient detail and biological expertise and were appropriately timed to identify potentially occurring special-status plant and wildlife species. Specifically, surveys were timed to coincide with the typical peak blooming and/or fruiting period for potentially occurring special-status plant species.

Migratory and transient wildlife species such as many avian species and large mammals may only be seasonally present within the project area. Further, some species are nocturnal, and/or highly transient and may have not been detected during the survey effort. As such, recommendations have been made for the avoidance of sensitive species and resources deemed to have potential to occur, based on an assessment of habitat present at the site.

3.0 RESULTS

The following section provides a summary and analysis of the results of the background research and field surveys. The discussion includes a description of soils, terrestrial and aquatic habitat types, direct and indirect observations of wildlife and plant species, and a discussion of the potential for special-status species to occur. Any anticipated impacts to existing wildlife corridors and habitat connectivity are also considered.

3.1 Habitats and Resources Observed

Overall, the survey area displays very little variation in vegetation cover and available wildlife habitat. Five soil types occur in the project area and only two natural vegetation communities were documented within the survey area. These include areas of remnant blue oak (*Quercus* *douglasii*) woodland located south of Dry Creek Road and one vernal pool habitat area located north of Dry Creek Road. However, sparse, ruderal vegetation dominates the portion of the project area that borders the existing Dry Creek Road alignment. Further, the open field north of Dry Creek Road shows obvious signs of regular land manipulation (e.g., tractor disc lines, presence of agricultural plants such as common barley [*Hordeum vulgare*], etc.). Although numerous plants and wildlife can persist in disturbed conditions, this site supports only minimal forage and cover habitat. Historic and current land management practices have likely greatly reduced the potential for sensitive biological resources to occur on site.

3.1.1 Soils

The NRCS online soil report revealed five soil units within the survey area (see Appendix A – Figure 4: Soils Map). The primary characteristics of these soil units are described below.

Soil Unit 102: Arbuckle-Positas complex, 9 to 15 percent slopes
The parent material of this soil type is alluvium from mixed rock sources. The drainage class of this unit is well drained, and it is composed mostly of fine sandy loam and clay loam over gravelly, sandy clay loam. This soil type tends to occur on toeslopes and terraces below 1,500 feet.

Soil Unit 105: Arbuckle-Positas complex, 50 to 75 percent slopes
The parent material of this soil type is alluvium from mixed rock sources. The drainage class of this unit is well drained, and it is composed mostly of fine sandy loam and sandy clay loam. This soil type tends to occur on toeslopes and escarpments at elevations of 600 to 1,500 feet.

Soil Unit 106: Arbuckle-San Ysidro complex, 2 to 9 percent slopes
This soil type is identical to soil unit 102, except that it generally occurs on shallower slopes.

Soil Unit 174: Mocho clay loam, 2 to 9 percent slopes
The parent material of this soil type is alluvium derived from sedimentary rock. The drainage class of this unit is well drained, and it is composed of clay loam. This soil type tends to occur on inset and alluvial fans at elevations of 520 to 2,020 feet.

Soil Unit 300: Corducci-Typic Xerifluvents, 0 to 5 percent slopes
The parent material of this soil type is mixed alluvium derived from igneous and sedimentary rock. The drainage class of this unit is somewhat excessively drained, and it is composed mostly of sand. This soil type tends to occur on flood plains, alluvial fans, and stream terraces.

3.1.2 Vegetation Communities

Vegetation communities and land cover types were assessed, classified, and mapped based on vegetation composition, structure, and density, with consideration of known land management practices (see Appendix A – Figure 5: Vegetation Communities Map). The survey area totaled approximately 18 acres, along a mostly linear project corridor, with an expanded survey area occurring in the open field bordering the northern edge of Dry Creek Road, at the western end of the project alignment. Approximately 4.5 acres of the survey area are developed with hardscape (e.g., asphalt road surface, imported gravel, etc.) and another 3.6 acres consists of residential developments and active vineyard. Approximately 8.3 acres consists of sparse, ruderal vegetation, which is subject to regular tilling and other anthropogenic disturbances, and the remaining 1.5 acres consists of remnant blue oak woodland, bordering the southern edge of Dry Creek Road. Terra Verde biologists documented and mapped one vernal pool (0.80 acre) and its associated watershed (5.0 acres) within the ruderal portion of the survey area located north of Dry Creek Road.

A total of 55 vascular plant species were identified, of which 34 (62 percent) were non-native. The abundance and density of non-native taxa substantially exceeds that of native taxa, and many of the native species documented are disturbance tolerant (e.g., narrow-leaf milkweed [*Asclepias fascicularis*], vinegar weed [*Trichostema lanceolatum*], turkey-mullein [*Croton setiger*], telegraph weed [*Heterotheca grandiflora*], etc.), reflecting the high level of disturbance on site. Vegetation communities and land cover types documented on site are described in detail below.

Ruderal Herbaceous (7.5 acres)

Areas supporting minimal or weedy vegetation which are characterized by regular, ongoing anthropogenic disturbances were identified along the margins of Dry Creek Road, as well in the open field north of Dry Creek Road, where road realignment is proposed. These areas varied somewhat in their species composition and cover throughout the project area, but generally provide the same type and quality of habitat. At the time of surveys, vegetation in these areas was dominated by ripgut grass (*Bromus diandrus*), oats (*Avena* spp.), and rattail sixweeks grass (*Festuca myuros)*, as well as disturbance-tolerant herbs such as turkey-mullein, telegraph weed, yellow star-thistle (*Centaurea solstitialis*), Mediterranean hoary mustard (*Hirschfeldia incana*), and horseweed (*Erigeron canadensis*). Areas of ruderal vegetation observed on site do not correspond to a natural vegetation community but may provide marginally suitable habitat for wildlife foraging and cover.

Vernal Pool (0.8 acre)

Despite regular disturbance from periodic tilling, vernal pool habitat identified in the open field north of Dry Creek Road supported a different composition and density of plants compared to the immediately adjacent areas. The vernal pool was dominated by a dense carpet of knotweed, toad rush (*Juncus bufonius* var. *bufonius*), and hyssop loosestrife (*Lythrum hyssopifolia*) during the 2017 and early 2018 surveys. These plant species are commonly associated with wetland habitat features and seasonally ponded areas. This transition in vegetation type and density was used to map the approximate edge of the vernal pool on site (see Appendix A – Figure 6: Hydrological Resources Map). The distinct species composition observed within vernal pools during fall and winter surveys does not correspond to a community classification in MCV, but these areas may provide suitable habitat for common and special-status branchiopods and special-status plants, as well as seasonal habitat for other wildlife.

Blue Oak Woodland (1.5 acres)

A remnant patch of blue oak woodland borders the southern edge of Dry Creek Road, where the road will be realigned away from the existing steep slope face. In the general project vicinity, this community has been altered and fragmented by historical and ongoing land uses, which includes rotational dry farming and significant land manipulation. The overstory is comprised of blue oaks at moderate density, with an understory of mostly non-native annual grasses.

Though this habitat is fragmented and substantially disturbed within the project area, the species composition corresponds with the *Quercus douglasii* Woodland Alliance (blue oak woodland) in the MCV classification system. This community may provide habitat for nesting birds, small mammals, and other wildlife.

3.1.3 Wildlife

Habitat for wildlife within and around the project area is generally homogeneous, highly disturbed, and subjected to frequent maintenance activities. Vegetative and underground cover are minimal, and it is expected that wildlife entering the survey area would primarily be transient, using the area for foraging and temporary cover rather than regular occupancy.

All invertebrate and vertebrate species observed, including those detected by indirect sign (i.e., tracks, scat, skeletal remains, dens, burrows, or vocalizations), were documented during field surveys. Wildlife observed on site included several avian species, California ground squirrel (*Otospermophilus beecheyi*), and Coast Range fence lizard (*Sceloporus occidentalis*). In addition, a bald eagle (*Haliaeetus leucocephalus*) was observed in flight near the intersection of Airport Road and Dry Creek Road. Common wildlife such as black-tailed deer (*Odocoileus hemionus columbianus)*, bobcat (*Lynx rufus)*, black-tailed jackrabbit (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae)*, and additional bird species can be expected to occur throughout the year and/or seasonally (see Appendix C - Botanical and Wildlife Species Observed).

3.1.4 Hydrologic Features

A total of five jurisdictional drainage features were identified within the survey area (see Appendix A – Figure 6 and Table 2 - Summary of Jurisdictional Drainage Features). In addition, one vernal pool was identified and mapped within the survey area. Each of these hydrologic features is described in further detail below.

Table 2. Summary of Jurisdictional Drainage Features

Feature ID	Feature Type	Feature Designation*	Agency Jurisdiction*
Drainage 1	Ephemeral drainage	Waters of the state, Waters of the U.S.	CDFW, RWQCB, Corps
Drainage 2	Ephemeral swale	Waters of the state	CDFW, RWQCB
Drainage 3	Ephemeral swale	Waters of the state	CDFW, RWQCB
Drainage 4	Ephemeral swale	Waters of the state	CDFW, RWQCB
Drainage 5	Ephemeral drainage	Waters of the state, Waters of the U.S.	CDFW, RWQCB, Corps
Vernal Pool	Vernal pool	Federal wetland / vernal pool**	CDFW, RWQCB, Corps

*Jurisdictional determinations are based on the field assessments completed by Terra Verde and are subject to concurrence from the relevant agencies.

** Refer to Terra Verde, 2019 (*Waters and Wetlands Delineation Report for Dry Creek Road Realignment and Improvement Project*).

All five drainages identified within the proposed project area are ephemeral drainages that collect surface flows from the northern and southern edges of Dry Creek Road, flow generally south through culverts under Dry Creek Road, and outlet onto the adjacent private property. These drainages all flow toward Dry Creek, a USGS blue line drainage that discharges into Huerhuero Creek, which flows to the Salinas River and eventually to the traditionally navigable waters of the Pacific Ocean.

Drainage 1 originates in the open field north of Dry Creek Road, connecting the vernal pool located in the open field to a culvert located under Dry Creek Road, which discharges into a small drainage channel and ultimately to Dry Creek. A review of historical imagery indicates that discing or other annual vegetation management activities have been ongoing within the open field site since at least 1994, and the narrow channel draining the field has been present since at least 2003 (Google Earth, 1994-2018). This drainage has a clearly defined bed and bank, including evidence of ordinary high water mark (OHWM). As such, it is assumed that this drainage would be considered waters of the state under the jurisdiction of CDFW and RWQCB, and waters of the U.S. under the jurisdiction of the Corps. The proposed road realignment will directly impact a portion of Drainage 1, where the existing culvert will be lengthened during the road realignment.

Drainages 2 through 4 consist of narrow, topographic swales that lack evidence of OHWM. As such, these features may be considered waters of the state under the jurisdiction of CDFW and RWQCB but lack any characteristics for waters of the U.S. (i.e., OHWM). The proposed project alignment will directly impact all three of these features as a result of culvert replacement and overall road improvements.

Drainage 5 is a well-defined, ephemeral drainage that that flows southwest from the southern edge of Dry Creek Road toward Dry Creek, and exhibits a clearly-defined bed and bank, including evidence of OHWM. As such, it is assumed that this drainage would be considered waters of the state under the jurisdiction of CDFW and RWQCB, and waters of the U.S. under jurisdiction of the Corps. The proposed project will directly impact this feature.

The vernal pool identified north of Dry Creek Road is in a relatively flat, open field dominated by ruderal herbaceous vegetation (see Appendix D – Representative Site Photographs). The limits of vernal pool habitat were mapped where the composition of vegetation transitions from a dominance of hydrophytic species (i.e., designated as facultative [FAC], facultative wetland [FACW], or obligate [OBL] by the Corps; Lichvar et al., 2016) to a dominance of non-hydrophytic species (Terra Verde, 2019). In addition, the watershed boundary for the vernal pool was mapped using half-foot topographic contour lines plotted over aerial imagery and verified in the field. The vernal pool is hydrologically connected to Dry Creek via Drainage 1 (i.e., significant nexus), and is therefore hydrologically connected to the Salinas River and the traditionally navigable waters of the Pacific Ocean. The proposed road realignment would shift the existing right-of-way north into the open field and directly impact a portion of the mapped vernal pool.

3.2 Sensitive Resources

Based on the results of the background research, it was determined that 34 regionally occurring special-status plant species and 26 special-status wildlife species may occur within the proposed project site. The habitat requirements for each of these species were compared to the type and quality of habitat documented during the field survey. Following this assessment, it was determined that suitable habitat is present on site for 12 of the regionally occurring special-status plant species and 10 of the regionally occurring special-status wildlife species. These sensitive resources are discussed below.

3.2.1 Special-status Plant Species

Terra Verde completed a series of surveys during the typical blooming period for regionally occurring special-status species. In addition to species listed on the federal and California Endangered Species Acts, special-status plant species include those that are assigned a California Rare Plant Rank (CRPR) by the California Native Plant Society. Species are assigned a listing status based on the degree of rarity (Lists 1A through 4) and threat level (0.1, 0.2, and 0.3) (CNPS, 2019c). Additionally, individual oak trees (*Quercus* spp.) and oak woodlands are considered a sensitive resource by the State of California and the City.

Salinas Milk-vetch *(Astragalus macrodon),* CRPR 4.3
Salinas milk-vetch is a perennial herb that is endemic to the Inner South Coast Ranges of California. This species typically grows in eroded shale or sandstone soils or serpentine alluvium in association with various vegetation communities including grassland, chaparral, and woodland. It is known to occur at elevations ranging from 650 to 5,100 feet (200 to 1,550 meters) and may tolerate some disturbance. The typical blooming period for Salinas milk-

vetch is from April to June (Jepson Flora Project, 2018). Threats to this species are not well documented. According to CCH (2019) records, the nearest occurrence is approximately 2.6 miles west of the project alignment.

San Luis Obispo Owl's-clover (*Castilleja densiflora* subsp. *obispoensis*), CRPR 1B.2
San Luis Obispo owl's clover is an annual herb that is endemic to San Luis Obispo County. Specifically, it is known to occur mostly in coastal areas along the Outer South Coast Ranges from just south of Ragged Point to Avila Beach, with several populations in the Irish Hills of San Luis Obispo County. This species typically grows in coastal grasslands at elevations below 1,300 feet (400 meters) and may be somewhat tolerant of disturbance. The typical blooming period for San Luis Obispo owl's-cover is from March to June (Jepson Flora Project, 2019). According to CNDDB (CDFW, 2019) records, the nearest occurrence is approximately 1.5 miles west of the project alignment.

Small-flowered Morning-glory (*Convolvulus simulans*), CRPR 4.2
Small-flowered morning-glory is an annual herb that is native to California and Baja California. Known populations are concentrated along the southern coast of California between Los Angeles and Baja, with scattered populations throughout the Inner and Outer South Coast Ranges and in the Sierra Nevada foothills. This species typically grows on clay soils in grassland, coastal sage scrub, and chaparral communities at elevations ranging from 100 to 2,870 feet (30 to 875 meters). The typical blooming period for small-flowered morning-glory is from April to June (Jepson Flora Project, 2019). According to CCH (2019) records, the nearest occurrence is approximately 2.2 miles north of the project alignment.

Hall's Tarplant (*Deinandra halliana*), CRPR 1B.1
Hall's tarplant is an annual herb that is endemic to the Inner South Coast Ranges and western edge of the southern San Joaquin Valley. This species typically grows on open slopes and sink edges in clay or serpentine soil, generally in association with grasslands at elevations between 1,000 and 3,280 feet (300 and 1,000 meters). The typical blooming period for Hall's tarplant is from April to May (Jepson Flora Project, 2019). According to CNDDB (CDFW, 2019) records, the nearest occurrence is approximately 20 miles northeast of the project alignment.

Hogwallow Starfish (*Hesperevax caulescens*), CRPR 4.2
Hogwallow starfish is an annual herb that is endemic to California. The known range is concentrated along the Inner North and South Coast Ranges, as well as the Sacramento and San Joaquin Valleys. This species grows in the drying shrink-swell clay of vernal pools on flats and steep slopes, and occasionally in serpentine soil at elevations between 1,000 and 3,280 feet (300 and 1,000 meters). The typical blooming period for hogwallow starfish is from March to June (Jepson Flora Project, 2019). Threats to this species include development and agriculture, including gazing. According to CCH (2019) records, the nearest occurrence is approximately 12 miles northwest of the project alignment.

Santa Lucia Dwarf Rush (*Juncus luciensis*), CRPR 1B.2
Santa Lucia dwarf rush is an annual herb with several populations along the central and southern coast, as well as areas in the northeast portion of the state from Lake Tahoe to the Modoc Plateau. This species typically grows in a variety of seasonally and perennially wet habitats, including seeps, meadows, vernal pools, along streams, and in roadside ditches at elevations ranging from 1,000 to 6,230 feet (300 to 1,900 meters). The typical blooming period for Santa Lucia dwarf rush may span from April through August (Jepson Flora Project, 2019). Threats to this species may include development and grazing. According to CNDDB (CDFW, 2019), the nearest occurrence is approximately 2.1 miles north of the project alignment.

Pale-yellow Layia (*Layia heterotricha),* CRPR1B.1
Pale-yellow layia is an annual herb with several populations along the Inner South Coast Ranges, as well as the eastern and western foothills of the southern San Joaquin Valley and the western Transverse Range. This species typically grows in clayey, sandy, and sometimes alkaline soil in a variety of open habitats including woodland, scrub, and grassland at elevations ranging from 650 to 5,900 feet (200 to 1,800 meters). The typical blooming period for pale-yellow layia may span from April through June (Jepson Flora Project, 2019). Threats to this species include agriculture, competition from non-native plants, and potentially road maintenance and wind energy development. According to CNDDB (CDFW, 2019), the nearest known occurrences are located approximately 17 miles east, northwest, and southeast of the project alignment.

Jared's Peppergrass (*Lepidium jaredii*), CRPR 1B.2
Jared's peppergrass is an annual herb that is limited to populations along the western edge of the southern San Joaquin Valley and the Inner South Coast Ranges. This species grows in vertic clay, acidic, or gypsiferous soils in alkali bottoms, washes, and slopes, in association with valley and foothill grasslands at elevations ranging from 1,080 to 3,280 feet (330 to 1,000 meters). The typical blooming period for Jared's peppergrass is from March to April (Jepson Flora Project, 2019). Threats to this species include solar development and grazing. According to CNDDB (CDFW, 2019), the nearest occurrence is approximately 2.0 miles north of the project alignment.

Spreading Navarretia (*Navarretia fossalis*), Federal Threatened, CRPR 1B.1
Spreading navarretia is an annual herb that is endemic to California and northern Baja California. The known range is concentrated along the south coast from Los Angeles to San Diego County, with one known occurrence in the Inner South Coast Ranges of San Luis Obispo County. This species grows in ditches and vernal pools at elevations ranging from 98 to 4,260 feet (30 to 1,300 meters). The typical blooming period for spreading navarretia is from April to June (Jepson Flora Project, 2019). Threats to this species include development and urbanization, agriculture, grazing, and hydrologic alterations. According to CNDDB (CDFW, 2019), the nearest occurrence is approximately 10 miles south of the project alignment.

Shining Navarretia (*Navarretia nigelliformis* subsp. *radians*), CRPR 1B.2
Shining navarretia is an annual herb that is limited to populations in the Inner South Coast Ranges. This species grows in vernal pools and clay depressions at elevations ranging from 490 to 3,280 feet (150 to 1,000 meters). The typical blooming period for shining navarretia is from May to July (Jepson Flora Project, 2019). Threats to this species include development, grazing, and competition from non-native species. According to CNDDB (CDFW, 2019), the nearest occurrence is approximately 2.0 miles southwest of the project alignment.

Prostrate Vernal Pool Navarretia (*Navarretia prostrata*), CRPR 1B.1
Prostrate vernal pool navarretia is an annual herb that is endemic to California. The known range includes disjunct populations spanning from the eastern San Francisco Bay and northern San Joaquin Valley to the Inner South Coast Ranges, continuing south along the coast from Los Angeles to San Diego. This species grows in alkaline flats and vernal pools at elevations below 2,300 feet (700 meters). The typical blooming period for prostrate vernal pool navarretia is from April to July (Jepson Flora Project, 2019). Threats to this species include road maintenance and recreational activities. According to CNDDB (CDFW, 2019), the nearest occurrence is approximately 14 miles northwest of the project alignment.

Blue Oak (*Quercus douglasii*) Trees, Protection under local ordinance
Impacts to or removal of any species of mature oak (i.e., greater than six inches in diameter at breast height [DBH]) are regulated by the City of El Paso de Robles Oak Tree Preservation Ordinance No. 835 N.S. (City, 2002). Several mature blue oak trees are present in areas identified as remnant blue oak woodland. No oak trees are expected to be removed for the proposed project; however, disturbance within the critical root zone (defined as a radius of 1 foot per inch DBH) may occur. If there are impacts to oak trees (e.g., trimming, removal, compaction or excavation within root zone), mitigation in the form of on-site plantings or off-site protection of existing oak woodland may be required.

Although marginally suitable habitat is present on site for the special-status plant species described above, the only plant identified during the appropriately timed surveys was blue oak. Recommended measures for avoidance, minimization, and mitigation of impacts to native oak trees are provided in Section 4.2.

3.2.2 Special-status Wildlife Species

The following section includes a description of the special-status wildlife species with potential to occur within the survey area.

Sensitive Mammal Species

American badger (*Taxidea taxus*), State – Species of Special Concern (CSC)
The range of American badger covers most of North America and they are, therefore, found throughout California with the exception of the North Coast region (Del Norte, Humboldt, Mendocino, Sonoma, and Marin counties). They prefer open and arid habitats such as grasslands, meadows, savannahs, open-canopy desert scrub, and open chaparral. They are

predators of fossorial rodents and are adept at quickly excavating deep burrows to access their prey. As such, where badgers are present, the landscape is dotted with large soil tailings, which are normally half-moon-shaped. American badgers shelter in burrows they have excavated and, while they are known to traverse a relatively small home range (up to 2.5 acres) they move among burrows frequently. They can be active at all times of day but are primarily nocturnal. This species occurs at elevations that range from approximately 0 to 12,000 feet. Mating typically occurs from May through September but, because of delayed implantation, cubs are not born until early spring. Habitat conversion is a threat to this species.

According to CNDDB (CDFW, 2019), there have been several observations of American badgers within 7.0 miles of the project alignment. No sign (e.g., characteristic claw marks on the interior sides of den entrances, horizontally oriented elliptical den openings, frequent prey excavations) of this species was observed.; however, the open fields surrounding the project alignment may provide suitable habitat for American badger, including a prey base (e.g., pocket gophers and squirrels). Based on the nearest documented occurrences, the habitat suitability, and the rich prey base, there is potential to encounter this species on site.

San Joaquin kit fox (SJKF; *Vulpes macrotis mutica*), Federal – Endangered, State – Threatened

San Joaquin kit fox is endemic to the San Joaquin Valley and adjacent arid valleys of central California. Highly suitable habitats for kit fox are characterized by sparsely vegetated saltbush scrublands and grasslands dominated by red brome (*Bromus madritensis*) on flat or gently rolling terrain (Brown et al., 2019). The three remaining core populations of SJKF are in 1) Carrizo Plain Natural Area in San Luis Obispo County; 2) natural lands of western Kern County; and 3) the Ciervo-Panoche Natural Area of western Fresno and eastern San Benito Counties (USFWS, 1998). The kit fox is adapted to arid climates and primarily preys on small mammals and invertebrates. Kit foxes extensively use dens for protection from the elements, protection from predators, and rearing pups. Mating occurs between December and March and pups are born after a 48- to 52-day gestation period. The pups are reared in the den and begin to emerge approximately one month after birth and most disperse by August. Kit foxes are primarily nocturnal but may be observed during the day, basking outside the den entrance or taking short excursions. Kit foxes excavate their own dens, enlarge burrows of other species, such as giant kangaroo rats, or den in manmade features, such as culverts. They occupy numerous den sites throughout the year. Many factors have contributed to the decline of San Joaquin kit fox. By the 1950's, loss, degradation, and fragmentation of habitats in the San Joaquin Valley were the primary factors of decline. Many other sources of mortality pose a threat to maintaining viable populations of this species, including disease, parasites, predation, and many human-induced factors such as shooting, trapping, poisoning, electrocution, and vehicle strikes (Brown et al., 2019).

The project alignment is situated in a travel corridor between the historical core population at Camp Roberts California Army National Guard Installation (Camp Roberts) and the core population in eastern San Luis Obispo County/Western Kern County. The project site is also located within a County of San Luis Obispo-designated SJKF mitigation area. According to CNDDB (CDFW, 2019), the nearest observation of SJKF was approximately 2.0 miles southwest of the project alignment (1991 record). A more recent observation was recorded in 1995 at Camp Roberts, approximately 10 miles northwest of the project site. There are no known extant populations of SJKF in the project vicinity. Historical and ongoing farming within and around the project site has substantially modified the landscape; however, areas on site supporting ruderal herbaceous vegetation and a prey base for kit fox provide marginally suitable habitat.

Sensitive Amphibian Species

California red-legged frog (CRLF; *Rana draytonii*), Federal – Threatened, State – CSC
CRLF require permanent or semi-permanent bodies of water such as lakes, streams, and ponds with emergent vegetation and plant cover for foraging and breeding. Reproduction occurs in aquatic habitats from late November to early April. Egg masses are laid in the water following breeding, often on emergent vegetation. Once hatched, tadpoles consume algae that floats on the water surface or grows on rocks and plants. Following metamorphosis, juvenile frogs may remain in the breeding ponds or disperse into uplands regardless of topography. CRLF have been documented dispersing more than two miles from aquatic habitat. Dispersing frogs may seek refuge in small mammal burrows or soil fractures. This species is known to occur from Mendocino County to Northern Baja California and eastward through the Northern Sacramento Valley and Sierra Nevada foothills. It is found at elevations from 0 to 5,000 feet (0 to 1,525 meters) (Zeiner, et al., 1988-1990).

According to CNDDB (CDFW, 2019), the nearest observations of this species were approximately 5.0 miles west of the project alignment. No potential breeding habitat (i.e., deep pools with emergent vegetation and overhanging cover) was identified within the survey area. Further, nearby Dry Creek is an ephemeral drainage feature and does not provide suitable breeding and/or foraging habitat for CRLF. The quality of habitat at the site is substantially degraded as a result of current and historical land uses, but there is suitable upland habitat for this species.

Western spadefoot toad (*Spea hammondii*), State CSC
Western spadefoot toad generally inhabits lowlands, sandy washes, and river flood plains but also may be found in woodlands, grasslands, and chaparral where soils are sandy and loose. This species occupies small mammal burrows or uses the hardened spades on its feet to burrow underground where it remains buried for most of the year, only emerging at night during the rainy season to breed in ephemeral pools. Seasonal pools and other breeding locations must stay inundated for at least 30 days for larvae to survive. Threats to this species include loss, degradation, and fragmentation of breeding and upland habitats (Nafis, 2019).

According to CNDDB (CDFW, 2019), the nearest observation of western spadefoot was approximately 0.8 mile southeast of the project alignment. Existing vernal pool habitat near the road realignment in the western portion of the survey area may provide suitable breeding habitat for western spadefoot toad, but it is unknown whether the pool maintains a sufficient hydroperiod to support tadpole development and completion of metamorphosis. The quality of habitat at the site is substantially degraded as a result of current and historical land uses, but suitable habitat remains for this species.

Sensitive Reptile Species

San Joaquin Coachwhip (*Masticophis flagellum ruddocki*), State CSC

San Joaquin coachwhip occurs in dry, treeless areas such as grasslands and saltbush scrub. This species seeks refuge under objects such as rocks, as well as under shrubs or in rodent burrows. Their range extends from the Sacramento Valley, south to Kern County and west to the Inner South Coast Ranges. Suitable habitat lies at elevations ranging from 65 to 3,000 feet (20 to 900 meters). Coachwhips are dormant during the winter and resume activity in late spring. This snake is especially tolerant of high temperatures and is active during the day. San Joaquin coachwhips are oviparous and lay a clutch of 4 to 20 eggs in early summer. It feeds on a variety of animals, including small mammals, bats, lizards, and birds. Because this species tends to bask on roadways and scavenge on roadkill, vehicle strikes are a common threat. Threats also include extensive habitat loss and fragmentation, especially conversion of large areas of suitable habitat to agricultural use in the San Joaquin Valley and urban development in areas of the inner Coast Ranges (Nafis, 2019).

According to CNDDB (CDFW, 2019), the nearest observation of San Joaquin coachwhip was approximately 6.3 miles west of the project alignment. Within the survey area, open, ruderal fields with small mammal burrows provide suitable habitat and forage opportunity for this species. Further, this species may be found basking along paved roads.

Sensitive Invertebrate Species

Vernal pool fairy shrimp (VPFS; *Branchinecta lynchi*), Federal Threatened

VPFS typically occupy vernal pools, which are defined as shallow depressions in relatively flat grassland areas, lined with an impervious claypan, that hold rain water for a period of weeks to months. This species remains dormant until triggered by adequate moisture and heat to complete a short-lived life cycle. Breeding is dependent on precipitation and therefore generally occurs between December and May. Research has shown that VPFS occur throughout the Central Valley from Shasta to Tulare County and along the Coast Ranges from Solano to Santa Barbara County (East Contra Costa County, 2006). Habitat loss due to agricultural and urban development pose the greatest threats to the species.

According to CNDDB (CDFW, 2019), the nearest observations of VPFS were approximately 1.2 miles north and northwest of the project alignment. Suitable vernal pool habitat was identified during field surveys in the open field north of Dry Creek Road. This area had pooled water during the January 10 survey. The proposed road realignment will directly impact a small portion of the mapped vernal pool.

***Critical Habitat* –** The USFWS designated critical habitat for VPFS in 2005. The project area lies entirely within the Carrizo Vernal Pool Region, Paso Robles core area. As described by the USFWS (2005), the essential physical and biological features (formerly known as Primary Constituent Elements [PCE's]) are characteristics of habitat required to support VPFS, and they include:

1. Topographic features characterized by mounds, swales, and depressions with a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools.
2. Depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 18 days, in all but the driest years.
3. Sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the result of biological processes within the pools themselves.
4. Structure within the pools consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other organic debris that may be transported into the pools.

The essential physical and biological features of VPFS critical habitat are present within the vernal pool identified and mapped within the survey area. As such, proposed impacts will require consultation with USFWS.

Migratory Nesting Birds and Sensitive Avian Species

California horned lark (*Eremophila alpestris actia*), State Watch List
California horned lark inhabits open areas, such as grasslands and agricultural fields. Nests are typically built on the ground in shallow depressions made of roots, grass, and hair. They typically breed between March and August, incubation is approximately 10 to 14 days, and young leave the nest at 9 to 12 days. They are year-long residents in California and become gregarious following breeding, forming large flocks that forage and roost together (Zeiner et al., 1998–1990b). Loss of habitat and destruction of nests through earth moving activities are major threats.

According to CNDDB (CDFW, 2019) records, the nearest observation of California horned lark was 6.5 miles northwest of the project alignment. Suitable habitat is present for this species.

Western burrowing owl (*Athene cunicularia*), State Status – CSC
Burrowing owls generally inhabit open grasslands, prairies, and fields with short-stature vegetation, but may also occupy agricultural and developed areas (Shuford et al., 2008). This species typically uses the burrows of ground squirrels and other small mammals for shelter, protection from predators, and nesting. Burrowing owls are typically nocturnal, but they can

be seen roosting outside of burrow entrances during the day. Courtship and mating may begin as early as late December in California and continue into early spring. Incubation lasts 28–30 days and young disperse to nearby burrows by early fall. The primary threats to burrowing owls are the elimination of burrowing mammals through control programs and habitat loss caused by development (Klute et al., 2003). Breeding and wintering populations of burrowing owls are known to occur in the project region, but they more commonly inhabit coastal areas during the non-breeding season. The ruderal, herbaceous portion of the site supports underground cover and a prey base for this species.

According to CNDDB (2018) records, a burrowing owl has been observed approximately 8.75 miles northwest of the project alignment. The quality of habitat at the site is substantially degraded as a result of current and historical land uses, but some suitable habitat is present for this species.

Migratory Nesting Birds

In addition to those species protected by the state or federal government, all native avian species are protected by state and federal legislature, most notably the Migratory Bird Treaty Act (MBTA) and the CDFW Fish and Game code. Collectively, these regulations make it unlawful to collect, sell, pursue, hunt, or kill native migratory birds, their eggs, nests, or any parts thereof. Avian species are expected to occur within the project area during all seasons and throughout construction of the proposed project. The potential to encounter and disrupt these species is generally highest between February 1 and September 15, when nests are likely to be active, with eggs and/or young present. The remnant blue oak woodland and ornamental trees associated with residential areas along Dry Creek Road present the highest quality habitat for nesting at the site, but open fields may also provide nesting habitat for various ground nesting species. Raptors are particularly drawn to large trees and structures, and they are generally less tolerant of disturbances than other species.

Recommended avoidance, minimization, and/or mitigation measures are provided in Section 4.2 for the species that may occur within the project area.

3.2.3 Sensitive Habitats

Federal and State Waters and Wetlands

Two drainages were identified as jurisdictional waters of the U.S. and state due to the presence of a well-defined bed and bank, water ponding and flow at the time of surveys, and a significant nexus to navigable waters of the U.S. (i.e., the Pacific Ocean via the Salinas River). In addition, three ephemeral drainage features were identified as likely jurisdictional waters of the state, but lacked evidence for waters of the U.S. The proposed project alignment will cross all five drainages. Proposed impacts to these drainage features will require appropriate regulatory agency permits and mitigation, per CDFW, RWQCB, and Corps requirements.

The vernal pool identified on site is hydrologically connected to Dry Creek, a USGS blue line drainage, via Drainage 1, which flows under Dry Creek Road. Terra Verde completed a formal wetland delineation and determined that, despite a history of substantial surface disturbance, this vernal pool meets the minimum criteria for a federal wetland (i.e., hydric soils, wetland hydrology, and dominance of hydrophytic vegetation). As such, this feature was determined to be a federal wetland under the jurisdiction of the Corps.

County-designated SJKF Mitigation Area

CDFW and the USFWS have coordinated with the County of San Luis Obispo to develop mitigation measures that, when implemented, will avoid take and reduce impacts to SJKF habitat to an insignificant level. The County's standard SJKF avoidance, minimization, and mitigation measures are included as recommendations in Section 4.2.

USFWS-designated Critical Habitats

The entire project area falls within USFWS-designated critical habitat for VPFS. The vernal pool mapped within the survey area exhibits the essential physical and biological features of critical habitat for this species, and is therefore assumed to be occupied critical habitat, which is regulated by the USFWS per the Endangered Species Act (ESA). No other critical habitat occurs within the survey area.

3.3 Habitat Connectivity

Maintaining connectivity between areas of suitable habitat is critical for the survival and reproduction of plants and wildlife. Intact habitats benefit plants by ensuring proper dispersal of pollen and seeds, which sustains or grows the population and contributes to the genetic health of the species. Wildlife need contiguous habitats to attain sufficient food resources for their energetic demands; to locate proper resting, burrowing, and/or nesting sites; to facilitate relatively long-distance travel or migration to seek out mates or resources; and for the safe and successful dispersal of young. The project site is in a semi-rural area of Paso Robles, near the City limit, surrounded by existing agricultural operations, rural residential and commercial developments, and active Airport operations. Existing barriers to migration to and from non-developed portions of the project site, particularly for wildlife, are influenced by the high density of agriculture in the region, which typically correlates with a high frequency of land manipulation, wildlife-exclusion fences, and pest management activities. In addition, the City Airport operations present a significant barrier for the movement of wildlife species, including avian flight routes. As a result, natural habitat features are highly fragmented along the project alignment.

The proposed project is not expected to increase the level of fragmentation in the region nor is it expected to create new barriers to terrestrial or aquatic migration. Because most impacts associated with the project are temporary in nature, and generally limited to the existing roadway, overall habitat value is expected to return to its original state once temporary impact areas are restored.

4.0 IMPACT ASSESSMENT

4.1 Summary of Potential Impacts

The proposed project has a limited potential to directly or indirectly impact sensitive plant communities and/or wildlife species. Injury or death of plants and wildlife could result from construction-related disturbances, such as vehicle strikes, trampling, or crushing or from other construction-related activities, such as grading, vegetation trimming or removal, and excavation. Indirect impacts, like construction noise or dust emissions could result. The total estimated project footprint is 3.5 acres, most of which falls within the existing limits of Dry Creek Road.

4.1.1 Impacts to Special-status Plants

Special-status Plants

No special-status plants were documented within the survey area during a series of surveys that were timed to coincide with the peak blooming and/or fruiting period for specifically targeted plants of the region. As such, no impacts to special-status plants are anticipated.

Oak Trees

Several mature oak trees are within 100 feet of the proposed project alignment. No oak tree removals are expected during project implementation; however, trimming and/or disturbance within the critical root zone of several trees may be required. Impacts to individual oak trees and oak woodland habitat are regulated under California Public Resources Code 21083.4 and the City of El Paso de Robles Oak Tree Preservation Ordinance No. 835 (City, 2002). Implementation of oak tree protection measures will be required during construction (e.g., protective fencing) in accordance with Municipal Code Sections 10.01.090 (Safeguarding Trees During Construction) and 10.01.070 (Preservation and Maintenance of Existing Oak Trees). In addition, mitigation for impacted oak trees will require oak tree replacement planting coinciding with the level of impact. No further oak tree mitigation is proposed beyond the established City ordinance.

4.1.2 Impacts to Special-status Wildlife

Special-status Mammals

If American badger or SJKF occur at the site, there is potential for direct or indirect impacts to occur during construction. Construction poses several risks to wildlife, such as vehicle strikes, crushing by equipment, and destruction of resources (e.g., burrows or dens). Further, construction may impact valuable habitat, yielding it unsuitable for special-status mammals. Indirect impacts may also occur as a result of deterring these species from using the site during construction.

Special-status Amphibians and Reptiles

Construction activities pose risks for direct and indirect impacts to special-status amphibians and reptiles. For example, reptiles basking on roadways will be especially vulnerable to vehicle strikes. Reptiles can be slow-moving, both because of behavioral adaptations to be camouflaged from predators and because of their ectothermic nature. This trait presents crushing hazards in the presence of relatively fast-moving equipment or even foot traffic. All special-status amphibians and reptiles presumed to be on the project site rely heavily on burrows or emergent vegetation for shelter from the elements, protection from predators, and/or reproduction. Heavy equipment and ground disturbing activities may collapse burrow systems or completely remove them, resulting in injury or death of the inhabitants or exclusion by the removal of a vital resource. Vegetation may also be removed as a result of construction activities. Ectotherms rely on shrub cover for temperature regulation and, further, vegetation provides habitat for the prey species of reptiles and amphibians. If red-legged frogs or western spadefoots occur on or near the project site, they will be particularly vulnerable during the rainy season when they are most active. San Joaquin coachwhips are most vulnerable on hot days when they are basking in open areas.

Special-status Invertebrates

The current project design impacts the delineated vernal pool habitat area and associated essential physical and biological elements of VPFS critical habitat. If VPFS are present, direct impacts to this species may occur and the road realignment is expected to directly affect VPFS critical habitat elements. Additionally, indirect impacts may occur if construction activities result in the alteration or degradation of hydrologic patterns in proximity to the vernal pool. Furthermore, introduction of sediment via erosion and runoff from project areas into adjacent habitat could be deleterious to the vernal pool habitat area and VPFS, if present.

Sensitive and Nesting Birds

Direct impacts to avian species, like nest disturbance, are most likely to occur if construction activities take place during the typical avian nesting season, generally February 1 through September 15. Indirect impacts may occur due to habitat loss (e.g., removal of suitable nesting shrubs) or construction-related disturbances that may deter nesting or cause nests to fail.

4.1.3 Impacts to Sensitive Habitats

Hydrological Resources

Five drainage crossings are proposed—four culvert replacements and one culvert extension. All drainages were identified as waters of the state, and two were also identified as waters of the U.S. Permits will need to be obtained from CDFW, RWQCB, and the Corps for impacts to jurisdictional drainage features and appropriate mitigation, as required by each agency, will need to be implemented following completion of construction. Further, site constraints associated with the steep, eroding slope bordering the southern edge of Dry Creek Road immediately south of the vernal pool are expected to result in direct impacts to the vernal pool. As such, consultation with USFWS per Section 7 of the ESA will also be required. Temporary impacts to jurisdictional associated waters and wetlands could result from erosion, sedimentation, and discharges of hazardous materials from construction equipment (e.g., fuel).

County-designated SJKF Mitigation Area

SJKF is not expected to occur on site because the site provides largely unsuitable habitat and lacks connectivity to extant populations; however, the project's location within the County-designated mitigation area requires implementation of mitigation measures pursuant to the County Guide to SJKF Mitigation Procedures under CEQA. Construction and implementation of the proposed project may result in temporary disturbance within the undeveloped portions of the project site; however, temporary staging areas have not yet been identified. For projects under 40 acres in size, completion of a SJKF habitat evaluation form may be completed to request approval for a lower mitigation ratio based on site-specific conditions. Mitigation must be fulfilled by contribution to the preservation of habitat through a conservation easement agreement, compensation to a pre-determined mitigation bank (presently Palo Prieto Conservation Bank), or payment of an in-lieu fee to the San Francisco office of The Nature Conservancy.

4.2 Recommended Avoidance, Minimization, and Mitigation Measures

The following avoidance, minimization, and mitigation measures are recommended to reduce the anticipated impacts to the maximum extent feasible.

4.2.1 General Measures

Measure 1: Environmental Awareness Training

An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known or with potential to occur, as well as other sensitive resources requiring avoidance near the project alignment. The training shall also include a description of protection measures required by discretionary permits, an overview of the Federal and State Endangered Species Acts, and implications of noncompliance with these regulations. This will include an overview of the required avoidance, minimization, and mitigation measures. A sign-in sheet with the name and signature of the qualified biologist who presented the training and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all project personnel and anyone else who may enter the project site.

If new construction personnel join the project after the initial training period, they will receive the environmental awareness training from the qualified biologist before beginning work. Visitors to the Proposed Project site, such as company executives, administrative staff, or other guests, are not required to receive the environmental awareness training as their time in the project area will be of short duration. Visitors may be independent on the Proposed Project site if they elect to receive the training, but otherwise must be escorted by someone who is trained

Measure 2: Site Maintenance and General Operations

The following general measures are recommended to minimize impacts during active construction:

- The use of heavy equipment and vehicles shall be limited to the proposed project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits.
- In the vicinity of sensitive resources and habitats (e.g., vernal pools, drainages), signs shall be posted at the boundary of the work area indicating the presence of sensitive resources.
- Project plans, drawings, and specifications shall show the boundaries of all sensitive resource areas and the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources.
- Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls. No staging areas shall be located within 100 feet of sensitive habitat or jurisdictional aquatic resources, including drainages, vernal pools, and the associated vernal pool watershed.
- Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants.
- Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. These activities will occur at a minimum of 100 feet from sensitive habitat or jurisdictional aquatic resources, including drainages, vernal pools, and the associated vernal pool watershed. Sandbags and/or absorbent pads and spill control kits shall always be available on site to prevent fuel spills and other contaminants from leaving the site.
- Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.
- Plastic monofilament netting (erosion control matting) or similar material will not be used on site because it may entangle special-status small mammals or reptiles. Acceptable substitutes are coconut coir matting or tackified hydroseeding compounds.

4.2.2 Measures to Address Impacts to Sensitive Habitats

Measure 3: Federal and State Waters and Wetlands

In addition to Measure 2, the following recommendations have been provided to protect drainage features and aquatic resources on site.

- Construction activity within 100 feet of drainages and vernal pools shall occur only when conditions are dry.
- To prevent erosion and sedimentation into drainages and vernal pools during construction, an erosion and sedimentation control plan shall be developed and implemented. It shall outline Best Management Practices for short term, temporary

stabilization. Acceptable stabilization methods include the use of weed-free, natural fiber (i.e., non-monofilament) rolls, jute or coir netting, and/or other industry standards. Erosion control devices shall be installed and maintained for the duration of the project.

- Prior to project initiation, all applicable agency permits with jurisdiction over the project area (i.e., Corps, CDFW, RWQCB, and USFWS) should be obtained, as necessary. Additional mitigation measures may be required by these agencies and shall be implemented as necessary throughout the project.

4.2.3 Measures to Address Impacts to Special-status Wildlife

Measure 4: Pre-construction Survey for American Badger and SJKF

A qualified biologist shall conduct a pre-construction survey within 30 days prior to the start of initial project activities to ensure badger or SJKF are not present within proposed work areas. If potential dens are discovered, they shall be monitored with a remote camera or tracking medium for at least three days to determine if they are occupied. If no activity is observed at the den, the den can be determined inactive and the entrances will be sufficiently blocked by a qualified biologist to prevent occupation prior to construction. If the qualified biologist determines that potential dens may be active, an exclusion buffer shall be established within 50 feet of the den and the appropriate resource agencies shall be contacted for further guidance. If active dens are found during the breeding and rearing season, no activity shall occur within 200 feet (American badger) or 500 feet (San Joaquin kit fox) of the den without agency guidance and approval.

Measure 5: County Standard Mitigation of Impacts to SJKF Habitat

In accordance with the County Guide to SJKF Mitigation Procedures under CEQA, the City shall adopt the Standard Kit Fox CEQA Mitigation Measures and shall include these measures on development plans. The following summarizes those that are applicable to this project:

- The applicant shall mitigate for the loss of SJKF habitat either by:
    1. Establishing a conservation easement on-site or off-site in a suitable San Luis Obispo County location and provide a non-wasting endowment for management and monitoring of the property in perpetuity;
    2. Depositing funds into an approved in-lieu fee program; or
    3. Purchasing credits in an approved conservation bank in San Luis Obispo County.
- A maximum 25 mph speed limit shall be required at the project site during construction activities.
- All construction activities shall cease at dusk and not start before dawn.
- A qualified biologist shall be on-site immediately prior to initiation of project activities to inspect for any large burrows (e.g., known and potential dens) and to ensure no wildlife are injured during project activities. If dens are encountered, they should be avoided as discussed below.
- Exclusion zone boundaries shall be established around all known and potential SJKF dens.

- All excavations deeper than 2 feet shall be completely covered at the end of each working day.
- All pipes, culverts, or similar structures shall be inspected for SJKF and other wildlife before burying, capping, or moving.
- All exposed openings of pipes, culverts, or similar structures shall be capped or temporarily sealed prior to the end of each working day.
- All food-related trash shall be removed from the site at the end of each work day.
- Project-related equipment shall be prohibited outside of designated work areas and access routes.
- No firearms shall be allowed in the project area.
- Disturbance to burrows shall be avoided to the greatest extent feasible.
- No rodenticides or herbicides should be applied in the project area.
- Permanent fences shall allow for SJKF passage through or underneath (i.e., an approximate 4-inch passage gap shall remain at ground level).

Measure 6: Surveys and Monitoring for Special-status Amphibians and Reptiles

A qualified biologist shall conduct a pre-activity survey within one week prior to the start of initial project activities to ensure special-status amphibians and reptiles are not present within proposed work areas. To minimize the potential for impacts to dispersing amphibians, work within 100 feet of drainages and the vernal pool habitat area shall occur during dry conditions. If work within 100 feet of drainages and the vernal pool habitat area is scheduled to start during the typical rainy season (i.e., November through May), when western spadefoot toads and red-legged frogs are most likely to be dispersing through upland habitat, a qualified biologist shall conduct daily site inspections prior to the start of work each morning. All vehicles, equipment, and materials staged on site overnight shall be inspected. If special-status wildlife is found within the work area, it shall be allowed to leave on its own volition and, as appropriate, the resource agencies shall be contacted.

Measure 7: Vernal Pool Fairy Shrimp Critical Habitat

The boundaries of the vernal pool habitat area on site and associated watershed shall be included on all project plans. The limits of all workspaces, access routes, and staging areas shall also be included on project plans and clearly delineated in the field with brightly colored flagging and/or fencing. In addition, a biologist familiar with vernal pool characteristics and associated watersheds shall conduct weekly site inspections to document compliance with species and permit protection measures, including maintenance of workspace delineation fencing. Weekly biological monitoring reports shall be submitted to the City. If compliance deficiencies are identified during monitoring, the deficiency shall be documented and follow-up actions will be required under the direction of the City representative to alleviate the compliance concern. In addition to the protection measures identified in Measures 1 and 2 above, these measures provide protection for VPFS by ensuring that no unanticipated impacts occur within suitable habitat for this species.

Approximately 0.01 acre of vernal pool habitat will be permanently impacted as a result of road re-alignment. These impacts will need to be mitigated for either through on-site or off-site creation and enhancement of vernal pool habitat in the vicinity of proposed project activities, in accordance with permit conditions.

Measure 8: Pre-construction Survey for Burrowing Owl

If work will occur within 492 feet (150 meters) of burrowing owl habitat, within the breeding or non-breeding seasons, a qualified biologist shall conduct a preconstruction survey for this species within 14 days of the onset of construction. A second survey shall be completed immediately prior to construction (i.e., within the preceding 24 hours). The surveys shall be consistent with the methods outlined in Appendix D of the California Department of Fish and Wildlife 2012 Staff Report on Burrowing Owl Mitigation (Staff Report). Qualified biologists will walk 20- to 65-foot-wide (7- to 20-meter) transects through the survey area and visually scan the entire project area for sign and individuals. These surveys may be completed concurrently with any necessary SJKF, American badger, or other special-status species surveys.

If occupied burrowing owl burrows are identified, the following buffer distances shall be observed by construction, unless otherwise authorized by CDFW:

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting Sites	April 1–Aug 15	656 feet	1,640 feet	1,640 feet
Nesting Sites	Aug 16–Oct 15	656 feet	656 feet	1,640 feet
Any Occupied Burrow	Oct 16–Mar 31	164 feet	328 feet	1,640 feet

If avoidance of active burrows is infeasible, the owls can be passively displaced from their burrows according to recommendations made in the Staff Report, and in coordination with CDFW.

Measure 9: Pre-construction Survey for Nesting Birds

If work is planned to occur between February 1 and September 15, a qualified biologist shall survey the area for nesting birds within one week prior to activity beginning on site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged or the nest is no longer deemed active. A non-disturbance buffer of 50 feet shall be placed around non-listed, passerine species, and a 250-foot buffer will be implemented for raptor species. All activity will remain outside of that buffer until a qualified biologist has determined that the young have fledged or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified, no work will begin until an appropriate buffer is determined in consultation with the local CDFW biologist, and/or the USFWS.

5.0 CONCLUSION

The potential for impacts to special-status biological resources as a result of proposed project activities is low. Five drainage crossings are proposed, as well as temporary and permanent impacts within a portion of a vernal pool, which was determined to be a federal wetland. No special-status species were observed directly within the project area, and no special-status plants are expected to occur in the project area. Wildlife that may occur include American badger, burrowing owl, SJKF, VPFS, western spadefoot toad, California red-legged frog, San Joaquin coachwhip, California horned lark, and nesting birds. Overall, the extent of potential impacts as a result of proposed project implementation are expected to be minimal, and implementation of the recommended measures will avoid and/or minimize impacts to sensitive resources to a less than significant level.

6.0 REFERENCES

Baldwin, Bruce G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. *The Jepson Manual: Vascular Plants of California,* Second Edition. University of California Press. Berkeley, California. 2012.

Brown, N. L., C. D. Johnson, P. D. Kelly, D. F. Williams. 2019. Endangered Species Recovery Program species profile for San Joaquin kit fox (Vulpes macrotis mutica). < http:// esrp.csustan.edu/speciesprofiles/profile.php?sp=vuma>. Accessed March 8, 2019.

California Department of Fish and Wildlife, 2019. California Natural Diversity Database: RareFind 5. Accessible online with subscription at: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. March 2019.

California Native Plant Society, Rare Plant Program. 2019a. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Available Online at: http://www.rareplants.cnps.org/. Accessed March 2019.

----------2019b. A Manual of California Vegetation, Online Edition. Available at: http://www.cnps.org/cnps/vegetation/. Accessed November 2018 - February 2019. CNPS, Sacramento, CA.

----------2019c. The CNPS Ranking System. Available Online at: https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants. Accessed March 2019.

City of El Paso de Robles. 2002. Ordinance No. 835 N.S. - An Ordinance of the City of El Paso de Robles Amending Section 10.01 Et Seq. – Oak Tree Preservation. Available online at: https://library.municode.com/ca/el_paso_de_robles/codes/code_of_ordinances?nodeId=TIT10VE.

Consortium of California Herbaria. 2019. Regents of the University of California. Available online at: http://ucjeps.berkeley.edu/consortium/. Accessed March 2019.

East Contra Costa County. Species account for Vernal Pool Fairy Shrimp, excerpt from the HCP/NCCP. 2006. <http://www.co.contra-costa.ca.us/depart/cd/water/HCP/archive /final-hcp-rev/pdfs/apps/AppD/15a_vernalshrimp_9-28-06_profile.pdf>. Accessed March 8, 2019.

Google Earth Pro V 7.1.8.3036 (February 2018). 1994-2018. San Luis Obispo County, California. 35.661819, -120.611756. DigitalGlobe. Accessed September 2017 – March 2018.

Jepson Flora Project (eds.). 2019. Jepson eFlora. Available online at: http://ucjeps.berkeley.edu/eflora/. Accessed March 2019.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: *2016 wetland ratings – Arid West 2016 Regional Wetland Plant List*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. S. Zimmerman. 2003. Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, D.C.

Nafis, G. 2019. California Herps - A Guide to the Amphibians and Reptiles of California. Available at: http://www.californiaherps.com/. Accessed March 2019.

Natural Resources Conservation Service (NRCS)/U.S. Department of Agriculture (USDA), 2019. Available Online at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed March 2019.

Sawyer, John O.; Keeler-Wolf, Todd; and Evens, Julie M. 2009. *A Manual of California Vegetation, Second Edition.* California Native Plant Society Press: Sacramento, California.

Shuford, W.D. and T. Gardali. 2008. Burrowing Owl account from California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds No. I. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10405.

Terra Verde Environmental Consulting, LLC. 2019. *Waters and Wetlands Delineation Report for Dry Creek Road Realignment and Improvement Project*. Consultant Report.

United States Geological Survey. 2019. The National Map. San Luis Obispo County, 35.662 / -120.612. Available online at: https://viewer.nationalmap.gov/advanced-viewer/. Accessed March 2019.

United States Fish and Wildlife Service. 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1, Portland, OR. Available online at: https://ecos.fws.gov/docs/recovery_plans/1998/980930a.pdf. Accessed January 2019.

----------2005. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions from August 2003 Final Designation; Final Rule. Federal Register 70(154):46923—46999.

----------2019a. USFWS Threatened and Endangered Species Active Critical Habitat Portal. Available online at: http://crithab.fws.gov/ecp/report/table/critical-habitat.html. Accessed March 2019.

----------2019b. National Wetland Inventory, Wetlands Mapper. Available online at: https://www.fws.gov/wetlands/Data/Mapper.html. Accessed March 2019.

U.S. Climate Data. 2019. Climate Data for Paso Robles Municipal Airport: 35.6697, -120.628. Available online at: https://www.usclimatedata.com/climate/paso-robles/california/united-states/usca1479. Accessed: January, February 2018.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *Life History Account for California Red-legged Frog*. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

----------1988-1990b. *Life History Account for Horned Lark*. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

This page intentionally left blank.

APPENDIX A – PROJECT MAPS

This page intentionally left blank.

29 Mar 2019

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, ©

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 1: Project Vicinity Map

TERRA • VERDE

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 2: Survey Area Map

▭ Survey Area
— USGS Blue Line Drainage
-·- Ephemeral Drainage*
△ Existing Culvert

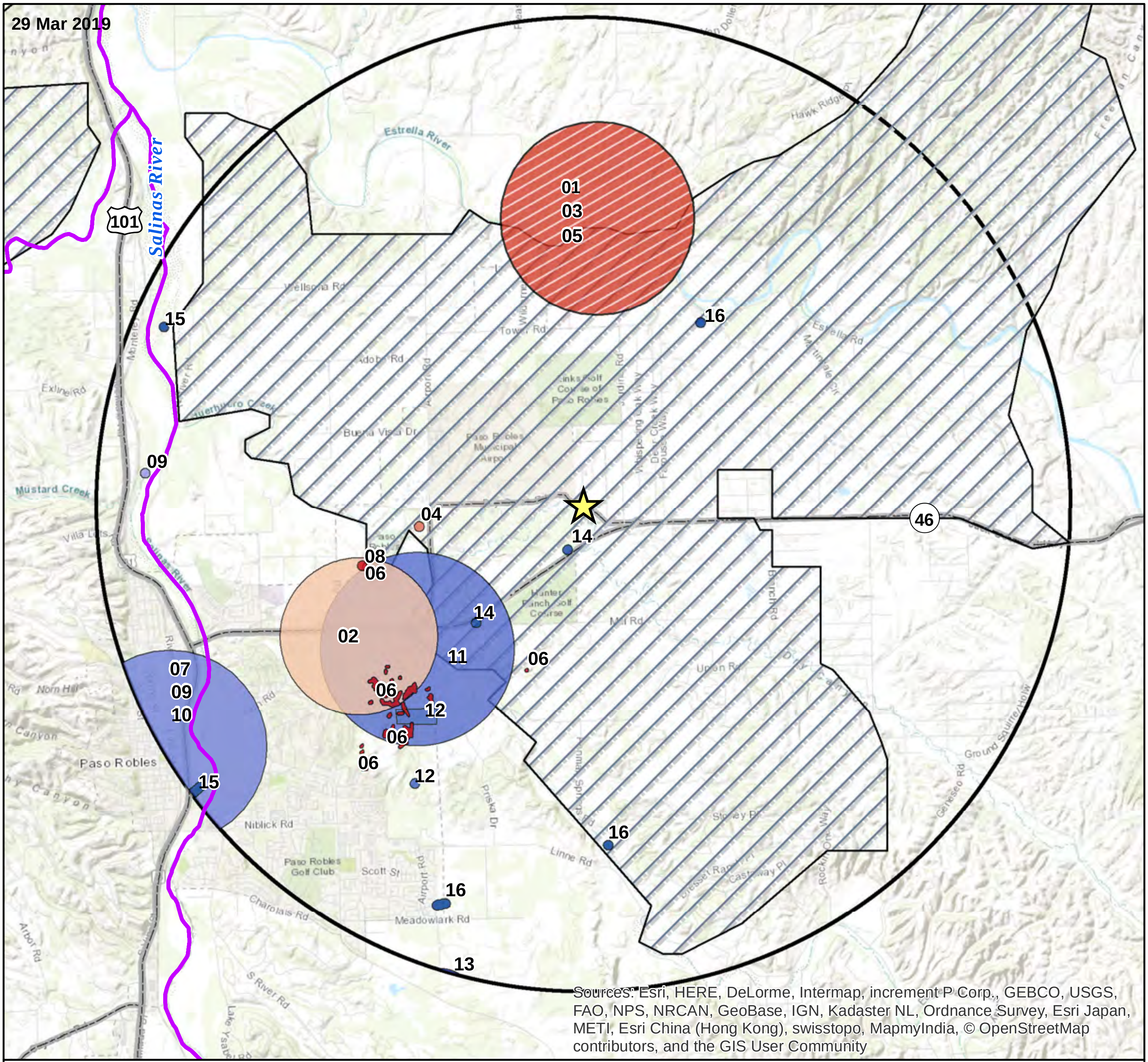
*Drainages mapped in the field by Terra Verde in Sept. 2017 and Jan. 2018.

Feet
0 250 500 1,000

N

TERRA • VERDE

29 Mar 2019



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 3: 5-mile CNDDB and Critical Habitat Map

☆ Project Location

▭ 5-mile Buffer

Designated Critical Habitat

— Steelhead

▨ Vernal Pool Fairy Shrimp

Special-status Plant Occurrences

▨ 01 - Jared's Pepper-grass

▭ 02 - Lemmon's Jewelflower

▭ 03 - Oval-leaved Snapdragon

▭ 04 - San Luis Obispo Owl's-clover

▭ 05 - Santa Lucia Dwarf Rush

▭ 06 - Shining Navarretia

Special-status Wildlife Occurrences

▭ 07 - Atascadero June Beetle

▭ 08 - Golden Eagle

▭ 09 - Least Bell's Vireo

▭ 10 - Lompoc Grasshopper

▭ 11 - Northern CA Legless Lizard

▭ 12 - San Joaquin Kit Fox

▭ 13 - Tricolored Blackbird

▭ 14 - Vernal Pool Fairy Shrimp

▭ 15 - Western Pond Turtle

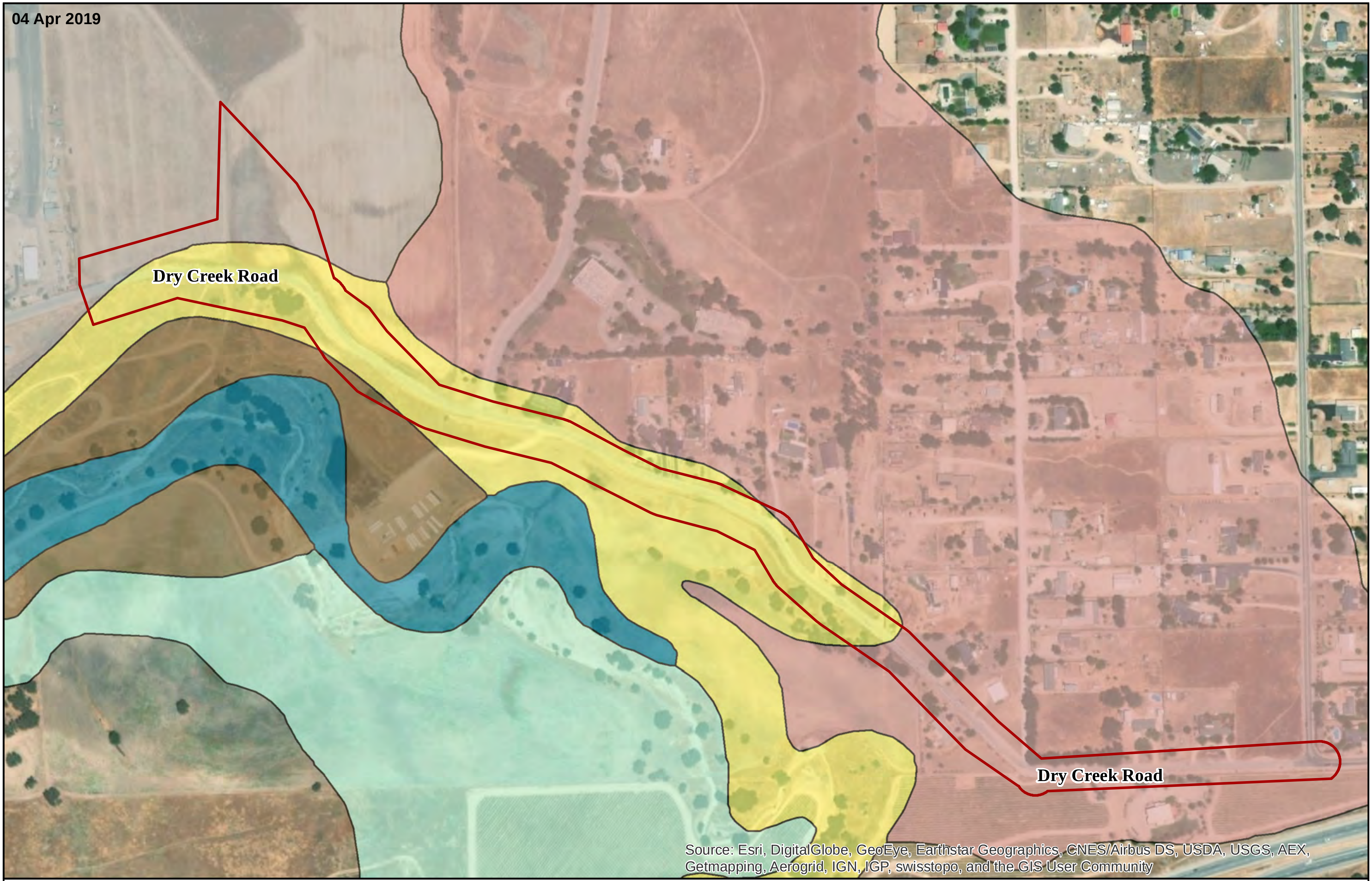
▭ 16 - Western Spadefoot

N

0 1 2 Miles

TERRA • VERDE

04 Apr 2019



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

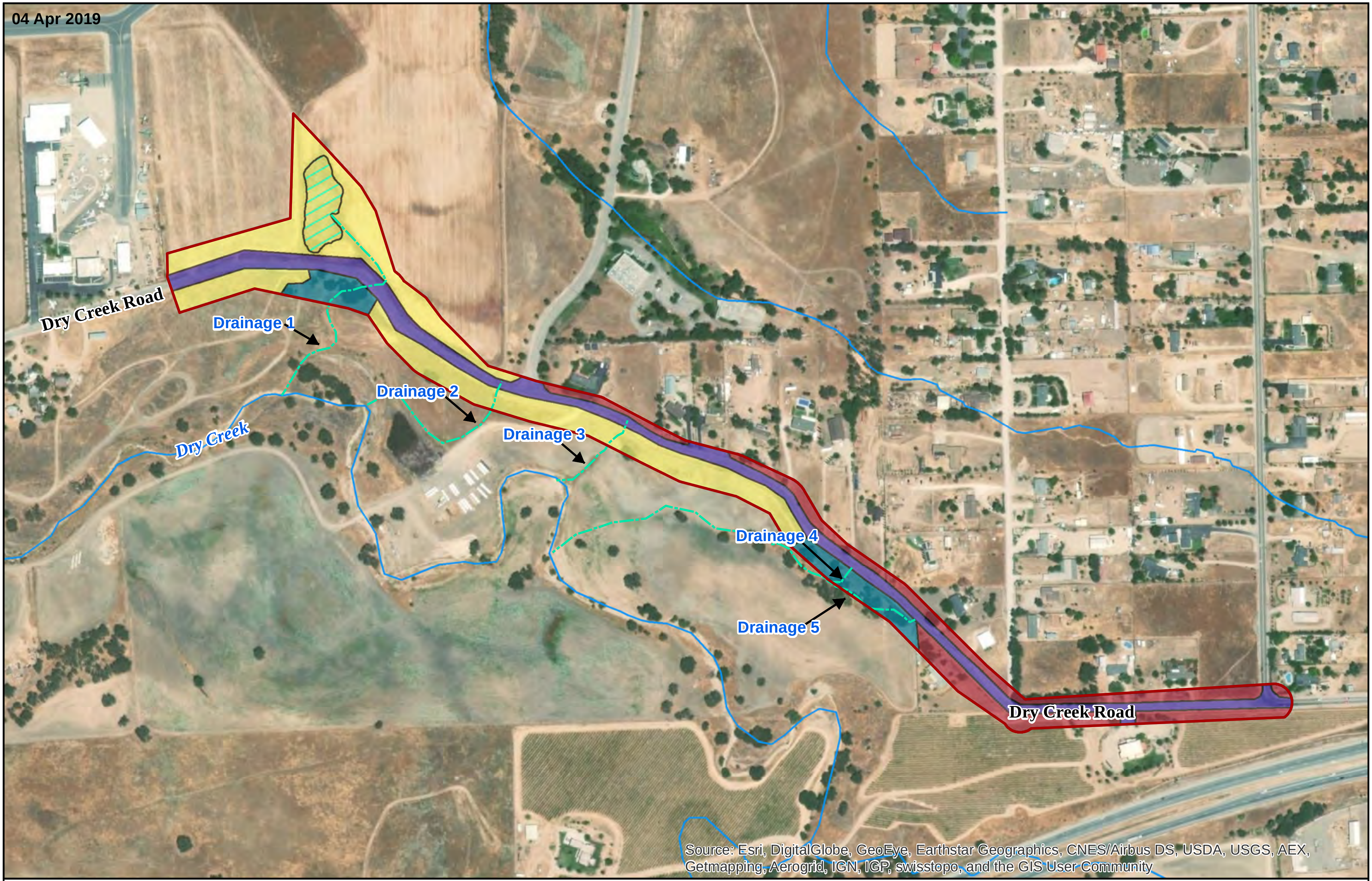
▭ Survey Area

Soil Units

- 🟨 Arbuckle-Positas Complex, 50-75% Slopes
- 🟥 Arbuckle-Positas Complex, 9-15% Slopes
- ⬜ Arbuckle-San Ysidro Complex, 2-9% Slopes
- 🟫 Mocho Clay Loam, 2-9% Slopes
- 🟩 San Ysidro Sandy Loam, 2-9% Slopes
- 🟦 Xerofluvents-Riverwash Association

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 4: Soils Map

TERRA • VERDE



04 Apr 2019

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

☐ Survey Area

Vegetation / Land Cover Types

🟦 Blue Oak Woodland

🟪 Developed

🟥 Residential/Vineyard

🟨 Ruderal

▨ Federal Wetland*

-·- Ephemeral Drainage*

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 5: Vegetation Communities Map

*Drainages mapped in the field by Terra Verde in Sept. 2017 and Jan. 2018; federal wetland delineated by Terra Verde in May 2018.

0 250 500 1,000 1,500 Feet

N

TERRA-VERDE

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Biological Resources Assessment Report
Figure 6: Hydrological Resources Map

*Vernal pool boundaries and potential waters mapped in Sept. 2017/verified in Jan. 2018 by Terra Verde
**Waters of the State and U.S. determined in the field by Terra Verde in Sept. 2017 and Jan. - May 2018
+Approx. location of drainage courses depicted using historical aerial imagery and topographic data - site access not permitted

Appendix B – Regionally Occurring Special-Status Species

This page intentionally left blank.

Regionally occurring special-status species list for the Estrella, and surrounding 7.5-minute quadrangles: Cholame Hills, Creston, Paso Robles, Ranchito Canyon, San Miguel, Shandon, Shedd Canyon, and Templeton

SENSITIVE HABITATS			
Community/ Habitat[1]	**Description**[2]	**Observed on Site?**[3]	**Comments**
Designated Habitat for Special-status Species			
San Joaquin kit fox (*Vulpes macrotis mutica*)	The project site is located within a County of San Luis Obispo-designated 3 to 1 mitigation area.	Yes	The habitat on site for this species is highly modified and degraded; however, County-required habitat mitigation will apply.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	USFWS-designated critical habitat for vernal pool fairy shrimp overlaps the entire project area.	Yes	One vernal pool was identified within the survey area, which has the physical and biological features required to support vernal pool fairy shrimp.

[1] List of sensitive vegetation communities and habitats obtained from CNDDB and USFWS Critical Habitat Portal (CNDDB, 2019; USFWS, 2019a).

[2] Community and habitat descriptions acquired from CNDDB and the U.C. Santa Barbara (UCSB) California Gap Analysis Project (CNDDB, 2019; UCSB, 2012).

[3] Communities observed during field surveys indicated with **bold** font and gray highlight, and are discussed further in the report.

PLANTS

Scientific/Common Name[1]	Listing Status[2]	Blooming Period[3]	Habitat Type[3]	Observed/ Habitat Present?[4]	Comments
Amsinckia douglasiana Douglas' fiddleneck	CRPR 4.2	March - June	Unstable, shaly, sedimentary slopes. Elevation: 100 – 1,600 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Antirrhinum ovatum Oval-leaved snapdragon	CRPR 4.2	May - July	Heavy, adobe-clay soils on gentle, open slopes, and disturbed areas. Elevation: 200 - 1,400 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Arctostaphylos hooveri Hoover's manzanita	CRPR 4.3	February - April	Rocky slopes, upland chaparral, open ponderosa-pine forest near coast. Elevation: 450 - 1,100 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Astragalus macrodon Salinas milk-vetch	CRPR 4.3	April - June	Eroded pale shales or sandstone, serpentine alluvium. Elevation: 200 - 1,550 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Calochortus simulans La Panza mariposa lily	CRPR 1B.3	May - July	Sand (often granitic), grassland, and yellow pine forest. Elevation: < 1,100 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Calycadenia villosa Dwarf calycadenia	CRPR 1B.1	May-September	Dry, rocky hills, ridges, openings in foothill woodland, grassland. Elevation: 250 - 850 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Camissoniopsis hardhamiae Hardham's evening primrose	CRPR 1B.2	March - May	Sandy soil, limestone; disturbed or burned areas in oak woodland. Elevation: 60 - 600 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Castilleja densiflora subsp. *obispoensis* San Luis Obispo owl's clover	CRPR 1B.2	March - June	Coastal grassland. Elevation: < 400 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Caulanthus lemmonii Lemmon's jewelflower	CRPR 1B.2	March - May	Valley and foothill grassland, chaparral, scrub. Elevation: 80 - 1,100 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Ceanothus cuneatus var. *fascicularis* Lompoc ceanothus	CRPR 4.2	February - May	Sandy substrates in coastal chaparral. Elevation: < 275 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.

PLANTS					
Scientific/Common Name[1]	**Listing Status[2]**	**Blooming Period[3]**	**Habitat Type[3]**	**Observed/ Habitat Present?[4]**	**Comments**
Chorizanthe douglasii Douglas's spineflower	CRPR 4.3	April - July	Sand or gravel. Elevation: 200 - 1,600 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Chorizanthe palmeri Palmer's spineflower	CRPR 4.2	May - August	Serpentine soil. Elevation: 60 - 700 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Chorizanthe rectispina Straight-awned spineflower	CRPR 1B.3	May - July	Sand or gravel. Elevation: 200 - 600 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Convolvulus simulans Small-flowered morning-glory	CRPR 4.2	April - June	Clay substrates, occasionally serpentine, annual grassland, coastal-sage scrub, chaparral. Elevation: 30 - 875 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Deinandra halliana Hall's tarplant	CRPR 1B.1	April - May	Grasslands, open slopes, sink edges on vertic clay or rarely serpentine. Elevation: 300 - 1,000 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Eriastrum luteum Yellow-flowered eriastrum	CRPR 1B.2	May - June	Drying slopes, sandy or gravelly soil, typically in association with chaparral or woodland. Elevation: < 1,000 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Eriogonum elegans Elegant wild buckwheat	CRPR 4.3	May - November	Sand or gravel. Elevation: 200 - 1,200 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Eriogonum temblorense *Temblor buckwheat*	CRPR 1B.2	May - September	Sand, clay, or sandstone in valley and foothill grassland. Elevation: 300 - 900 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Hesperevax caulescens Hogwallow starfish	CRPR 4.2	March - June	Drying shrink-swell clay of vernal pools, flats, and steep slopes; sometimes on serpentine. Elevation: < 500 m.	No / Yes	Suitable habitat present on site; not detected during appropriately-timed surveys.
Horkelia cuneata var. *puberula* Mesa horkelia	CRPR 1B.1	March - July	Dry, sandy, coastal chaparral. Elevation: 70 - 870 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.

PLANTS

Scientific/Common Name[1]	Listing Status[2]	Blooming Period[3]	Habitat Type[3]	Observed/ Habitat Present?[4]	Comments
Horkelia cuneata var. *sericea* Kellogg's horkelia	CRPR 1B.1	April - August	Old dunes, coastal sand hills. Elevation: < 200 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Juncus luciensis Santa Lucia dwarf rush	CRPR 1B.2	April - August	Wet, sandy soils of seeps, meadows, vernal pools, streams, roadsides. Elevation: 300 - 1,900 m.	No / Yes	Suitable habitat present on site; not detected during appropriately-timed surveys.
Layia heterotricha Pale-yellow layia	CRPR 1B.1	April - June	Open clayey or sandy soil, sometimes +/- alkaline, in scrub, woodland, or grassland habitat. Elevation: 200 - 1,800 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Lepidium jaredii Jared's pepper grass	CRPR 1B.2	March - April	Alkali bottoms, slopes, washes, dry hillsides, in vertic clay, acidic, gypsiferous soil. Elevation: 500 - 700 m.	No / Yes	Low suitability habitat present on site; not detected during appropriately-timed surveys.
Malacothamnus jonesii Jones' bush-mallow	CPR 4.3	May - July	Open chaparral in foothill woodland. Elevation: 250 - 830 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Monolopia gracilens Woodland woollythreads	CRPR 1B.2	March - July	Serpentine grassland, open chaparral, oak woodland. Elevation: 100 - 1,200 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Navarretia fossalis Spreading navarretia	Fed: Threatened CRPR 1B.1	April - June	Vernal pools, ditches. Elevation: 30 - 1,300 m.	No / Yes	Suitable habitat present on site; not detected during appropriately-timed surveys.
Navarretia nigelliformis subsp. *radians* Shining navarretia	CRPR 1B.2	May - July	Vernal pools, clay depressions. Elevation: 150 - 1,000 m.	No / Yes	Suitable habitat present on site; not detected during appropriately-timed surveys.
Navarretia prostrata Prostrate vernal pool navarretia	CRPR 1B.1	April - July	Alkaline floodplains, vernal pools. Elevation: < 700 m.	No / Yes	Suitable habitat present on site; not detected during appropriately-timed surveys.
Nemacladus secundiflorus var. *secundiflorus* Large-flowered nemacladus	CRPR 4.3	April - May	Dry, gravelly slopes. Elevation: 200 - 2,000 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.

PLANTS					
Scientific/Common Name[1]	**Listing Status[2]**	**Blooming Period[3]**	**Habitat Type[3]**	**Observed/ Habitat Present?[4]**	**Comments**
Senecio aphanactis Chaparral ragwort	CRPR 2B.2	February - May	Dry, open, rocky areas and alkaline flats. Elevation: 10 – 550 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.
Stebbinsoseris decipiens Santa Cruz microseris	CRPR 1B.2	April - May	Open, sandy, shaly, or serpentine sites, coastal. Elevation: 10 - 500 m.	No / No	No suitable habitat on site; not detected during appropriately-timed surveys.

[1] List of regionally-occurring special-status species acquired from CNDDB (CDFW, 2019), CCH (2018), and CNPS Rare and Endangered Plant Inventory (CNPS, 2019), and local expert knowledge.

[2] Listing status obtained from CNPS Rare and Endangered Plant Inventory (CNPS, 2019).

[3] Blooming period and habitat type obtained from Jepson eFlora (2018) and occasionally supplemented with information provided by CNPS (Jepson eFlora, 2019; CNPS, 2019).

[4] Species observed during field surveys indicated with **bold** font; species determined to have suitable habitat present on the site, even marginally suitable habitat, indicated with gray highlight. Species highlighted gray are discussed further in the report.

WILDLIFE					
Scientific/Common Name[1]	**Listing Status[1]**	**Nesting/ Breeding Period[2]**	**Habitat Type[2]**	**Observed/ Habitat Present?[3]**	**Comments / Potential for Occurrence**
Actinemys marmorata Western pond turtle	State: CSC	April - August	Riparian areas such as ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with either a rocky or muddy bottom. Prefers shallow pools with logs or rocks for basking. Can enter brackish or even seawater.	No / No	No suitable habitat on site. Drainages are highly intermittent and lack pool habitat and/or basking features. Species not observed during surveys.
Agelaius tricolor Tricolored blackbird	State: CSC	February - August	Needs nest sites near open, fresh water, protected habitat (such as cattails or tall rushes), and suitable feeding areas (pastures, rice fields, grassland, etc.).	No / No	No suitable nesting habitat on site; not observed during surveys.
Ambystoma californiense California tiger salamander	Fed: Threatened State: Threatened	November - February	Grasslands and low foothills in or near long-lasting seasonal pools, suitable for breeding; also require burrows or other dry-season refuge sites.	No / No	Outside of known species range; not observed during surveys.
Ammospermophilus nelsoni Nelson's antelope squirrel	State: Threatened	February - May	Dry grasslands and washes in open alkali scrub with sandy loam soils.	No / No	No suitable habitat on site; not observed during surveys.
Anniella pulchra Northern California legless lizard	State: CSC	March - November	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	No / No	No suitable habitat on site; not observed during surveys.
Antrozous pallidus Pallid bat	State: CSC	October - February	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. May roost in old buildings and bridges.	No / No	No suitable roosting habitat on site; may forage through project area.

WILDLIFE					
Scientific/Common Name[1]	**Listing Status[1]**	**Nesting/ Breeding Period[2]**	**Habitat Type[2]**	**Observed/ Habitat Present?[3]**	**Comments / Potential for Occurrence**
Aquila chrysaetos Golden eagle	State: Fully Protected	January - August	Open country in prairies, tundra, open coniferous forest, and barren areas, especially in hilly or mountainous regions. Nests in large, prominent trees in wooded areas and on cliff ledges.	No / No	Marginal foraging and nesting habitat adjacent to site; not expected to occur on site. May be seen foraging nearby.
Arizona elegans occidentalis California glossy snake	State: CSC	June - July	Arid scrub, rocky washes, grasslands, chaparral.	No / No	No suitable habitat on site; not observed during surveys.
Athene cunicularia Burrowing owl	State: CSC	March - July	Open, dry grasslands, often short grasses. Rely on ground burrowing animals for terrestrial habitat.	No / Yes	No suitable nesting habitat on site; may be seen foraging nearby.
Branchinecta lynchi Vernal pool fairy shrimp	Fed: Threatened	Rainy season	Vernal pools and depressions in grasslands.	No / Yes	Suitable habitat on site; not observed during surveys.
Buteo swainsoni Swainson's hawk	State: Threatened	March - August	Open landscapes that support suitable rodent prey populations, including agricultural areas. Nests in large trees.	No / Yes	Marginal foraging and nesting habitat adjacent to site; not expected to occur on site. May be seen foraging nearby.
Corynorhinus townsendii Townsend's big-eared bat	State: CSC	November - May	Mines, tunnels, buildings, human made structures. May use different day and night roosts. Prefers mesic habitats. Extremely sensitive to human disturbance.	No / No	No suitable habitat on site; not observed during surveys. May forage through project area.
Eremophila alpestris actia California horned lark	State: Watch List	March - August	Open fields, short grass areas, fields, rangelands.	No / Yes	Marginal foraging and nesting habitat within undeveloped edges of project area; not observed during surveys.
Falco mexicanus Prairie falcon	State: Watch List	February - April	Primarily inhabits dry grasslands, woodlands, savannahs, cultivated fields, lake shores, and rangelands. Nests on cliffs, canyons, and rock outcrops.	No / No	No suitable nesting habitat on site; not observed during surveys.

WILDLIFE					
Scientific/Common Name[1]	**Listing Status[1]**	**Nesting/ Breeding Period[2]**	**Habitat Type[2]**	**Observed/ Habitat Present?[3]**	**Comments / Potential for Occurrence**
Haliaeetus leucocephalus **Bald eagle**	State: Endangered Fully Protected	January - September	Forests adjacent to large bodies of water. Tolerant of human activity and are commonly spotted around dumps and fish processing plants.	**Yes / No**	Observed flying overhead; no suitable nesting or foraging habitat on site.
Masticophis flagellum ruddocki San Joaquin coachwhip	State: CSC	May - July	Open, dry, treeless areas, including grassland and saltbush scrub. Uses refuge in rodent burrows, under shaded vegetation, and under surface objects.	No / Yes	Suitable habitat on site within the margins of the project area; not observed during surveys.
Onychomys torridus tularensis Tulare grasshopper mouse	State: CSC	Year-round	Arid, open scrub and semi-scrub habitats; rarely documented in blue oak savannah. Favors compact soils with sparse perennial grasses.	No / No	No suitable habitat on site; not observed during surveys.
Perognathus inornatus San Joaquin pocket mouse	State: Special Animal	March - July	Dry, open, grassy or weedy ground, and arid annual grasslands, savanna, and desert-shrub associations with sandy washes or finely textured soil. Rarely documented in blue oak savannah.	No / No	No suitable habitat on site; not observed during surveys.
Phrynosoma blainvillii Coast horned lizard	State: CSC	May - September	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	No / No	No suitable habitat on site; not observed during surveys.
Polyphylla nubila Atascadero June beetle	Special Animal	Early Summer - June	Known only from sand dunes in Atascadero and San Luis Obispo.	No / No	No suitable habitat on site; not observed during surveys.
Rana draytonii California red-legged frog	Fed: Threatened State: CSC	January - March	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation.	No / Yes	Suitable upland habitat on site, no pool habitat observed; not observed during surveys.

WILDLIFE					
Scientific/Common Name[1]	**Listing Status[1]**	**Nesting/ Breeding Period[2]**	**Habitat Type[2]**	**Observed/ Habitat Present?[3]**	**Comments / Potential for Occurrence**
Riparia riparia Bank swallow	State: Threatened	March - July	Inhabits low areas along streams, ocean coasts, or reservoirs. Territories usually include vertical cliffs or banks where they nest in colonies with up to 2,000 nests. Can be observed in human-made sites including sand/gravel quarries and on road cuts.	No / No	No suitable habitat on site; not observed during surveys.
Spea hammondii Western spadefoot toad	State: CSC	January - August	Seasonal/vernal pools in coastal scrub, grassland, chaparral, woodland habitat, and open areas with sandy or gravelly soils.	No / Yes	Potentially suitable breeding habitat is present within vernal pool located within the western portion of the road realignment; not observed during surveys.
Taxidea taxus American badger	State: CSC	February - May	Needs friable soils in open ground with abundant food source such as California ground squirrels.	No / Yes	Marginal habitat is present within undeveloped portions of land adjacent to the project site. May be seen moving through the project area; not expected to den on site.
Vireo bellii pusillus Least Bell's vireo	Fed: Endangered State: Endangered	March - September	Dense, shrubby vegetation in brushy fields, second-growth forest, woodland, riparian, chaparral, and mesquite brush lands; often near water in arid regions. Nests suspended from branches of small trees or shrubs.	No / No	No suitable habitat on site; not observed during surveys.
Vulpes macrotis mutica San Joaquin kit fox	Fed: Endangered State: Threatened	December - July	Open, annual grasslands with loose sandy soil.	No / No	Low suitability habitat adjacent to project site; not expected to occur within project area. Within County mitigation area.

[1] List of regionally-occurring special-status species and listing status acquired from CNDDB (CNDDB, 2019) and local expert knowledge. Crotch bumblebee (*Bombus crotchii*) and Lompoc grasshopper (*Trimerotropis occulens*) were omitted from this list due to a scarcity of available biological information. Further research is necessary within the home ranges of these species to identify specific conservation needs and appropriate protection measures.

[2] Life history information obtained from multiple sources, including Cornell Lab of Ornithology Online (Cornell, 2019), CaliforniaHerps.com (Nafis, 2019), and USFWS Environmental Conservation Online System (ECOS) (USFWS, 2019c).

[3] Species observed during field surveys indicated with **bold** font; species determined to have suitable habitat present on the site, even marginally suitable habitat, indicated with gray highlight. Species highlighted gray are discussed further in the report.

APPENDIX C – Botanical and Wildlife Species Observed

This page intentionally left blank.

TERRA • VERDE
Environmental Consulting

Dry Creek Road Realignment and Improvement Project

List of Botanical Species Observed on September 14 and October 19, 2017; January 10 and 29, 2018; March 03 and 23, 2018 ;and May 08 and 15, 2018

Family	Scientific Name	Common Name	Wetland Status[1]	Origin
Amaranthaceae, Amaranth Family	*Amaranthus albus*	Tumbleweed	FACU	Naturalized
Apiaceae, Carrot Family	*Eryngium vaseyi* var. *vaseyi*	Coyote-thistle	FACW	Native
Apocynaceae, Dogbane Family	*Asclepias fascicularis*	Narrow-leaf milkweed	FAC	Native
Asteraceae, Sunflower Family	*Ambrosia acanthicarpa*	Annual bur-sage	--	Native
	Centaurea melitensis	Maltese star-thistle	--	Naturalized
	Centaurea solstitialis	Yellow star-thistle	--	Naturalized
	Chondrilla juncea	Skeleton weed	--	Naturalized
	Deinandra pentactis	Salinas river tarweed	--	Native
	Erigeron bonariensis	Flax-leaved horseweed	FACU	Naturalized
	Erigeron canadensis	Horseweed	FACU	Native
	Heterotheca grandiflora	Telegraph weed	--	Native
	Hypochaeris glabra	Smooth cat's-ear	--	Naturalized
	Lactuca serriola	Prickly lettuce	FACU	Naturalized
	Logfia gallica	Daggerleaf cottonrose	--	Naturalized
	Matricaria discoidea	Pineapple weed	FACU	Native
	Pseudognaphalium luteoalbum	Jersey cudweed	FAC	Naturalized
Boraginaceae, Borage Family	*Amsinckia* sp.	Fiddleneck	--	Native
	Heliotropium curassavicum	Alkali heliotrope	FACU	Native
	Plagiobothrys sp.	Popcornflower	--	Native
Brassicaceae, Mustard Family	*Hirschfeldia incana*	Mediterranean hoary mustard	--	Naturalized
Caryophyllaceae, Pink Family	*Spergula arvensis*	Stickwort	--	Naturalized
	Spergularia rubra	Red sand-spurrey	FAC	Naturalized
Chenopodiaceae, Goosefoot Family	*Atriplex semibaccata*	Australian saltbush	FAC	Naturalized
	Chenopodium album	Lamb's quarters	FACU	Naturalized
	Salsola tragus	Russian thistle	FACU	Naturalized
Convolvulaceae, Morning-glory Family	*Convolvulus arvensis*	Bindweed	--	Naturalized
Euphorbiaceae, Spurge Family	*Croton setiger*	Turkey-mullein	--	Native
Fabaceae, Legume Family	*Acmispon americanus* var. *americanus*	American bird's foot trefoil	UPL	Native
	Medicago polymorpha	California burclover	FACU	Naturalized
	Trifolium hirtum	Rose clover	--	Naturalized

Family	Scientific Name	Common Name	Wetland Status[1]	Origin
Fagaceae, Oak Family	*Quercus douglasii*	Blue oak	--	Native
Geraniaceae, Geranium Family	*Erodium botrys*	Broad leaf filaree	FACU	Naturalized
Juncaceae, Rush Family	*Juncus bufonius* var. *bufonius*	Toad rush	FACW	Native
Lamiaceae, Mint Family	*Trichostema lanceolatum*	Vinegar weed	FACU	Native
Lythraceae, Loosestrife Family	*Lythrum hyssopifolia*	Hyssop loosestrife	OBL	Naturalized
Malvaceae, Mallow Family	*Malva parviflora*	Cheeseweed	--	Naturalized
Papaveraceae, Poppy Family	*Eschscholzia californica*	California poppy	--	Native
Plantaginaceae, Plantain Family	*Plantago lanceolata*	English plantain	FAC	Naturalized
	Veronica peregrina subsp. *xalapensis*	Purslane speedwell	FAC	Native
Poaceae, Grass Family	*Avena barbata*	Slender wild oat	--	Naturalized
	Avena fatua	Wild oat	--	Naturalized
	Bromus diandrus	Ripgut grass	--	Naturalized
	Bromus hordeaceus	Soft chess	FACU	Naturalized
	Bromus madritensis subsp. *rubens*	Red brome	UPL	Naturalized
	Festuca myuros	Rattail sixweeks grass	FACU	Naturalized
	Festuca perennis	Rye grass	FAC	Naturalized
	Hordeum vulgare	Barley	--	Waif
	Polypogon monspeliensis	Annual beard grass	FACW	Naturalized
Polygonaceae, Buckwheat Family	*Polygonum aviculare*	Knotweed	FAC	Naturalized
	Rumex crispus	Curly dock	FAC	Naturalized
Portulacaceae, Purslane Family	*Portulaca oleracea*	Purslane	FAC	Naturalized
Solanaceae, Nightshade Family	*Datura wrightii*	Jimson weed	UPL	Native
Verbenaceae, Vervain Family	*Verbena lasiostachys*	Western vervain	FAC	Native
Zygophyllaceae, Caltrop Family	*Tribulus terrestris*	Puncture vine	--	Naturalized

[1] **Wetland Status**: Indicates listing status for taxa that are included on the National Wetland Plant List (NWPL) for the Arid West region (USFWS, 2016). Taxa included on the NWPL are assigned one of the following wetland indicator statuses:

- **Obligate (OBL):** plants that almost always occur in wetlands.
- **Facultative Wetland (FACW):** plants that usually occur in wetlands, but may occur in non-wetlands.
- **Facultative (FAC):** plants that are equally likely to occur in wetlands and non-wetlands.
- **Facultative Upland (FACU):** plants that usually occur in non-wetlands, but may occur in wetlands.
- **Upland (UPL):** plants that almost never occur in wetlands; taxa not listed on the inventory are considered UPL.

TERRA • VERDE
Environmental Consulting

Dry Creek Road Realignment and Improvement Project

List of Wildlife Species Observed on September 14 and October 19, 2017; January 10 and 29, 2018; March 03 and 23, 2018; and May 08 and 15, 2018

Family	Scientific Name	Common Name	*Listing Status Federal/State
Birds	*Buteo jamaicensis*	Red-tailed hawk	--
	Carpodacus mexicanus	House finch	--
	Cathartes aura	Turkey vulture	--
	Charadrius vociferus	Killdeer	--
	Corvus brachyrhynchos	American crow	--
	Haliaeetus leucocephalus	Bald eagle	FP
	Euphagus cyanocephalus	Brewer's blackbird	--
	Falco sparverius	American kestrel	--
	Lanius ludovicianus	Loggerhead shrike	CSC (nesting)
	Melanerpes formicivorus	Acorn woodpecker	--
	Mimus polyglottos	Northern mockingbird	--
	Sayornis saya	Say's phoebe	--
	Streptopelia decaocto	Eurasian collared-dove	Not native
	Sturnus vulgaris	European starling	Not native
	Tyrannus verticalis	Western kingbird	--
	Zenaida macroura	Mourning dove	--
Mammals	*Canis latrans*	Coyote	--
	Lepus californicus	Black-tailed jackrabbit	--
	Procyon lotor	Racoon	--
	Spermophilus beecheyi	California ground squirrel	--
	Sylvilagus audubonii	Audubon's cottontail	--
	Thomomys bottae	Botta's pocket gopher	--
Reptiles	*Sceloporus occidentalis*	Western fence lizard	--
Invertebrates	*Apis* sp.	Honey bee	--
	Danaus plexippus	Monarch butterfly	Special Animal

*California Department of Fish and Wildlife Listing Status:

- Fully Protected (FP)
- California Species of Special Concern (CSC)

This page intentionally left blank.

APPENDIX D – Representative Site Photographs

This page intentionally left blank.

Photo 1. View west along proposed alignment near Jardine Road (09-14-17).

Photo 2. View southeast along Dry Creek Road near Drainge 5 (05-08-18).

Photo 3. View east along Dry Creek Road at Drainage 4 (05-08-18).

Photo 4. View west along Dry Creek Road, just west of Drainage 4 (05-08-18).

Photo 5. View northwest along Dry Creek Road near Draiange 2 (09-14-17).

Photo 6. Standing water in the upper limits of Drainage 1, north of Dry Creek Road (03-23-18).

Photo 7. View north along the lower limits of Drainage 1, downslope of and south of Dry Creek Road culvert outlet (03-23-18).

Photo 8. View south of existing culvert inlet associated with Draiange 1, under Dry Creek Road (03-23-18).

Photo 9. View south across Dry Creek Road at the culvert associated with Drainage 2 (10-19-17).

Photo 10. View south along the ephemeral swale associated with Drainage 3, downstream of the Dry Creek Road, on the adjacent private property (10-19-17).

Photo 11. View southwest along Drainage 4, showing two existing culverts associated with this Drainage (10-19-17).

Photo 12. View south looking toward Draiange 5 from Dry Creek Road (10-19-17).

Photo 13. View north of the vernal pool mapped north of Dry Creek Road (09-14-17).

Photo 14. View southeast of vernal pool following discing (05-15-18).

Waters and Wetlands Delineation Report

Dry Creek Road Realignment and Improvement Project
City of El Paso de Robles, San Luis Obispo County, California

Prepared for:

City of El Paso de Robles
1000 Spring Street
Paso Robles, CA 93446

Prepared by:

Terra Verde Environmental Consulting, LLC
3765 South Higuera Street, Suite 102
San Luis Obispo, California 93401

April 2019

This page intentionally left blank.

DISCLAIMER

Terra Verde Environmental Consulting, LLC (hereafter, Terra Verde) has prepared this waters and wetlands delineation report for use by the City of El Paso de Robles (owner). The results and conclusions of this report are conditional upon final approval by the United States Army Corps of Engineers. Results and conclusions presented in this report are based upon information available in the public domain (e.g., United States Geological Survey 7.5-minute topographic quadrangle maps, the Natural Resources Conservation Service Soil Surveys, aerial photographs from various sources, etc.), as well as Terra Verde's on-site reconnaissance, data collection, and analyses, which were completed using standard methods. Results and conclusions presented herein represent the best professional judgment of Terra Verde technical staff. In this context, surveying/boundary locations developed by Terra Verde are assumed to be true and correct.

Brian Dugas

Principal Biologist
Terra Verde Environmental Consulting, LLC

April 01, 2019
Date

Kristen Nelson

Kristen Nelson

Botanist
Terra Verde Environmental Consulting, LLC

April 01, 2019
Date

EXECUTIVE SUMMARY

Terra Verde Environmental Consulting, LLC (Terra Verde) was retained by City of El Paso de Robles (owner) to complete a formal delineation of waters and wetlands under the jurisdiction of federal resource agencies in support of the proposed Dry Creek Road Realignment and Improvement Project (project). The project site is located in vicinity of the Paso Robles Municipal Airport in the City of El Paso de Robles, San Luis Obispo County, California. Field surveys included a delineation of all federal waters and wetlands, as defined by the U.S. Army Corps of Engineers (Corps). The survey area encompassed the entire proposed project site and the immediately surrounding wetland and riparian habitats.

This report has been developed by Terra Verde using current Corps guidance concerning waters and wetlands delineations. Determinations are based on field observations made in 2017 and 2018. Information offered in this report is arranged to describe the delineation objectives, discuss pertinent regulatory contexts, explain the approach and methodology used by Terra Verde in this delineation, and provide a summary of technical results. This report is intended to provide details regarding aquatic resources on site and may be used to support permit application(s) to the Corps, the California Department of Fish and Wildlife, the Regional Water Quality and Control Board, and the City of El Paso de Robles for the proposed project

Terra Verde identified and mapped a total of 880 linear feet of non-wetland waters of the U.S. and one federal wetland totaling 0.80 acre within the overall survey area. The results of the delineation, as described in this report, are conditional upon a review and final jurisdictional determination by the Corps.

TABLE OF CONTENTS

LIST OF APPENDICES

1.0 INTRODUCTION & BACKGROUND

This waters and wetlands delineation report was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) in support of the proposed Dry Creek Road Realignment and Improvement Project (project) located in the vicinity of the Paso Robles Municipal Airport (Airport) in the City of El Paso de Robles, San Luis Obispo County, California (see Appendix A – Figure 1: Project Vicinity and Topographic Map). This report summarizes the regulatory context, methods, and results of field surveys, which focused on the delineation of federal wetlands and waters of the United States (waters of the U.S.), as defined by Section 404 of the Clean Water Act. The survey area included the entire proposed project area, as well as immediately adjacent wetland and riparian habitats (see Appendix A – Figure 2: Project Site and Survey Area Map).

The proposed project includes widening and improving approximately 0.87 mile of a rural, two-lane road, within areas of both City of El Paso de Robles (City) jurisdiction and County of San Luis Obispo (County) jurisdiction. Proposed improvements include resurfacing, widening, and improving drainage along the entire project alignment, and realigning approximately 0.2 mile of the existing road, where it is currently compromised by a steep, eroding slope around a blind turn. Two unnamed, ephemeral drainages (Drainage 1 and Drainage 5) flow under Dry Creek Road within the proposed project area. Culverts associated with these two drainages will be lengthened (Drainage 1) and replaced (Drainage 5) as part of the proposed project.

This report has been developed following guidance from the San Francisco District of the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) (EPA and Corps, 2008) pertaining to wetland delineations. The results of the delineation are based on field observations made in January and May 2018, and are subject to final review and approval by the Corps. As needed, this report may be used in acquiring regulatory permits and/or project approvals.

1.1 Overview of Site Characteristics

1.1.1 Current and Historical Land Uses

The project site is primarily developed and surrounded by active vineyards, agricultural lands, a golf course, and rural residential and commercial development. In the undeveloped portions of the project alignment, vegetation is generally ruderal in nature, with areas of bare ground due to regular discing and/or tilling (see Appendix A – Figure 2). The topography, soils, and vegetation of the proposed project site and surrounding areas have been altered considerably through past land conversion, construction of Dry Creek Road, and other anthropogenic alterations (e.g., agriculture, development, etc.). A review of historical aerial imagery indicates the condition of the site, including regular agricultural discing within the undeveloped portion, has been ongoing since at least 1994 (Google Earth, 1994-2018).

1.1.2 Geomorphology and Landscape Context

The project site is located in the Upper Salinas River Valley, approximately 4.5 miles east of the Salinas River. Elevations within the survey area range from approximately 787 to 835 feet (240 to 255 meters). The geology of the project site consists of alluvial deposits, comprised primarily of fine to gravelly loam (U.S. Dept. of Ag., 2019). Drainage 1 and Drainage 5 convey ephemeral storm flows from the northern and southern edges of Dry Creek Road, and flow generally south onto the adjacent private property before converging with Dry Creek, a United States Geological Survey (USGS) blue line drainage. In addition, a vernal pool was identified and mapped at the headwaters of Drainage 1. Additional culverts and ephemeral swale features (Drainages 2 – 4) were identified within the project area, which lacked evidence of flow during field assessments. Dry Creek flows to Huerhuero Creek and eventually to the Salinas River and the traditionally navigable waters of the Pacific Ocean (see Appendix A – Figure 3: Hydrologic Connectivity Map).

1.1.3 Regional Climate

The regional climate is Mediterranean, with mild, rainy winters and hot, dry summers. Historical temperature and precipitation data were acquired from the Western Regional Climate Center (WRCC) for Paso Robles (Station No. 046730). According to available data, average annual precipitation for a 122-year (1894 to 2016) period for the project region is 15.21 inches (WRCC, 2019). The average minimum and maximum temperatures calculated for the same time period are 60°F in January and 93°F in July and August (WRCC, 2012).

2.0 REGULATORY CONTEXTS

2.1 Rationale for the Determination of the Geographic Extent of Waters of the U.S.

Delineation of the geographic extent of waters of the U.S., including wetlands, within the survey area was consistent with definitions provided in 33 CFR 328.3 (a) (1-8), 328.3 (b, c, and e), as well as routine procedures detailed in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (*1987 Manual*) (Corps, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (*2008 Arid West Regional Supplement*) (Corps, 2008). As defined in Section 404 of the CWA, the limits of Corps jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM) and includes all adjacent wetlands. The following definitions are used by the Corps and EPA for the identification of wetlands and, as such, were used for the identification and delineation of wetlands at the project site:

Waters of the U.S. are defined in Section 404 of the CWA as:

> *"All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; including all interstate waters including interstate wetlands, all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce."*

Further, wetlands are considered waters of the U.S., and are identified as:

> *"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. Wetlands generally include swamps, marshes, bogs, and similar areas."*

The Corps uses a three-parameter approach for identifying and delineating jurisdictional wetlands, where a wetland is defined as a feature associated with waters of the U.S., which is characterized by hydric soils, wetland hydrology, and a dominance of hydrophytic vegetation.

2.2 Consistency with SWANCC & Rapanos Guidance

U.S. Supreme Court rulings in two prominent court cases addressing the extent of federal jurisdiction (i.e., Solid Waste Agency of Northern Cook County [SWANCC] v. Corps et al. [531 U.S. 159, 2001]; and Rapanos et ux., et al. v. United States [547 U.S. 715, 2006]) led to the development of federal guidance that requires careful examination and documentation of the physical location(s) of and hydrologic connections among waters and wetlands. To determine federal jurisdiction, emphasis is given to surface hydrologic connections between a wetland and “navigable waters” or “adjacency” of a wetland to traditionally navigable waters, and, thus, a “significant nexus” to interstate commerce. In addition, waters and wetland features can be determined to be under federal jurisdiction by the Corps or EPA if a significant nexus can be shown between the wetland feature in question and its contribution to the maintenance or restoration of the physical, chemical, or biological integrity of downstream waters that are traditionally navigable. Federal guidance for field delineation procedures that address the

Rapanos decision has been offered by the EPA and the Corps in a joint memorandum issued on June 5, 2007 (EPA and Corps, 2008).

3.0 FIELD DELINEATION METHODS

3.1 Overview of Methodology

Prior to conducting field surveys, a desktop review was completed, which included a review of current and historical aerial imagery (Google Earth, 1994 - 2018), an online Soil Survey for the County of San Luis Obispo (U.S. Dept. of Ag., 2019), USGS topographic maps (USGS, 2019), regional weather data (WRCC, 2012, 2019), the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS, 2019), and preliminary site development plans.

Terra Verde botanists Kristen Nelson and Amy Golub and principal biologist Brian Dugas completed a formal wetland delineation on May 15, 2018 within the vernal pool associated with Drainage 1. Delineation methods followed routine procedures detailed in the *1987 Manual* (Corps, 1987) and the *2008 Arid West Regional Supplement* (Corps, 2008). In addition, wetlands were classified based on hydrogeomorphic classes (e.g., riverine, slope, etc.) described by Brinson (1993) and Brinson et al. (1995).

Field delineation of wetlands included an assessment of the hydrology, soil characteristics, and vegetation at three sampling points (i.e., SP-01, SP-02, and SP-03). Data was recorded using the Wetland Determination Data Form provided in the *2008 Arid West Regional Supplement* (Corps, 2008). At each sampling point, a soil test pit was excavated to a depth of at least 15 inches, vegetation was characterized within a 5-foot radius of the excavated soil test pit, and indicators of wetland hydrology were documented (see Appendix B – Wetland Determination Data Forms). In order to delineate the boundary of federal wetlands, sampling was conducted in areas that displayed apparent indicators of wetland hydrology and vegetation, as well as adjacent areas where no apparent wetland indicators were present.

The assessment of non-wetland waters included identifying the presence of field indicators for OHWM within the subject drainages. This assessment followed guidelines provided in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (*OHWM Manual*) (Lichvar and McColley, 2008). Data was recorded using the *Updated Datasheet for the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (OHWM Data Sheet; see Appendix C – Arid West Ephemeral and Intermittent Streams OHWM Datasheets) (Curtis and Lichvar, 2010). In addition, all waters and wetlands were assessed for hydrologic connectivity and/or adjacency to traditionally navigable waters and their tributaries. Due to the lack of access to adjacent parcels, connectivity of Drainage 1 and Drainage 5 to Dry Creek and the traditionally navigable waters of the Pacific Ocean via the Salinas River were assessed through aerial imagery (Google Earth, 1994 – 2018) and site topography (see Appendix A – Figure 3).

It should be noted that the data necessary to inform the wetland delineation was collected during several separate survey efforts due to the nature of regular, ongoing surface disturbance at the site. At the time of the formal wetland delineation on May 15, 2019, the entire field containing the vernal pool had recently been tilled to a depth of six to eight inches (see Appendix D – Representative Site Photographs, Photo 1). However, several prior field surveys had already been completed, including focused botanical surveys and documentation of ponding and hydrology at the site. In particular, vegetation cover and composition were documented during several surveys on September 14 and October 19, 2017 and January 10 and 29, 2018; and vegetation and hydrology were documented following significant precipitation events on March 03 and 23, 2018 (see Appendix D – Photos 2 through 4). Due to the disturbed nature of the site at the time of the delineation, vegetation data and hydrology indicators noted during all applicable survey efforts were used collectively to supplement the data collected at the time of the formal delineation.

3.1.1 Delineation of Wetlands

Evidence of Wetland Hydrology

Consistent with the *1987 Manual* (Corps, 1987), the *2008 Arid West Regional Supplement* (Corps, 2008), and current regulatory guidance (Corps, 1992), wetland hydrology can be identified by evaluating a variety of direct and indirect indicators, including stream gauge or well data, flood predictions (i.e., FEMA maps), historic records pertaining to the study area, and visual observation of field indicators for the identification of jurisdictional waters and wetlands. Field indicators may include inundation and/or saturation, sediment deposition, drainage patterns, hydric soil characteristics, watermarks, drift lines, presence of oxidized pores associated with living roots and rhizomes (i.e., rhizospheres), and water-stained leaves (Corps, 1987).

Wetland hydrology is present at a location if field observations indicate the area has a high probability of being periodically inundated or saturated to the soil surface for a sufficient duration during the growing season to develop anaerobic conditions in the surface soil environment (i.e., root zone) (Corps, 1987). According to guidance provided in the *2008 Arid West Regional Supplement,* if at least one primary indicator or at least two secondary indicators of hydrology are present at a sample point, the wetland hydrology criterion is met (Corps, 2008). Observations of wetland hydrology were recorded at each sample point to document evidence of inundation or soil saturation.

Several types of evidence were examined to determine whether wetland hydrology previously existed or currently exists. In addition, the type and frequency of site manipulation and anthropogenic disturbances were considered for their potential to impact or alter current and historical site hydrology.

Identification of Hydric Soils

The presence of hydric soils was assessed based on the criteria outlined in the *1987 Manual* (Corps, 1987) and the *2008 Arid West Regional Supplement* (Corps, 2008). Hydric soils are defined as soils "*that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part*" (U.S. Dept. of Ag., 1994). Determination of whether or not a soil is hydric is based on the fulfillment of at least one of four technical criteria (U.S. Dept. of Ag., 2002), which can be satisfied using a combination of published soils information and field indicators. Field indicators for determining whether a soil satisfies the hydric soil definition and the technical criteria for hydric soils are listed in *Field Indicators of Hydric Soils in the United States* (U.S. Dept. of Ag., 2006).

Following the guidance provided in the above-referenced documents, the presence of hydric soils within the survey area was determined using a combination of direct field observations and a review of available online resources, including the Soil Survey of San Luis Obispo County, Web Soil Survey (U.S. Dept. of Ag., 2019) and the USFWS NWI (USFWS, 2019). In the field, soil test pits were excavated at each of three sampling points to examine the upper 15 inches of the soil profile for hydric soil indicators. Specifically, a Munsell Soil Color Book (2000) was used to classify the colors of matrix soils and redoximorphic (redox) concentrations within the matrix. The *2017 Pocket Guide to Hydric Soil Indicators* (Wetland Training Institute [WTI], 2017) was used to determine the texture of soils, and to assess the location, type, and extent of matrix soil colors and redox concentrations, to determine whether they qualified as hydric soils.

According to the NRCS online soil survey of San Luis Obispo County, three soil units occur within the survey area (U.S. Dept. of Ag., 2019). These include: Unit 102 (Arbuckle-Positas complex, 9 to 15 percent slopes), Unit 105 (Arbuckle-Positas complex, 50 to 75 percent slopes), and Unit 106 (Arbuckle-San Ysidro complex, 2 to 9 percent slopes) (see Appendix A – Figure 4: Soil Units Map). Of the three soil units, Unit 106 is listed as partially hydric (U.S. Dept. of Ag., 2019). A summary of the dominant characteristics of these soil types is provided below.

Soil Unit 102: Arbuckle-Positas complex, 9 to 15 percent slopes

The parent material of this soil type is alluvium from mixed rock sources. The drainage class of this unit is well drained, and it is composed mostly of fine sandy loam and clay loam over gravelly, sandy clay loam. This soil type tends to occur on toeslopes and terraces below 1,500 feet.

Soil Unit 105: Arbuckle- Positas complex, 50 to 75 percent slopes
The parent material of this soil type is alluvium from mixed rock sources. The drainage class of this unit is well drained, and it is composed mostly of fine sandy loam and sandy clay loam. This soil type tends to occur on toeslopes and escarpments at elevations of 600 to 1,500 feet.

Soil Unit 106: Arbuckle-San Ysidro complex, 2 to 9 percent slopes
This soil type is nearly identical to soil unit 102, but it generally occurs on shallower slopes.

Dominance of Hydrophytic Vegetation

On June 1, 2012, the *2012 National Wetland Plant List* (NWPL) (Lichvar et al., 2012) replaced the 1988 USFWS's National list of plant species that occur in wetlands for use under the CWA, Swamp Buster, and National Wetland Inventory programs. The NWPL and regional supplements have since been revised with updated plant listings. The *Arid West 2016 Regional Wetland Plant List* (*2016 Regional List*) (Lichvar et al., 2016) is the most current version available for use in the Arid West region, including coastal areas of California. The updated *2016 Regional List* indicates the relative frequency that a species occurs in wetland habitats and is used to determine whether the hydrophytic vegetation parameter is met when conducting wetland delineations under the CWA.

Species included on the *2016 Regional List* are assigned one of the following wetland indicator statuses (Lichvar et al., 2012):

- **Obligate (OBL)**: plants that almost always occur in wetlands.
- **Facultative Wetland (FACW)**: plants that usually occur in wetlands but may occur in non-wetlands.
- **Facultative (FAC)**: plants that are equally likely to occur in wetlands and non-wetlands.
- **Facultative Upland (FACU)**: plants that usually occur in non-wetlands but may occur in wetlands.
- **Upland (UPL)**: plants that almost never occur in wetlands; plants not included on the list are considered UPL.

Dominance of hydrophytic vegetation is determined by identifying all plant species within a 5-foot radius surrounding each soil excavation pit for herbaceous and shrub cover, and a 30-foot radius for tree and woody vine cover; documenting the absolute percent cover of each species within each stratum (i.e., herb, shrub, tree, and woody vine) for the sampling plot; and noting the indicator status for each (i.e., UPL, FACU, FAC, FACW, or OBL). Dominant species are then determined using the 50/20 rule, as recommended in the *2008 Arid West Regional Supplement* (Corps, 2008). Based on this method, dominant species are those species that individually or collectively constitute more than 50 percent of the total vegetative cover (i.e., relative cover) within each stratum, in addition to those species that individually constitute 20 percent or more of the relative cover within each vegetation stratum. Species identifications and taxonomic nomenclature followed the second edition of *The Jepson Manual: Vascular Plants of California* (Baldwin et al., 2012), as well as taxonomic updates provided in the Jepson eFlora (Jepson Flora Project, 2019).

According to both the Corps' *1987 Manual* (Corps, 1987) and *2008 Arid West Regional Supplement* (Corps, 2008), the hydrophytic vegetation parameter for wetlands is met when, under normal circumstances, *more than* 50 percent of the dominant species across all strata have an indicator status of OBL, FACW, or FAC.

Connectivity/Adjacency

As noted above, particular emphasis is given to surface hydrologic connectivity of wetlands to traditionally navigable waters, including adjacency of wetlands to jurisdictional waters. Connectivity of wetlands was established via field investigations, a review of aerial imagery, and an assessment of site-specific topography.

3.1.2 Delineation of Non-wetland Waters

Within the project site, Drainage 1 and Drainage 5 exhibited evidence of a defined bed and bank, with a clear change in the composition and cover of vegetation from the channel bottom to the bank and adjacent low terrace. As such, these areas were assessed for evidence of an OHWM to determine the presence of waters of the U.S. The *OHWM Manual* (Lichvar and McColley, 2008) provides guidance on identifying field indicators of OHWM, including protocols for characterizing the overall system. Data was recorded using the OHWM Data Sheet (Curtis and Lichvar, 2010). Completed data sheets are provided in Appendix C.

Cross-sectional Analysis

Cross sectional analyses were conducted at up to two locations along each drainage feature where there was a clear change in the limits of either the OHWM or the top of bank, and where access was feasible. The physical and biological characteristics present at each cross section were documented on OHWM Data Sheets, including a sketch of the site topography at each cross section. Specifically, the floodplain units were described for each cross section through the vegetation cover, sediment texture, and hydrology indicators at that location. The limits of OHWM were determined based on the presence of hydrology indicators such as debris wracking, shelving, scour, and change in sediment texture/substrate.

Connectivity/Adjacency

Connectivity of non-wetland waters to adjacent traditionally navigable waters was assessed via field investigations, site topography, and a review of aerial imagery (Google Earth 1994 – 2018).

4.0 RESULTS

4.1 Wetlands Determination

Terra Verde completed a wetland delineation on May 15, 2018 and determined that one federal wetland is present within the project site. The results of the delineation and sampling point data was documented on Wetland Determination Data Forms (Appendix B) and is detailed below. As noted above, additional data collected on September 14 and October 19, 2017; January 10 and 29, 2018; and March 03 and 23, 2018 was collectively used to supplement the data collected on May 15, 2018.

4.1.1 Hydrology

Field observations of wetland hydrology included multiple primary indicators, including surface water (A1), surface soil cracks (B6), and oxidized rhizospheres along living roots (3). Wetland hydrology was determined to be present at SP-01 and SP-02. No indicators of wetland hydrology were identified at SP-03 (see Appendix A – Figure 5: Waters and Wetlands Delineation Map).

4.1.2 Soils

Soil test pits were excavated at each sampling point to classify the color and texture of the soil horizons down to at least 15 inches. Soil textures consisted of silty clay loam at all three sampling points. A soil matrix color of 10YR 4/2 was documented at all three sampling points. Redox features with a soil color of 7.5YR 4/6 were observed at approximately 3 to 7 percent at SP-01 and SP-02 (see Appendix D – Photos 5 through 7). No redox features were observed at SP-03 (see Appendix D – Photo 8).

4.1.3 Vegetation

None of the sampling points supported tree, shrub, or woody vine cover. Greater than 50 percent relative cover of hydrophytic, herbaceous vegetation was documented at SP-01 and SP-02, which was dominated by (*Polygonum aviculare*; FAC) and hyssop loosestrife (*Lythrum hyssopifolia*; OBL), with toad rush (*Juncus bufonius*; FACW) and rye grass (*Festuca perennis*; FAC) at low cover. Vegetation in adjacent areas, including SP-03, transitions to a composition of non-wetland species dominated by red brome (*Bromus madritensis* subsp. *rubens*), Mediterranean barley (*Hirschfeldia incana*), wall barley (*Hordeum murinum*), ripgut grass (*Bromus diandrus*), and other annual grasses and forbs at low cover.

4.2 Non-Wetland Waters Determination

Drainage 1 and Drainage 5 are likely considered non-wetland waters of the U.S. based on the presence of a clearly-defined OHWM, indicated by a distinct transition in vegetative cover, debris wracking, scour, and connectivity to traditionally navigable waters. Drainage 1 originates at the eastern edge of the vernal pool, concentrating surface flows from the pool and adjacent open field into a narrow channel that flows into a culvert under Dry Creek Road. This culvert outlets onto a steep slope face located south of Dry Creek Road, which flows into a narrow, ephemeral channel toward Dry Creek (see Appendix D – Photos 9 and 10). Similarly, Drainage 5 conveys surface runoff from the northern and southern edges of Dry Creek Road into a culvert beneath the road, and into a drainage that flows southwest toward Dry Creek, on the adjacent private property (see Appendix D – Photos 11 and 12). Based on evidence of debris wracking and scour, but a lack of saturated conditions, it is assumed that these systems are ephemeral.

5.0 SUMMARY OF JURISDICTIONAL FINDINGS

The jurisdictional waters identified on the project site fall under the regulatory jurisdiction of the Corps. A summary of the type and extent of jurisdictional waters and wetlands is presented in Table 1 – Extent and Location of Jurisdictional Waters and Wetlands.

Table 1. Extent and Location of Jurisdictional Waters and Wetlands

Feature ID	Location	Acres	Length (feet)
Non-wetland Waters of the U.S.	Drainage 1	0.006	525
	Drainage 5	0.004	355
Federal Wetlands	Vernal Pool	0.80	N/A

Table 2 (Summary of Sampling Point Data for Wetland Delineation), provides a summary of the data collected at each of the three sampling points during the wetland delineation.

Table 2. Summary of Sampling Point Data for Wetland Delineation

Sample Point	Wetland Vegetation	Hydric Soils	Wetland Hydrology	Connectivity/ Adjacency	Federal Wetland
SP-01	Yes	Yes	Yes	Yes	Yes
SP-02	Yes	Yes	Yes	Yes	Yes
SP-03	No	No	No	Yes	No

The geographic extent of waters of the U.S. totals approximately 880 linear feet and 0.80 acre within the overall project site, and one federal wetland (vernal pool) totaling 0.80 acre was delineated. The total area of proposed impact within jurisdictional waters and wetlands will be determined based on final site plans. Section 404 of the CWA requires authorization from the Corps for the discharge of dredged or fill material into all waters of the U.S., including adjacent wetlands. The findings of this federal waters and wetlands delineation is subject to review and final concurrence by the Corps.

This page intentionally left blank.

6.0 REFERENCES

Baldwin, Bruce G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. 2012. *The Jepson Manual: Vascular Plants of California*. University of California Press. Berkeley, California.

Brinson, M. 1993. A hydrogeomorphic classification for wetlands. Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Brinson, M., F. R. Hauer, L. C. Lee, W. L. Nutter, R. D. Rheinhardt, R. D. Smith, and Whigham, D. 1995. A guidebook for application of hydrogeomorphic assessments to riverine wetlands, Technical Report WRP-DE-11, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. NTIS No. AD A308 365.

Google Earth Pro V 7.1.8.3036 (1994-2018). San Luis Obispo County, California. 35.662642 / -120.613457. Google 2019. Accessed January 2018 through February 2019.

Jepson Flora Project, Regents of the University of California. 2019. Jepson eFlora. Available online at: http://ucjeps.berkeley.edu/eflora/. Accessed January 2018 through February 2019.

Lichvar, R.W. and S.M. McColley. 2008. A field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. A Delineation Manual. Cold Regions Research and Engineering Laboratory. U.S. Army Corps of Engineers.

Lichvar, R.W., N.C. Melvin, M.L. Butterwick, and W.N Kirchner. 2012. National Wetland Plant List Indicator Rating Definitions. Cold Regions Research and Engineering Laboratory. U.S. Army Corps of Engineers.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: *2016 wetland ratings – Arid West 2016 Regional Wetland Plant List*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

Munsell. 2000. Munsell Soil Color Charts. Munsell Color, Macbeth Division of Kollmorgen Instruments Corp., New Windsor, NY.

Rapanos et ux., at al. v. United States. 547 U.S. 715, 2006. The United States Court of Appeals for the Sixth Circuit. (June 19, 2006). *JUSTIA US Supreme Court.* Available online at: https://supreme.justia.com/cases/federal/us/547/715/opinion.html. Accessed September 28, 2017.

Solid Waste Agency of Northern Cook County (SWANCC) v. United States Army Corps of Engineers (Corps) et al. 531 U.S. 15, 2001. The U.S. Court of Appeals for the Seventh Circuit. (January 9, 2001). *JUSTIA US Supreme Court.* Available online at: https://supreme.justia.com/cases/federal/us/531/159/case.html. Accessed: September 28, 2017.

U.S. Army Corps of Engineers. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. Environmental Laboratory. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS.

______. 1992. “Clarification and Interpretation of the *1987 Manual*.” 3-92 Memorandum.

______. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Environmental Laboratory, Wetland Regulatory Assistance Program.

U.S. Department of Agriculture. 1994. Changes in Hydric Soils of the United States. U.S. Department of Agriculture, Natural Resources Conservation Service. Federal Register. Washington, D.C.

______. 2002. Changes in Hydric Soils of the United States. U.S. Department of Agriculture, Natural Resources Conservation Service. Federal Register. Washington, D.C.

______. 2006. Field Indicators of Hydric Soils in the United States, Version 6.0. G.W. Hurt, L.M. Vasilas, editors. United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the National Technical Committee for Hydric Soils, Fort Worth, TX.

______. 2019. Custom Soil Resources Report for San Luis Obispo County, California. U.S. Department of Agriculture, Natural Resources Conservation Service. United States Department of Agriculture.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court’s Decision in Rapanos v. United States & Carabell v. United States. Joint memorandum issued June 5, 2007. Washington, D.C.

U.S. Fish and Wildlife Service. 2019. National Wetland Inventory Mapper. Available online at: https://www.fws.gov/wetlands/Data/Mapper.html. Accessed January 2018 through February 2019.

U.S. Geological Survey. 2019. The National Map. San Luis Obispo County, 35.662642 /-120.613457. Available online at: https://viewer.nationalmap.gov/advanced-viewer/. Accessed February 2019.

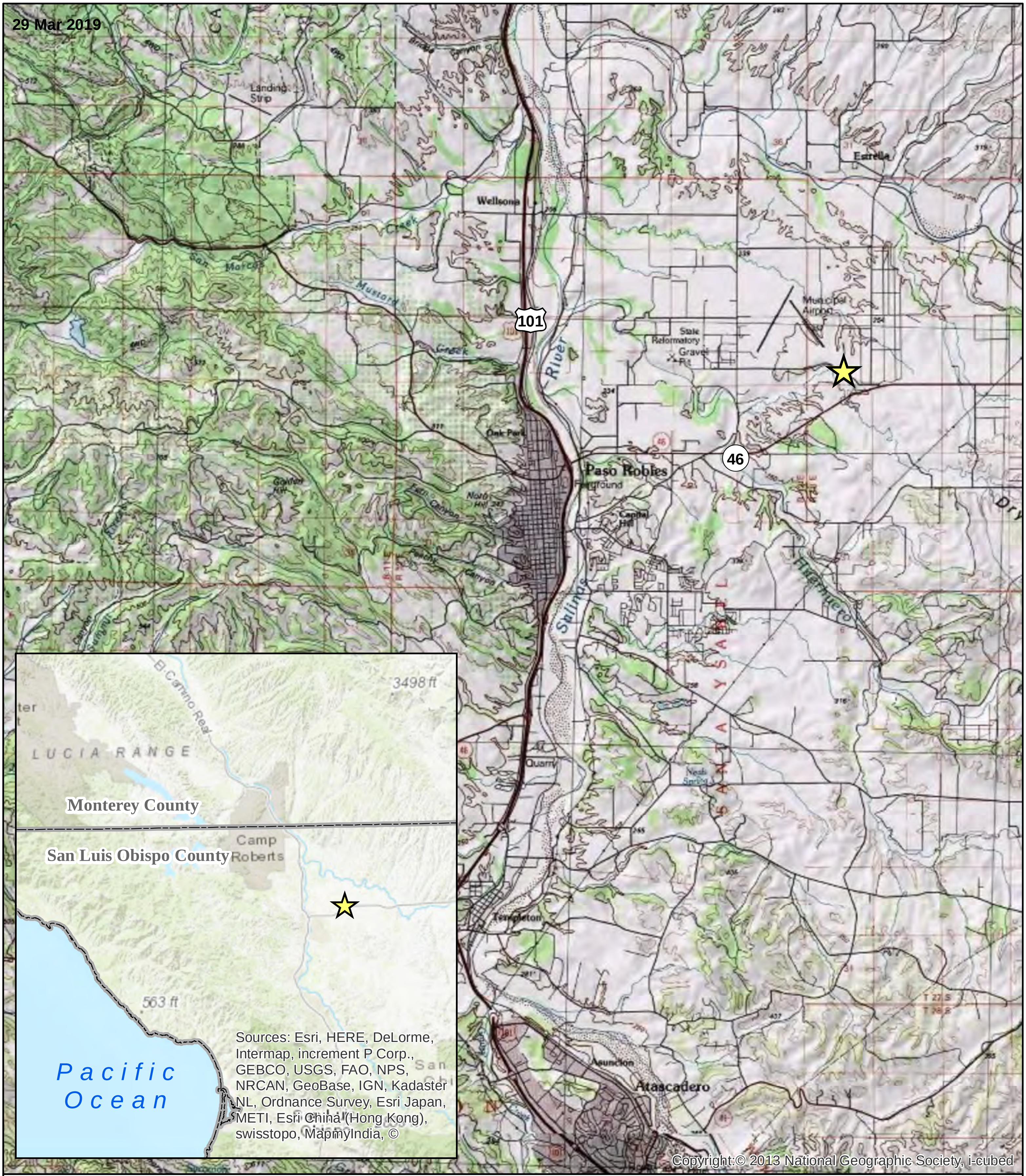
Western Regional Climate Center (WRCC). 2019. Paso Robles, California (046730) Period of Record Monthly Climate Summary (01/01/1894 – 06/10/2016). Available online at: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6730. Accessed February 2019.

Wetland Training Institute, Inc. 2017. *2017 Pocket Guide to Hydric Soil Field Indicators: Field Indicators of Hydric Soils in the United States*, Version 8.0.

APPENDIX A: Report Figures

This page intentionally left blank.

29 Mar 2019



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, ©

Copyright:© 2013 National Geographic Society, i-cubed

Dry Creek Road Realignment and Improvement Project
Waters and Wetlands Delineation Report
Figure 1: Project Vicinity and Topographic Map

☆ Project Location

▭ County Line

0 1 2 4 6 Miles

N

TERRA • VERDE

28 Mar 2019

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Waters and Wetlands Delineation Report
Figure 2: Project Site and Survey Area Map

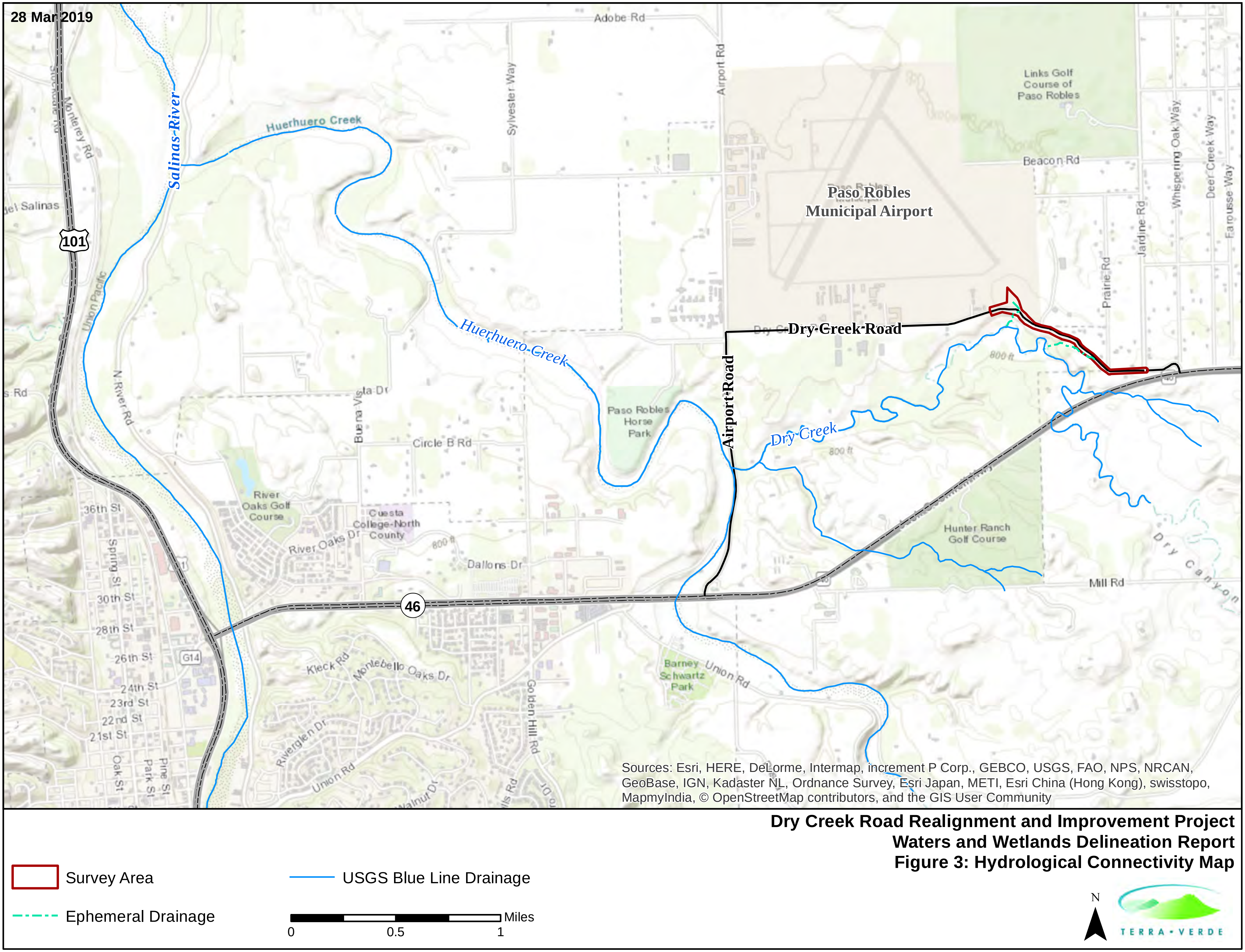
▭ Survey Area	— USGS Blue Line Drainage
-·- Ephemeral Drainage	▲ Existing Culvert

Feet
0 250 500 1,000

N

TERRA • VERDE

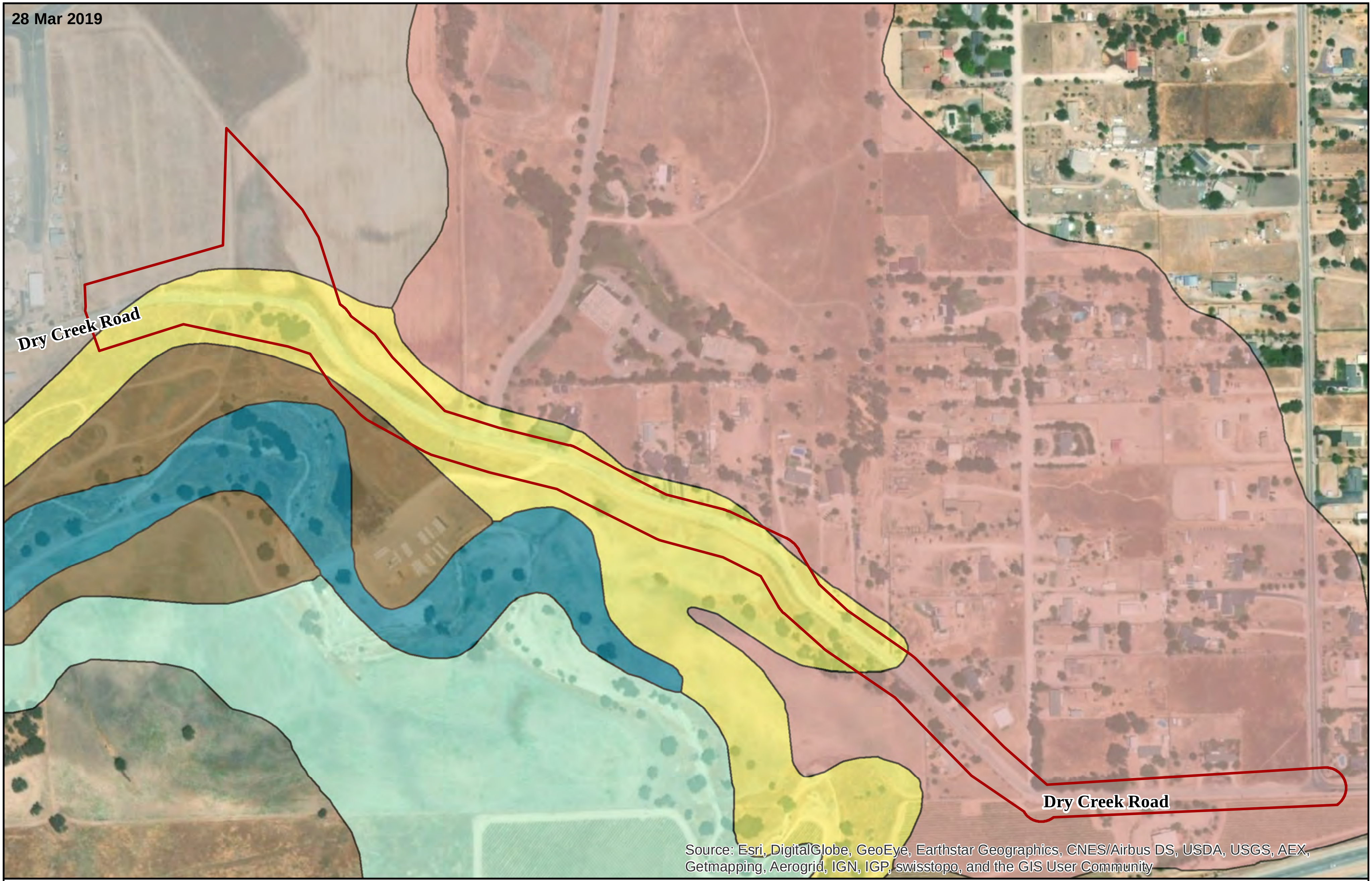
28 Mar 2019



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Waters and Wetlands Delineation Report
Figure 3: Hydrological Connectivity Map

28 Mar 2019



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

□ Survey Area

Soil Units

🟨 Arbuckle-Positas Complex, 50-75% Slopes

🟥 Arbuckle-Positas Complex, 9-15% Slopes

⬜ Arbuckle-San Ysidro Complex, 2-9% Slopes

🟫 Mocho Clay Loam, 2-9% Slopes

🟩 San Ysidro Sandy Loam, 2-9% Slopes

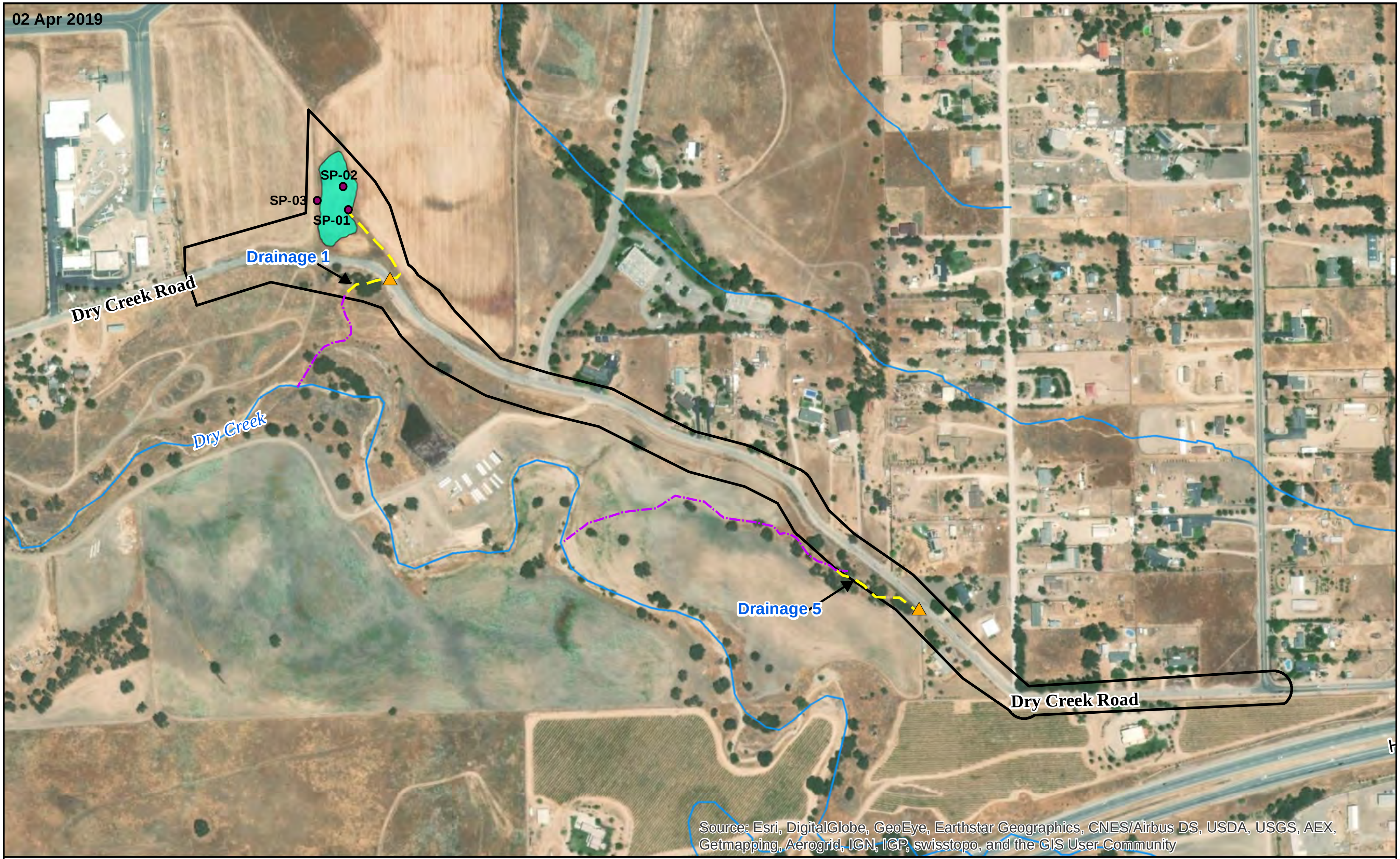
🟦 Xerofluvents-Riverwash Association

Dry Creek Road Realignment and Improvement Project
Waters and Wetlands Delineation Report
Figure 4: Soils Map

Feet
0 250 500

N

TERRA • VERDE



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Dry Creek Road Realignment and Improvement Project
Waters and Wetlands Delineation Reprt
Figure 5: Waters and Wetlands Delineation Map

Jurisdictional Resources

- 🟩 Federal Wetland*
- Non-wetland Waters of the State and U.S.**
- Assumed Historical Centerline+
- USGS Blue Line Drainage
- ▲ Existing Culvert
- ● Wetland Delineation Sampling Points

0 250 500 1,000 Feet

N

*Delineated by Terra Verde in May 2018
**Waters of the State and U.S. determined in the field by Terra Verde in Sept. 2017 and Jan. - May 2018
+Approx. location of drainage courses depicted using historical aerial imagery and topographic data - site access not permitted

This page intentionally left blank.

APPENDIX B: Wetland Determination Data Forms

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: DRY CREEK RD REALIGNMENT City/County: PASO ROBLES / SLO Sampling Date: 05/15/18

Applicant/Owner: CITY OF PASO State: CA Sampling Point: 01

Investigator(s): B. DUGAS, K. MILLSON, A. GOLUB Section, Township, Range: S18 T26S R13E

Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): CONCAVE Slope (%): 0-2%

Subregion (LRR): LRR C Lat: 35.664165 Long: -120.6167416 Datum: WGS 1984

Soil Map Unit Name: Arbuckle-San Ysidro Complex (2-9% slopes) NWI classification: NONE

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 ✓ No ___

Hydric Soil Present? Yes ✓ No ___

Wetland Hydrology Present? Yes ✓ No ___

Is the Sampled Area within a Wetland? Yes ✓ No ___

Remarks:
Dominance of hydrophytic vegetation & wetland hydrology documented September 2017 through March 2018; area was mapped as a vernal pool with artificially-dug channel draining to culvert under Dry Creek Road. Vernal pool & surrounding field were disced between late January & late March, 2018.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 meters radius)			
1. Polygonum aviculare	13	✓	FAC
2. Lythrum hyssopifolia	12	✓	OBL
3. Juncus bufonius	2		FACW
4. Festuca perennis	1		FAC
5. Convolvulus arvensis	1		UPL
6.			
7.			
8.			
= Total Cover	29		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 71 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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 ✓ No ___

Remarks:
Vegetation composition and cover taken from site visits between Sept. 2017 & January 2018, prior to discing. Remnants of Polygonum aviculare & Lythrum hyssopifolium were apparent during formal wetland delineation (soil test pits) on 5/15/18.

SOIL

Sampling Point: 01

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 4/2	93%	7.5YR4/6	7%	C	PL/M	(S)ClLo	Intact soil Peds remain @ surface
4-15'	10YR 1/2	100%						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:
Site was disced/tilled sometime between late January & mid-late March. Site is significantly disturbed with minimal vegetative cover.

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:
⊛ Ponded water & hydrology documented in January & March 2018, prior to discing/surface disturbance.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Dry Creek Rd Realignment City/County: Paso Robles/SLO Sampling Date: 05/15/18
Applicant/Owner: City of Paso State: CA Sampling Point: 02
Investigator(s): B. DUGAS, K. NELSON, A. GOLLIB Section, Township, Range: S18 T26S R13E
Landform (hillslope, terrace, etc.): Vernal pool Local relief (concave, convex, none): concave Slope (%): 0-2%
Subregion (LRR): LRR C Lat: 35.664165 Long: -120.616746 Datum: WGS 1984
Soil Map Unit Name: Arbuckle-San Ysidro Complex (2-9% slopes) NWI classification: None
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 ✓ No ____
Hydric Soil Present? Yes ✓ No ____
Wetland Hydrology Present? Yes ✓ No ____

Is the Sampled Area within a Wetland? Yes ✓ No ____

Remarks: Dominance of hydrophytic vegetation & wetland hydrology documented Sept. 2017 through March 2018; and area was mapped as a vernal pool with an artificially-dug channel draining to a culvert under Dry Creek Rd. Vernal pool & surrounding field were disced between late January & late March 2018.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 meter radius)			
1. Polygonum aviculare	13	✓	FAC
2. Lythrum hyssopifolia	12	✓	OBL
3. Juncus bufonius	2		FACW
4. Festuca perennis	1		FAC
5. Convolvulus arvensis	1		UPL
6.			
7.			
8.			
= Total Cover	29		
Woody Vine Stratum (Plot size: N/A)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 71 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (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 ✓ No ____

Remarks: Vegetation composition & cover taken from site visits between Sept 2017 and January 2018, prior to discing. Remnants of Polygonum aviculare & Lythrum hyssopifolia were apparent during formal wetland delineation on 5/15/18.

SOIL

Sampling Point: 02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-4"	10YR 4/2	97%	7.5YR 4/6	3%	C	PL/M	(Si)CILo	Intact soil peds remain @surface
4-15"	10YR 4/2	100%						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators 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:
(*) Range of 3-4% redox concentrations at this location, large soil peds/chunks with loose, tilled soil present @ surface layer (0-10 inches) significantly disturbed – greater than 15 yrs annual tilling

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:
(*) Ponded water & surface hydrology documented in January & March, 2018, prior to discing / surface disturbance.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Dry Creek Rd Realignment City/County: Paso Robles / SLO Sampling Date: 05/31/18
Applicant/Owner: City of Paso State: CA Sampling Point: 03
Investigator(s): B. DUGAS, K. NELSON, A. GOLUB Section, Township, Range: S18 T26S R13E
Landform (hillslope, terrace, etc.): Flat Field Local relief (concave, convex, none): Flat - convex Slope (%): 0 - 2%
Subregion (LRR): LRR C Lat: 35.664165 Long: -120.616746 Datum: WGS 1984
Soil Map Unit Name: Arbuckle-San Ysidro Complex (2-9% slopes NWI classification: None
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 ____ No ✓
Hydric Soil Present? Yes ____ No ✓
Wetland Hydrology Present? Yes ____ No ✓

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:
Area immediately adjacent to edge of mapped vernal pool (mapped using 0.5 foot contours), on western edge of presumed vernal pool edge. This edge of the field was not disced.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: N/A)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5 meter)			
1. Bromus Madritensis subsp rubens	40	✓	UPL
2. Hirschfeldia incana	10		UPL
3. Bromus diandrus	4		UPL
4. Hypochaeris glabra	4		UPL
5. Convolvulus arvensis	3		UPL
6. Avena fatua	1		UPL
7. Festuca myuros	1		UPL
8. Amsinckia intermedia	1		UPL
= Total Cover	65		
~~Woody Vine Stratum~~ (Plot size: ____)			
1. Hordeum murinum	1		FACU
2.			
= Total Cover			

% Bare Ground in Herb Stratum 36% % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (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 ____ No ✓

Remarks:
Grassland / ruderal vegetation at edge of regularly disced field, and adjacent to fence line.

SOIL

Sampling 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]		
0-15"	10YR 4/2	100%					(Si)ClLo	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators 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:
No redox features observed in upper 15 inches of soil profile. Topographic change from adjacent wetland/vernal pool = +/- 6-8".

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:
No indicators of hydrology present within grassland/ruderal habitat surrounding vernal pool. Vernal pool edge mapped using 0.5-foot topographic contours.

APPENDIX B: Arid West Intermittent and Ephemeral Streams OHWM Datasheets

This page intentionally left blank.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Dry Creek Rd Realignment
Project Number: NA
Stream: Drainage 1 - ephemeral channel
Investigator(s): K. Nelson, R. Blanton

Date: 01/10/18 **Time:** 1300
Town: Paso Robles **State:** CA
Photo begin file#: 001 **Photo end file#:** 011

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: N/S of Dry Creek Rd, West of Aerotech Center Way

Projection: UTM **Datum:** NAD27
Coordinates: 35.6634356 / -120.646165

Potential anthropogenic influences on the channel system: Agricultural operations on both north & south sides of Dry Creek Road, surrounding the channel

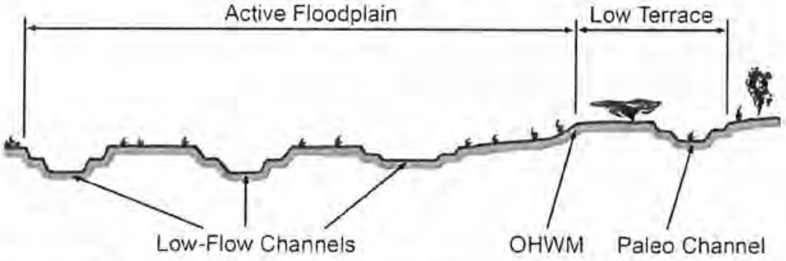
Brief site description: Vernal pool on north edge of Dry Creek Road drains via manmade ditch into culvert under Dry Creek Road, which outlets onto steep road bank and flows toward Dry Creek (blue line stream)

Checklist of resources (if available):

☑ Aerial photography
Dates:
☑ Topographic maps (2017)
☐ Geologic maps
☐ Vegetation maps
☑ Soils maps
☐ Rainfall/precipitation maps
☐ Existing delineation(s) for site
☑ Global positioning system (GPS)
☐ Other studies

☐ Stream gage data
Gage number:
Period of record:
☐ History of recent effective discharges
☐ Results of flood frequency analysis
☐ Most recent shift-adjusted rating
☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

☑ Mapping on aerial photograph
☑ Digitized on computer
☐ GPS
☐ Other:

Project ID: DRY CRK **Cross section ID:** D1-01 **Date:** 01/10/18 **Time:** 1330

Cross section drawing:

OHWM 1'7" /1'4"/1'

OHWM

GPS point: Cross section 01- Drainage 4

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☑ Other: Debris wracking
- ☐ Other: ______

Comments:
Man-made ditch on north side of Dry Creek Road; surrounded by herbaceous (grassy) field w/significant veg mgt /mowing apparent.

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: D1-01

Characteristics of the floodplain unit:
Average sediment texture: Silty clay
Total veg cover: 15 % Tree: 0 % Shrub: 0 % Herb: 15 %
Community successional stage:

- ☐ NA
- ☑ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: ______
- ☐ Other: ______
- ☐ Other: ______

Comments:
Narrow, shallow channel
OHWM ave. 5" across

Project ID: Dry Crk **Cross section ID:** D1-02 **Date:** 01/10/18 **Time:** 1315

Cross section drawing:

OHWM

GPS point: D1-02

Indicators:

☑ Change in average sediment texture
☐ Change in vegetation species
☑ Change in vegetation cover
☑ Break in bank slope
☑ Other: SCOUR
☐ Other:

Comments:
Natural channel formed below culvert outlet South of Dry Creek Road

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: D1-02

Characteristics of the floodplain unit:
Average sediment texture: SILTY CLAY
Total veg cover: 2 % Tree: 0 % Shrub: 0 % Herb: 2 %
Community successional stage:

☐ NA
☑ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☐ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks
☐ Ripples
☐ Drift and/or debris
☑ Presence of bed and bank
☐ Benches
☐ Soil development
☐ Surface relief
☑ Other: SCOUR
☐ Other:
☐ Other:

Comments:
Narrow, shallow channel, flows through natural topographic channel
OHWM ave 5" across

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Dry Creek Rd Realignment
Project Number: NA
Stream: Drainage 5 - ephemeral channel
Investigator(s): K. NELSON, R. BLANTON

Date: 11/16/18 **Time:** 1200
Town: PASO ROBLES **State:** CA
Photo begin file#: **Photo end file#:**

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

Location Details: SOUTHERN EDGE OF DRY CREEK ROAD, W. OF SARDINE

Projection: WGS 1984 **Datum:**
Coordinates: 35.[illegible]/-120.610122

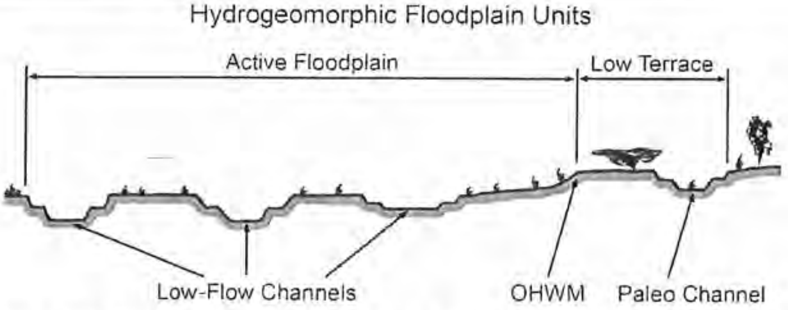
Potential anthropogenic influences on the channel system:
'Headwaters form from concentrated surface flow off Dry Creek Road - into culvert. Downstream landscape surrounded by agricultural [illegible]".

Brief site description:
Culvert under Dry Creek Road outlets onto steep road bank, into natural topographic channel, which flows toward Dry Creek (blue line stream) w/ a section of overland surface flow (no defined channel).

Checklist of resources (if available):

☑ Aerial photography
Dates: 1994, 2003-2017
☐ Topographic maps
☐ Geologic maps
☐ Vegetation maps
☑ Soils maps
☐ Rainfall/precipitation maps
☐ Existing delineation(s) for site
☑ Global positioning system (GPS)
☐ Other studies

☐ Stream gage data
Gage number:
Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event



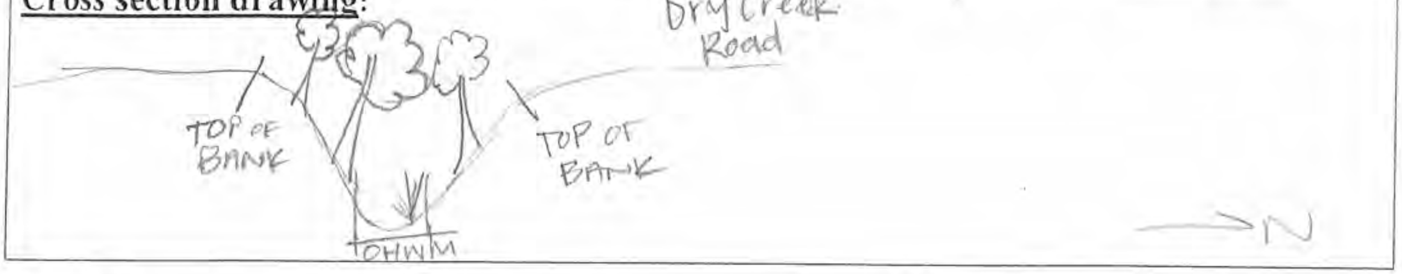
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:

☑ Mapping on aerial photograph ☐ GPS
☑ Digitized on computer ☐ Other:

Project ID: Dry Crk **Cross section ID:** D5-01 **Date:** 01/10/18 **Time:** 1200

Cross section drawing:



OHWM

GPS point: D5-01

Indicators:

☑ Change in average sediment texture
☐ Change in vegetation species
☑ Change in vegetation cover
☑ Break in bank slope
☑ Other: Scour
☐ Other: ______

Comments:

Debris stacking & scour [illegible] [illegible] of 8 [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
Access to channel limited (private property) - only one cross section possible.

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: D5-01

Characteristics of the floodplain unit:

Average sediment texture: Silty clay
Total veg cover: 55 % Tree: 50 % Shrub: 0 % Herb: 5 %
Community successional stage:

☐ NA
☑ Early (herbaceous & seedlings)
☐ Mid (herbaceous, shrubs, saplings)
☑ Late (herbaceous, shrubs, mature trees)

Indicators:

☐ Mudcracks
☐ Ripples
☐ Drift and/or debris
☑ Presence of bed and bank
☐ Benches
☐ Soil development
☐ Surface relief
☑ Other: Scour
☐ Other: ______
☐ Other: ______

Comments:

overhanging oak canopy from trees along banks,
Sparse vegetation in channel (herbaceous)
OHWM ~ 8-12 inches across

This page intentionally left blank.

TERRA • VERDE
Environmental Consulting

APPENDIX D: Representative Site Photographs

This page intentionally left blank.

Photo 1. View northeast of the vernal pool prior to discing; dark red vegetation is the senesced stems of annual wetland species (09-14-17).

Photo 2. View east toward vernal pool at the time of the wetland delineation, following recent tilling/discing of the entire field (05-15-18).

Photo 3. Vertical view of the vegetative cover in the vernal pool during fall surveys (09-14-17).

Photo 4. View northwest along the upper limits of Draiange 1, where a narrow channel connects the vernal pool to a culvert under Dry Creek Road; red circle indicates area of ponding in the vernal pool (03-23-18).

Photo 5. Soil ped from SP-01, showing redox features as concentrations in the matrix and oxidized pore linings along root channels (05-15-18).

Photo 6. Soil ped from SP-01, showing redox features as oxidized pore linings along root channels (05-15-18).

Photo 7. Soil ped from SP-02, showing redox features as concentrations in the matirx and oxidized pore linings along root channels (05-15-18).

Photo 8. Soil plug from SP-03, lacking any redox features (05-15-18).

Photo 9. View southwest across Dry Creek Road at the culvert inlet in Drainage 1, where realignment is proposed around a blind turn (10-19-17).

Photo 10. Drainage 1 downstream of Dry Creek Road (outside disturbance area) and the steep, eroding slope where realignment is proposed; recent flows/channel centerline indicated in red (03-23-18).

Photo 11. View southwest from the southern edge of Dry Creek Road toward Drainage 5; culvert outlet is obscured by grass in the foreground and indicated with arrow (10-19-17).

Photo 12. View southwest from the edge of Dry Creek Road toward Drainage 5 in an area where access into the draiange was restricted; channel centerline indicated in red (10-19-17).

Photo 11. View west along Dry Creek Road where widening and improvements are propsoed (10-19-17).

Photo 12. View southwest from the edge of Dry Creek Road toward Drainage 5 and Dry Creek on the adjacent private property; approx. location of Drainage 5 centerline indicated in red, Dry Creek centerline indicated in blue (10-19-17).

PHASE I ARCHAEOLOGICAL STUDY, PASO ROBLES PHASE I AIRPORT AREA INFRASTRUCTURE IMPROVEMENT AND DRY CREEK ROAD REALIGNMENT PROJECTS

SAN LUIS OBISPO COUNTY, CALIFORNIA

Project No. 1702-1871

Prepared for:
Terra Verde Environmental Consulting, LLC
3765 South Higuera Street, Suite 102
San Luis Obispo, California 93401

Prepared by:
Rachael J. Letter, M.S., RPA and Christopher J. Letter, B.A.

Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, California 93401
(805) 786-2650
(805) 786-2651 Fax

JANUARY 2018

padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

NATIONAL ARCHAEOLOGICAL DATA BASE INFORMATION

Authors:	Rachael J. Letter, M.S., RPA and Christopher J. Letter, B.A.
Consulting firm:	Padre Associates, Inc. 369 Pacific Street San Luis Obispo, California 93401 (805) 786-2650
Report Date:	January 2018
Report Title:	Phase I Archaeological Study, Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Realignment Projects, San Luis Obispo County, California
Prepared for:	Terra Verde Environmental Consulting, LLC 3765 South Higuera Street, Suite 102 San Luis Obispo, California 93401
Prepared by:	Padre Associates, Inc. 369 Pacific Street San Luis Obispo, California 93401 (805) 786-2650
Contract No:	1702-1871
U.S.G.S. Quads:	Paso Robles and Estrella, California
Project Size:	206.9 acres
Key words:	San Luis Obispo County, Paso Robles, Estrella, Phase I Archaeological Study

MANAGEMENT SUMMARY

At the request of Terra Verde Environmental Consulting, LLC (Terra Verde), Padre Associates, Inc. (Padre), has completed a Phase I archaeological study in support of the Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Realignment Projects in San Luis Obispo County, California (Project sites). The proposed infrastructure improvement Project will install water main, gravity main, force main, and recycled water main lines primarily within existing roads surrounding the Paso Robles Airport. The road realignment Project consists of road re-surfacing, improvements, and a slight realignment on Dry Creek Road between Corippo Way and Jardin Road. These improvements are intended to address deteriorating road conditions and needed safety improvements due to sight distance problems. The scope of this document includes an archaeological records search, Native American consultation, and a Phase I pedestrian survey.

The records search did not reveal any previously recorded resources within a 0.25-mile search radius of the Project site. Padre archaeologists Christopher Letter and Matt Seger conducted a pedestrian survey of both Project sites on September 21 and 22, 2017. The survey identified one small historic trash dump in the southwest corner of a potential staging area for the Paso Robles Phase I Airport Area Infrastructure Improvement Project. No resources were observed within the Dry Creek Road Realignment Project site.

Padre did not encounter any major constraints during the Project. One copy of this report will be submitted to the Central Coast Information Center (CCIC) at the University of California, Santa Barbara (UCSB). A copy of all field notes is on file at Padre's office in San Luis Obispo, California.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

At the request of Terra Verde Environmental Consulting, LLC (Terra Verde), Padre Associates, Inc. (Padre), has completed a Phase I archaeological study in support of the Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Realignment Projects in San Luis Obispo County, California (Project sites). The proposed infrastructure improvement Project site consists of a water main, a gravity main, a force main, and a recycled water main lines as well as potential staging areas totaling 186.16 acres. The road realignment Project site consists of road re-surfacing, improvements, and a slight realignment on Dry Creek Road totaling 20.74 acres. The purpose of the archaeological study was to identify archaeological resources within the Project sites prior to the implementation of the Projects.

Padre completed the Phase I archaeological study pursuant to the California Environmental Quality Act (CEQA) Guidelines. CEQA requires lead agencies to evaluate proposed projects for their potential to impact archaeological resources (Public Resources Code Section 21082, 21083.2, and 21084.1, and California Code of Regulations 15064.5). According to the CEQA Guidelines, “historical resources” include buildings, structures, objects, districts, or sites that may possess prehistoric or historical archaeological, architectural, cultural, or scientific importance. CEQA states that if a project will have a significant effect on important cultural resources, then alternative plans or mitigation measures need to be developed. However, only important cultural resources need to be considered in the mitigation plans.

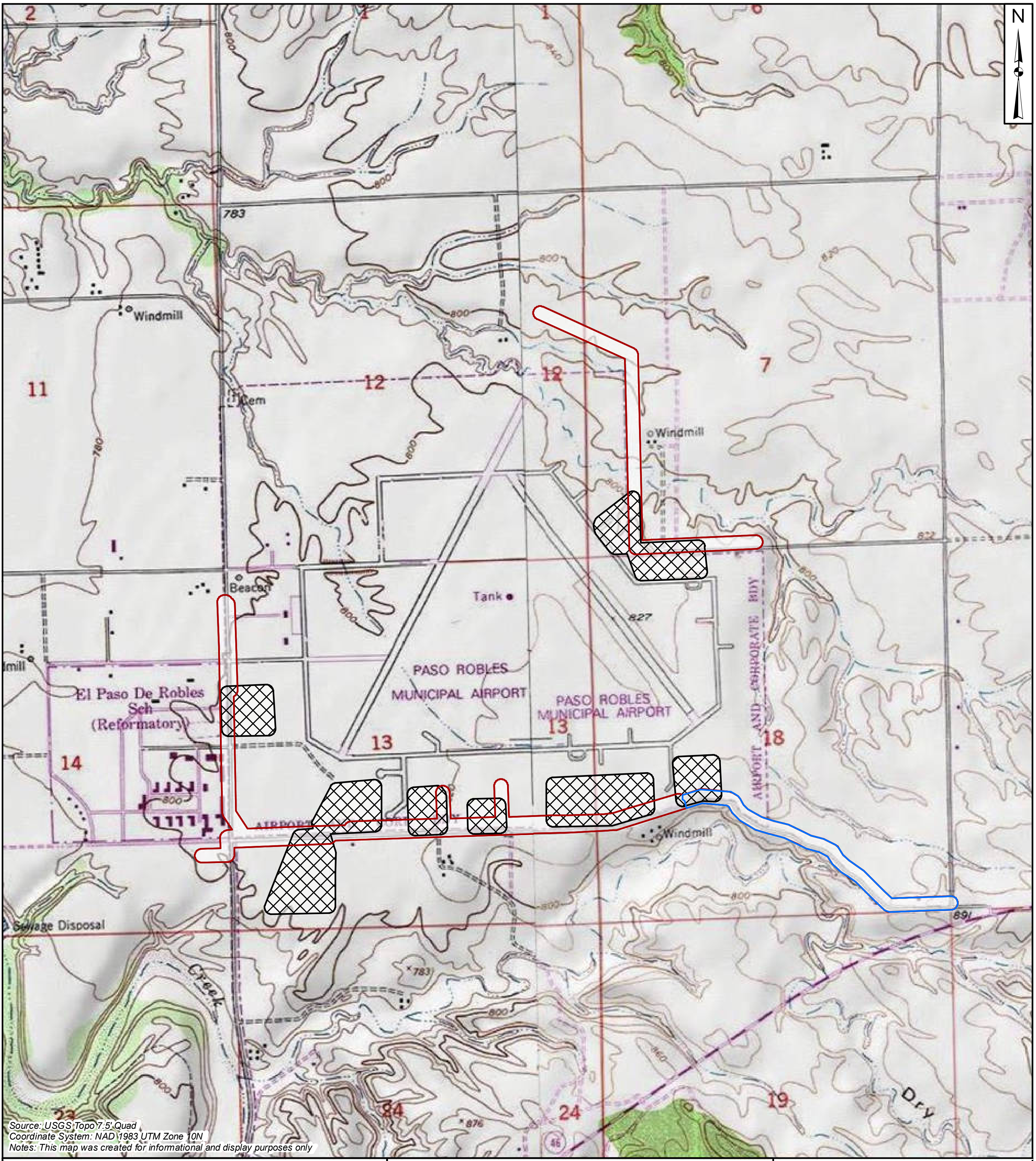
Padre Staff Archaeologists Christopher Letter and Matt Seger completed the pedestrian survey on September 21 and 22, 2017, and were overseen by Padre Senior Archaeologist Rachael J. Letter, M.S., RPA. Ms. Letter exceeds the U.S. Secretary of the Interior’s Historic Preservation Professional Qualification Standards as outlined in 36 Code of Federal Regulations (CFR) 61.

The remainder of this section provides the Project description and location; Section 2.0 discusses the regulatory framework; Section 3.0 provides the environmental, ethnographic and archaeological overviews for the region; Section 4.0 describes the records search results; Section 5.0 presents the field methodology and survey results; Section 6.0 provides a summary and recommendations; and references are listed in Section 7.0. Appendix A provides the Native American consultation, and the confidential Department of Parks and Recreation (DPR) 523 Forms are provided in Appendix B.

1.1 PROJECT LOCATION AND DESCRIPTION

The Project site is located within the *Paso Robles, California* and *Estrella, California* United States Geological Survey (USGS) 7.5-Minute Series topographic quadrangle maps. Specifically, both projects are located within Sections 12, 13, 14 in Township 26 South, Range 12 East and Sections 7 and 18 in Township 26 South, Range 13 East, San Luis Obispo County, California (Figure 1-1). Elevation ranges from 800 to 880 feet above mean sea level, and the Salinas River is located approximately two miles to the west of the Project site.

The proposed infrastructure improvement Project will install water main, gravity main, force main, and recycled water main lines primarily within existing roads surrounding the Paso Robles Airport. The road realignment Project consists of road re-surfacing, improvements, and a slight realignment on Dry Creek Road between Corippo and Jardin Road. These improvements are intended to address deteriorating road conditions and needed safety improvements due to sight distance problems.



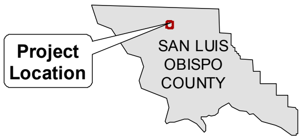
Source: USGS Topo 7.5' Quad
Coordinate System: NAD 1983 UTM Zone 10N
Notes: This map was created for informational and display purposes only

0 1,000 2,000
FEET
1:24,000

USGS 7.5' Quadrangle: Paso Robles and Estrella
Legal Description: T26S, R12E Sec 12, 13, 14
and T26S, R13E Sec 7 &18

LEGEND:

- ☐ Dry Creek Road Realignment
- ☒ Staging
- ☐ Survey - 100 ft



padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: PASO ROBLES PHASE I AIRPORT AREA
INFRASTRUCTURE IMPROVEMENT AND DRY
CREEK ROAD REALIGNMENT PROJECTS
SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER: 1702-1871

DATE: January 2018

PROJECT LOCATION

FIGURE
1-1

Paso Robles Airport Area Phase I\Project Location.mxd 1/4/2018

PAGE INTENTIONALLY LEFT BLANK

2.0 REGULATORY FRAMEWORK

The following regulatory framework describes the applicable state and local statutes, ordinances, and policies pertaining to the protection of archaeological resources. These laws must be considered during the planning process for projects that have the potential to affect archaeological resources in San Luis Obispo County.

2.1 STATE REGULATIONS

2.1.1 California Environment Quality Act (CEQA)

CEQA statute and guidelines include procedures for identifying, analyzing, and disclosing potential adverse impacts to historical resources, which include all resources listed in or formally determined eligible for the California Register of Historical Resources (CRHR) or local registers. CEQA further defines a “historical resource” as a resource that meets any of the following criteria:

- A resource listed in, or determined to be eligible for listing in, the CRHR;
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
- A resource identified as significant (i.e., rated 1-5) in a historical resource survey meeting the requirements of Public Resource Code Section 5024.1(g) (Department of Parks and Recreation Form [DPR] 523), unless the preponderance of evidence demonstrates that it is not historically or culturally significant; or
- Any object, building, structure, site, area, place, record or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered “historically significant” if it meets the criteria for listing on the CRHR (CEQA Guidelines Section 15064.5).

2.1.2 California Register of Historical Resources

CRHR Criteria of Evaluation. The CRHR is a listing of California resources that are significant within the context of California’s history. The CRHR is a state-wide program of similar scope to the National Register Historic Places (NRHP). In addition, properties designated under municipal or county ordinances are eligible for listing in the CRHR. A historic resource must be significant at the local, state, or national level under one or more of the following criteria that are defined in the California Code of Regulations Title 14, Chapter 11.5, Section 4850:

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
- It is associated with the lives of persons important to local, California, or national history; or

- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The CRHR criteria are similar to NRHP criteria, and are tied to CEQA, as any resource that meets the above criteria is considered an historical resource under CEQA.

2.2 REGULATIONS CONCERNING DISCOVERY OF HUMAN REMAINS

California Public Resources Code §5097.98 (Notification of Native American human remains, descendants; disposition of human remains and associated grave goods) mandates that the lead agency adhere to the following regulations when a project results in the identification or disturbance of Native American human remains:

(a) Whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 48 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

(b) Whenever the commission is unable to identify a descendant, or the descendant identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendant, and the mediation provided for in subdivision (k) of Section 5097.94 fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.

(c) Notwithstanding the provisions of Section 5097.9, the provisions of this section (including those actions taken by the landowner or his or her authorized representative to implement this section), and any action taken to implement an agreement developed pursuant to subdivision (l) of Section 5097.94, shall be exempt from the requirements of the California Environmental Quality Act (Division 13, commencing with Section 21000).

(d) Notwithstanding the provisions of Section 30244, the provisions of this section (including those actions taken by the landowner or his or her authorized representative to implement this section), and any action taken to implement an agreement developed pursuant to subdivision (1) of Section 5097.94 shall be exempt from the requirements of the California Coastal Act of 1976 (Division 20, commencing with Section 30000).

PAGE INTENTIONALLY LEFT BLANK

3.0 NATURAL AND CULTURAL OVERVIEW

3.1 ENVIRONMENTAL SETTING

The Project sites are situated on an old, low terrace located at the southern end of the Salinas River Valley, which consists of deep, moderately well drained soils that formed in alluvium from sedimentary rocks. The soil type is a moderately compacted sandy loam interspersed with various rock types ranging in size from gravel to small cobble. The area receives a mixture of coastal California and Mediterranean climates, but the primary climate is defined by long, hot, dry summers and brief, cool, sometimes rainy winters (Miles and Goudey, 1998).

3.2 ARCHAEOLOGICAL CONTEXT

Archaeologists working in central California have generally recognized six major prehistoric periods of cultural adaptation within the last 10,000 years. Previous research in San Luis Obispo County has tended to assume that the Santa Barbara sequence developed by Chester King (1982) would be largely replicated in this northern extension of ethnographic Chumash territory (Fitzgerald and Jones, 1998). Jones (1993) has suggested that, despite ethnographic affiliations with the Santa Barbara Channel, archaeologists should consider San Luis Obispo County a district within the central California Coastal Region that also includes Santa Cruz and Monterey counties. The presence of major offshore islands and rich Channel fisheries facilitated development of an intensive, populous maritime culture in the Santa Barbara Channel. The absence of this resource base in San Luis Obispo County forced cultural elaborations along different trajectories (Fitzgerald and Jones, 1998).

3.2.1 Paleo-Indian Period (c. 25,000 – c. 9950 B.P.)

The Paleo-Indian period represents the earliest human occupation in North America, beginning no earlier than 40,000 years before present (B.P.) and perhaps as recently as 25,000 to 20,000 B.P. This period coincides with the entry of people into the Americas during the latter part of the Wisconsin glaciation. At the end of this glacial period, the sea level began rising, submerging and eroding the flat coastal terraces at a rate of up to two meters per year (Barter et al., 1995).

Conclusive evidence of human occupation during the Paleo-Indian Period has been found at several coastal sites dating to the early Holocene, prior to 8450 B.P. At Diablo Canyon, Greenwood (1972) reported two multi-component sites with basal dates of 9320 and 8410 BP. The paucity of sites and materials from this time, termed the “Paleocoastal” by Moratto (1984), suggests that population density was low and settlements were impermanent. People used relatively simple technology to procure plant foods, shellfish, and a limited variety of vertebrate species (Greenwood, 1972; Jones and Waugh, 1995; Jones et al., 1994; King, 1982; 1990).

3.2.2 Millingstone Period (c. 9950 – c. 5450 B.P.)

Appropriately named, the Millingstone Period is defined by the predominance of hand stones and milling slabs in the archaeological record, indicating a reliance on hard seeds and other plant foods. A variety of flaked stone tools including leaf-shaped bifaces, oval bifacial knives, choppers, and scrapers is also present. This period was a time of rising sea levels that created additional lagoons and estuaries (Glassow et al., 2007). Although deer are represented in the archaeological record, hunting and fishing contributed little to the diet, with the faunal diet relying heavily on mussels and Pismo clams. Bone gorges occur and Olivella spp. spire-lopped shell beads appear in burials (Glassow et al., 2007). Residential bases are presumed to have been comprised of extended families during this period.

3.2.3 Early Period (c. 5450 – c. 2550 B.P.)

Cultural changes after 5450 B.P. are thought to be a response to environmental shifts, rising sea levels, and an increase in population. Diagnostic artifacts of the Early Period include large side-notched, square stem, and contracting stem projectile points, as well as *Olivella* spp. beads. Although milling slabs and hand stones continued as the primary plant processing tools, mortars and pestles were added to the tool kit, probably indicating the systematic use of acorns (Glassow et al., 1988). In response to climactic changes, local residential sites appear more settled, but not permanent, with an increase in logistical organization of economic activities (Jones et al., 1994). The greater diversity of site types during this period reflects an increasing number of short-term occupations near labor-intensive resources. Trade and exchange also increased in importance as population mobility decreased, as evidenced by exotic shell beads and obsidian materials in midden deposits (Jones et al., 1994).

3.2.4 Middle Period (c. 2550 – c. 950 B.P.)

Prehistoric technology and economy became markedly more complex after 2550 B.P. The artifact assemblage contains shellfish hooks and other fishing gear, saucer-type *Olivella* spp. beads, and contracting-stemmed projectile points. Subsistence practices emphasized fish and acorns, with a greater use of seasonal resources and the first attempts at food storage (Glassow et al., 1988; King, 1990). Continuation of trade relationships is evident in the increased number and diversity of obsidian items and beads associated with this period. Settlement patterns were similar to those of the prior period. Sites were occupied on an extensive basis, but not as permanent settlements. These residential bases functioned in conjunction with short-term, smaller occupations at specialized resource processing areas (Jones and Ferneau, 2002).

3.2.5 Middle to Late Transition Period (c. 950 – c. 700 B.P.)

Around 950 B.P. the Medieval Climatic Anomaly, a 300-year period of warmer temperatures and drier climate, caused consequential, adverse environmental conditions, particularly intermittent droughts (Rabb et al., 1997). This transition period was a time of emergent political complexity, development of social ranking, and the rapid development of craft specialization. In San Luis Obispo County, settlement appears to have shifted away from the coast, perhaps reflecting adaptations to warmer temperatures and changes in available resources on the coast (Jones et al., 1994). Artifact assemblages contain a mixture of earlier artifact types such as stemmed projectile points, milling slabs, hand stones, bowl mortars, and *Olivella* spp. beads. Moreover, the absence of imported obsidian after 950 B.P. suggests a change in trade relationships, likely associated with the shift in settlement patterns (Jones et al., 1994). The prehistoric population in San Luis Obispo County may have decreased during this time, as villages became temporary hunting camps and native inhabitants increasingly relied on terrestrial mammals for subsistence.

3.2.6 Late Period (c. 700 – c. 181 B.P.)

The Late Period is poorly understood in San Luis Obispo County as prehistoric occupations from this period do not exhibit well-defined cultural stratigraphy (Jones et al., 2007). The few intact Late Period sites have produced artifact assemblages containing small side-notched, triangular, contracting stem, and leaf shaped projectile points, some groundstone, and late prehistoric bead types (Hoover and Sawyer, 1977). The conversion to concave based projectile points led to the abandonment of asphaltum, which had been used for hafting. Shellfish remained the principal protein food. A ranked society with hereditary elite was established. Population growth and socioeconomic complexity transpired along with environmental change (Glassow et al., 2007).

3.3 ETHNOGRAPHIC CONTEXT

The Project site is situated within the prehistoric territory of the Salinan tribe (Heizer and Whipple, 1971). The Salinans occupied a geographical area extending from present day San Luis Obispo in the south to King City in the north, and west to the coast (Breschini et al., 1983). The Salinan people were seasonally migratory and, depending on food resources, would inhabit the coastal beaches to procure marine resources, and the interior Santa Lucia mountain ranges for acorn and land mammal resources. It is probable that the Project site falls within the regional territory of the Migueleño group, which inhabited the upper course of the Salinas River.

The Salinan language is part of the Hokan language family, which has been in the American Southwest for around 9,000 years (Hoover, 1977). Moratto (1984) suggests the Salinans were descendants of early Hokan settlers in the South Coast Ranges. Salinan may have become a distinct language 6000 to 8000 B.P. or earlier. At the time of contact, there were at least two mutually intelligible Salinan dialects. The northern dialect is referred to as Antoniaño, due to its association with the Mission of San Antonio de Padua, and the southern dialect was associated with the San Miguel Mission, which lends the name Migueleño. A third dialect, Playano, is referred to in mission records but nothing is known of it with any certainty.

There are few details recognized about Salinan culture, and what is known survives because of ethnographic interviews conducted by Mason (1912) and Harrington (1942). Their subsistence largely derived from gathering nuts and seeds, particularly acorns. Acorns were stored in bent twig granaries before processing. Wild oats, fruit, sage seeds and berries were also collected. Both coastal and inland groups hunted wild game, such as deer and rabbit, and they used C-shaped fishhooks to fish (Hester, 1978).

Autonomous villages created the Salinan's main sociopolitical structure. Families constructed domed houses of bent poles covered with tule or rye grass. There were communal structures as well, including dance houses and sweat lodges. Known ethnographic villages sites near the Project sites include *him'-se-en'* between Paso Robles and Templeton on the west side of the Salinas River, and a major village at *isolam* near present-day Cholame (Hester, 1978).

The placement of Chumash and Salinan territorial boundaries is a complex issue. Cultural historic approaches have had limited success in tying ethnographic Salinan settlement with archaeological sites. Notable exceptions include a list of sites recorded in Monterey County that can be associated with recorded Salinan place names collected by Harrington in 1942 (Rivers and Jones, 1993). Early researchers have suggested a boundary at Morro Creek at the north end of Morro Bay (Kroeber, 1925), with a cultural boundary along the ridge dividing the Morro Valley from Toro Creek Valley. Subsequent studies moved this boundary inland to the San Miguel area and Ragged Point along the coastline (Gibson, 1983). In general, Salinan prehistory is poorly understood because of the limited number of sites excavated and the frequent lack of cultural stratigraphy and chronological control (Hester, 1978).

At the time of Spanish arrival in Central California, a pattern of small, bounded tribelets was observed. The date of contact in this area is usually set around 1650, although the first record of Spanish contact with the natives in the region is not until 1769, when Gaspar de Portola and Father Junipero Serra arrived. Native Americans residing in the region were moved into the missions first by their own will, and later by force (Heizer and Whipple, 1971). Migration to the missions and population decline emptied the land of its original inhabitants by around 1780 (Beck and Haase, 1974).

3.4 HISTORIC PERIOD CONTEXT

3.4.1 Contact Period (A.D. 1542 - 1776)

Gaspar de Portolá led the first Spanish land expedition in September 1769 through San Luis Obispo County, camping near the present site of the Coast Union High School (Bolton, 1926; Squibb, 1984). Several accounts of this expedition exist, including those of Juan Crespi (Bolton, 1926), Miguel Costansó (Browning, 1992), and Pedro Fages (Priestley, 1937). Costansó's diary contains observations regarding the native inhabitants' houses, settlement patterns, dress, and customs, as well as their attitudes toward the expedition (Browning, 1992).

In 1774, Juan Bautista de Anza passed over the same route as Portolá had five years before him (Hoover et al., 1990). This expedition made two stops in San Luis Obispo County, including one at the present Mission location on April 15, 1774, and a second at the Nacimiento River on April 16, 1774 (Hoover et al., 1990). In 1776, Anza made a second trip through the San Luis Obispo area as leader of the San Francisco colonists. This route, known today as the Juan Bautista De Anza National Historic Trail, runs from near Nogales, Arizona, to San Francisco, California.

3.4.2 Mission Period

Fermin Francisco de Lasuen founded *Mission San Miguel Arcángel*, approximately six miles northwest of the Project site, on July 25, 1797 (Hoover et al., 1990). The Franciscans chose the location for its proximity to the Salinan village, *Vahca,* and to close the gap between *Mission San Antonio* to the north and *Mission San Luis Obispo* to the south. Newly baptized Salinans provided almost all the labor to construct and maintain the missions, which soon produced surplus amounts of wheat, beans, corn, cattle, and sheep for trade (Barter et al. 1995). Most of the missions were similar in design and consisted of a church and living quarters for the priests, soldiers, and baptized Salinans (Hoover, 1990).

3.4.3 Rancho and Anglo-Mexican Periods

Mexico declared its independence from Spain in 1821 and the Secularization Act of 1833 ended the Catholic Church's control of large estates associated with the missions and presidios in Alta California. The Mexican government granted ranchos to Mexican and foreign settlers, who mainly used the land for grazing sheep and cattle. Following the Bear Flag Revolt in 1846, California gained its independence from Mexico and the United States gained control of the territory. Across California, courts reviewed the legality of each land grant on an individual basis. While the Treaty of Hidalgo promised all property belonging to the Californios would be respected, the Land Act of 1851 required all land grant owners to prove their title and ownerships rights. Because the Californios relied on vague surveys and land titles, it took an average of 17 years to receive their American land patents (Bean, 1968; Palmer, 1999).

Specifically, the present Project site was not part of a rancho; however, Rancho Santa Ysabel is located approximately 1.5 miles to the south and west. Rancho Santa Ysabel was granted to Francisco Casimiro Arce in 1844, who sold parts of the rancho in 1853. Chauncey Hatch Phillips bought Rancho Santa Ysabel in 1886, and subdivided it to be sold as farm lots to individuals ready to settle in the area being opened up by the arrival of the railroad (Storke, 1891).

3.4.4 Americanization Period

During the mid-nineteenth century, the Paso Robles area was known for its mineral hot springs and was a popular rest stop along the Camino Real. The first El Paso de Robles Hotel, built in 1864, featured a bath house and attracted many tourists to the area. European settlers also came to the area to establish cattle ranches, apple and almond orchards, dairy farms, and vineyards (TravelPaso, 2015).

After the introduction of the Southern Pacific Railroad, the town of Paso Robles was laid out in 1886 and incorporated in 1889. Daniel and James Blackburn built the Hotel El Paso de Robles (now the Paso Robles Inn), including an extensive bathhouse in 1891. At this time, Paso Robles became known as “Almond City” because it contained the world’s largest concentration of almond orchards. Growth remained steady until the 1940s when the United States Army established Camp Roberts. The new military installation brought more people and encouraged new development in the city (TravelPaso, 2015).

In 1942, the United States government surveyed 1,249 acres of land in the Estrella area and on September 3, 1942, construction began on the airfield, to be used as a Marine Corps Air Station. On April 8, 1943, the Navy, favoring stations in the San Joaquin Valley, transferred all the facilities to the Army Air Forces, and the field was dedicated as Estrella Army Airfield. The Marine Corps Units occupied buildings to the west, across Airport Road in what is now the California Youth Authority. The Estrella Army Air Force Field was deactivated on October 15, 1944. In 1946, the Army gave notice of public availability of Estrella Army Air Field to the County of San Luis Obispo. On August 29, 1947, the War Assets Administration transferred 967 acres to the county with the stipulation that it would be used for a public airport. San Luis Obispo County sold the site to the City of Paso Robles in 1973 (Davis, 2017).

PAGE INTENTIONALLY LEFT BLANK

4.0 RECORDS SEARCH AND NATIVE AMERICAN CONSULTATION

4.1 RECORDS SEARCH METHODS AND RESULTS

Padre ordered a records search from the Central Coast Information Center of the California Historical Resources Information System (CCIC-CHRIS) at the University of California, Santa Barbara on September 5, 2017. The records search included a review of all recorded historic-era and prehistoric archaeological sites within a 0.25-mile radius of the Project sites, as well as a review of known cultural resource surveys and technical reports. Padre received the results on September 7, 2017.

During the records search, the following sources were consulted:

- CCIC base maps, USGS 7.5-minute series topographic quadrangles for the Project sites, and other historic maps;
- Pertinent survey reports and archaeological site records were examined to identify recorded archaeological sites and historic-period built-environment resources (such as buildings, structures, and objects) within or immediately adjacent to the Project sites; and
- The California Department of Parks and Recreation's California Inventory of Historic Resources (1991) and the Office of Historic Preservation's Historic Properties Directory (2007), which combines cultural resources listed on the California Historical Landmarks, California Points of Historic Interest, and those that are listed in or determined eligible for listing in the NRHP or the CRHR.

4.1.1 Previous Cultural Resources Studies

The records search indicates that portions of the Project sites have been previously surveyed; however, these surveys were negative for archaeological resources (Table 4-1). Additionally, 11 cultural resource studies have been completed within a 0.25-mile radius of the Project sites.

Table 4-1. Archaeological Surveys Completed within Project Sites

Study No.	Author, Year	Title
SL-646	Gibson, 1983	*Results of Archaeological Surface Survey for the Airport Industrial Park, San Luis Obispo County, California*
SL-647	Soule, 1984	*Negative Archaeological Survey Report, State Water Resources Control Board, Division of Water Rights, Estrella River Winery*
SL-1643	Engineering-Science, Inc. 1988	*Draft Hazardous Waste Management Plan, Environmental Impact Report*
SL-2838	Parker, 1995	*3100 Improvements, Los Robles camp, Dozer Storage Building*
SL-3394	Singer, 1998	*Cultural resources survey and impact assessment for a 66-acre property on Dry Creek Road in the City of El Paso De Robles*
SL-4020	Glover, 1999	*Archaeological Survey Report For A Highway Widening From Two Lanes To Four Along Highway 46, San Luis Obispo County, California*

Table 4-1. Archaeological Surveys Completed within Project Sites

Study No.	Author, Year	Title
SL-4360	Conway, 2001	*An Archaeological Surface Survey at the Black Ranch, Highway 46, Paso Robles, San Luis Obispo County, California*
SL-5555	Singer, 2005	*Cultural Resources Survey and Impact Assessment for a 39.1 Acre Property on Airport Road in the City of Paso Robles, San Luis Obispo County, California (APN 025-431-031).*
SL-6002	Singer, 2007	*Cultural resources survey and impact assessment for a +/-230-acre property at 5151 Jardine Road in the City of Paso Robles, San Luis Obispo County, California*

Source: CCIC, 2017.

4.2 NATIVE AMERICAN CONSULTATION

As part of the consultation process with Native American organizations and individuals, Padre emailed a request for a Sacred Lands File search to the Native American Heritage Commission (NAHC) on September 5, 2017, to request information about sacred or traditional cultural properties that may be located within the Project sites (Appendix A). The NAHC responded on September 8, 2017, and stated that the results of the Sacred Lands File search were negative.

On November 3, 2017, Padre mailed letters to each of the Native American groups and individuals on the list provided by the NAHC; they were asked to provide pertinent information or to express any concerns they may have about the proposed Project. Padre made follow-up phone calls to additional contacts on November 14, 2017. Table 4-2 provides the results of consultation with Native American representatives.

Table 4-2. Native American Consultation Phone Log

Contact Date	Name, Affiliation	Discussion
11/14/17	Patti Dunton, Salinan Tribe of Monterey, San Luis Obispo counties	Ms. Dunton stated that she had not reviewed the materials yet, but would respond with a comment soon.
11/14/17	Freddie Romero, Santa Ynez Band of Chumash Indians, Tribal Elders Council	Mr. Romero stated that he deferred to local tribes for any further consultation.
11/14/17	Mona Olivas Tucker, *yak titʸu titʸu* Northern Chumash Tribe	Ms. Letter left a message on Ms. Tucker's voicemail.
11/14/17	Raudel Banuelos, Jr., Barbareno/Ventureno Band of Mission Indians	Ms. Letter left a message on Mr. Banuelos' voicemail.
11/14/17	Julie Lynn Tumamait-Stennslie, Barbareno/Ventureno Band of Mission Indians	Ms. Letter left a message on Ms. Tumamait's voicemail.

Table 4-2. Native American Consultation Phone Log

Contact Date	Name, Affiliation	Discussion
11/14/17	Eleanor Arrellanes, Barbareno/Ventureno Band of Mission Indians	Ms. Arrellanes stated that the Project is outside of her territory and recommended contacting the *yak tit^{y}u tit^{y}u* Northern Chumash Tribe.
11/14/17	Fred Collins, Northern Chumash Tribal Council	Mr. Collins requested another email with the details about the Projects. He also commented that he had worked on other projects in the area, but had not observed resources. Mr. Collins also stated that he had observed metate fragments in Dry Creek; however, he believes the fragments could have washed in from other areas and did not have primary context.
11/14/17	Karen White, Xolon-Salinan Tribe	Ms. Letter left a message on Ms. White's voicemail.

PAGE INTENTIONALLY LEFT BLANK

5.0 FIELD SURVEY METHODS AND RESULTS

5.1 SURVEY METHODS

On September 21 and 22, 2017, Padre Staff Archaeologists Christopher Letter and Matt Seger surveyed the Project sites, which totaled 206.9 acres, for archaeological resources. Both Project sites were surveyed in transect intervals of no greater than 10 meters, where not constrained by extant structures.

The Project sites are located on mainly level to slightly rolling terrain (Figure 5-1). Much of the ground surface was mechanically altered either from cultivation practices or grading activities related to runway and/or road construction (Figure 5-2). Most of the proposed pipeline routes will parallel existing asphalt and/or gravel roadways with mechanically cut drainages (Figure 5-3 and Figure 5-4). Ground visibility varied from 30 to 100 percent. During the pedestrian survey, one historic trash pit (Site 1) was observed in the southwest corner of a potential staging area for the Paso Robles Phase I Airport Area Infrastructure Improvement Project (Figure 5-5). No resources were observed within the Dry Creek Road Realignment Project site. No prehistoric materials were observed within the Project sites.

Figure 5-1. Overview of north side of airport showing staging area N2 and proposed waterline route, facing north

Figure 5-2. Overview of Beacon Road waterline route, facing west

Figure 5-3. Overview of Airport Road sewer line route, facing south

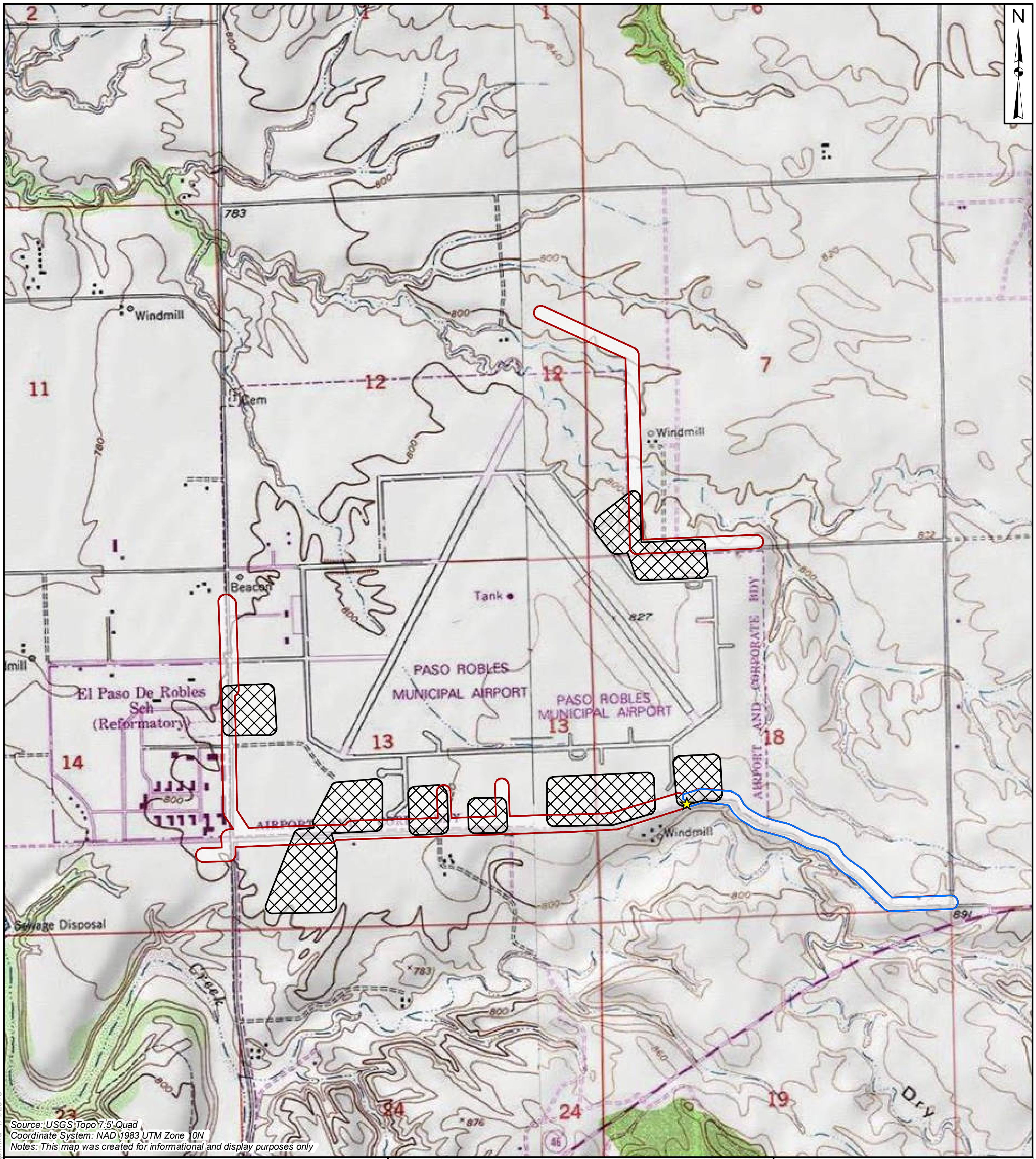
Figure 5-4. Overview of Dry Creek Road waterline route, facing west

5.2 SITE 1

Site 1 is a historic trash dump located on the south side of Dry Creek Road on the edge of the bluff lying in a southeast trending gully (Figure 5-5 and Figure 5-6). The site measures approximately 8 feet by 5 feet with an unknown depth, and consists of numerous sanitary cans, concrete fragments, a metal gas tank, a metal pail, a metal ironing board, and glass bottles and jars. Archaeologists observed two diagnostic artifacts: a complete amber liquor bottle (Figure 5-7) with a Ball Brothers Glass Manufacturing Company maker's mark dating (circa 1935-1960), and a complete clear glass jar (Figure 5-8) with a Maywood Glass Company maker's mark (circa 1930-1959) (Whitten, 2017). Modern bottles are also present. It is likely the trash was intentionally placed to stabilize the slope.

Bureau of Land Management General Land Office records indicate that Albert Benten received the land patent for Lots 3 and 4 and the east half of the southwest quarter of Section 18, Township 26 South, Range 13 East in 1873. An examination of historic topographic maps and aerial photographs reveals that four structures and a windmill appear within 500 feet of Site 1 in 1952 and are still present today. Based on the date ranges for the two diagnostic artifacts observed, Site 1 was likely created after these structures were constructed.

Background research did not reveal that Site 1 is associated with historically significant events or individuals. Additionally, does not have the potential to yield important information that could not be obtained from other sources. Thus, the removal of Site 1 would be a less than significant impact.



Source: USGS Topo 7.5' Quad
Coordinate System: NAD 1983 UTM Zone 10N
Notes: This map was created for informational and display purposes only

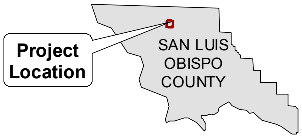
Paso Robles Airport Area Phase I\Site 1 Location Map.mxd 1/4/2018

0 1,000 2,000
FEET
1:24,000

USGS 7.5' Quadrangle: Paso Robles and Estrella
Legal Description: T26S, R12E Sec 12, 13, 14
and T26S, R13E Sec 7 &18

LEGEND:

- ☆ Site 1 Location
- ☐ Dry Creek Road Realignment
- ▨ Staging
- ☐ Survey - 100 ft



padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: PASO ROBLES PHASE I AIRPORT AREA INFRASTRUCTURE IMPROVEMENT AND DRY CREEK ROAD REALIGNMENT PROJECTS SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER: 1702-1871

DATE: January 2018

SITE 1 LOCATION MAP

FIGURE 5-5

Figure 5-6. Close-up of historic trash dump along Dry Creek Road

Figure 5-7. Close up of amber liquor bottle base

Figure 5-8. Close up of clear glass jar base

PAGE INTENTIONALLY LEFT BLANK

6.0 CONCLUSIONS AND RECOMMENDATIONS

Padre has completed a Phase I archaeological study in support of the Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Improvement Projects.

The records search did not identify any cultural resources within the Project site. The pedestrian survey identified one historic trash dump (Site 1) in the southwest corner of a potential staging area for the Paso Robles Phase I Airport Area Infrastructure Improvement Project. No resources were observed within the Dry Creek Road Project site. No prehistoric materials were observed within the Project sites.

The Project can proceed as planned. A change in scope (i.e. increased area of disturbance), will require additional archaeological surveys.

In the event that cultural materials are encountered during future ground disturbance, Padre recommends stopping all activity within a 100-foot radius of the find and contacting a County-qualified archaeologist. One copy of this report and attachments will be submitted to the CCIC at University of California, Santa Barbara.

PAGE INTENTIONALLY LEFT BLANK

7.0 REFERENCES CITED

Barter, E. R., Farris, G., and Rivers, B. J., 1995. *Coastal Branch, Phase II, State Water Project Cultural Resources Survey, Reach 5A, San Luis Obispo County, California*. Report prepared for State of California, Department of Water Resources, Division of Planning, Sacramento. Report on file, Department of Parks and Recreation, Cultural Heritage Section, Sacramento.

Bean, L. J., 1974. Social Organization in Native California. In *Antap: California Indian Political and Economic Organization.* Anthropological Papers 2:93-110. Ballena Press, Ramona.

Bean, W., 1968. *California: An Interpretive History*. McGraw Hill Book Company, New York.

Beck, W.A. and Haase, Y.D. 1974. Historical Atlas of California. University of Oklahoma Press, Norman.

Bolton, H. E., 1926. *Captain Portola in San Luis Obispo County 1769.* Tabula Rasa Press, Morro Bay, California.

Breschini, G.S., Haversat, T., and Hampson, R.P., 1983. A Cultural Resources Overview of the Coast and Coast-Valley Study Areas. Unpublished technical report, Bureau of Land Management. On file at the Los Prietos Heritage Resource Center.

Browning, P. (Editor), 1992. The Discovery of San Francisco Bay -- The Portolá Expedition of 1769 – 1770: The Diary of Miguel Costansó. Great West Books, Lafayette, California.

California Office of Historic Preservation, 1991. *Preservation Planning Bulletin 5: Guidelines for Archaeological Resource Management Reports (ARMR) Recommended Contents and Format.* California Office of Historic Preservation, Department of Parks and Recreation, Sacramento, California.

______, 2007. *Historic Properties Directory.* State of California, Department of Parks and Recreation, Sacramento, California.

Davis, A. 2017. *Estrella Army Air Field*. Electronic document, http://ewarbirds.org/museum/estrellafield.shtml. Accessed November 2017.

Fitzgerald, R. T., and Jones, T. L., 1998. Interpretive Synthesis of Subsurface Archaeological Investigations for the Coastal Branch, Phase II, State Water Project. Appendix G in Final Report: *Archaeological Data Recovery at CA-SLO-1797, the Cross Creek Site, San Luis Obispo County, California, Coastal Branch Phase II Project.* Garcia and Associates. Prepared for the California Department of Water Resources, Sacramento, California.

Gibson, R. O. 1983. *Ethnogeography of the Salinan People: A Systems Approach*. Master's thesis. California State University, Haywood.

Glassow, M., Wilcoxon, L., and Erlandson, J., 1988. Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In *The Archaeology of Hunter-Gatherer Subsistence Economics in Coastal Environments,* edited by G. Parkington and B. Bailey. Cambridge University Press, New York.

Glassow, Michael A., Gamble, Lynn H., Perry, Jennifer E., and Russell, Glenn S., 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges.

California Prehistory. T. L. Jones and K. A. Klar, eds., AltaMira Press, Lantham, Maryland.

Greenwood, R.S., 1972. 9,000 Years of Prehistory at Diablo Canyon. *San Luis Obispo County Archaeological Society Occasional Papers* 7. Paso Robles, California.

Harrington, J. P. 1942. Cultural Element Distributions: XIX: Central California. *University of California Anthropological Records* 7(1):1-46. Berkeley.

Heizer, R.F., and Whipple, M.A., 1971. The California Indians, a Source Book. University of California Press, Berkeley, Los Angeles, London.

Hester, T. R., 1978. Salinan, in *Handbook of North American Indians*, Vol. 8, California, R. F. Heizer, ed., pp. 500-504. Smithsonian Institution, Washington, D.C.

Hoover, R., 1977. Ethnohistoric Salinan Acculturation. *Ethnohistory,* 24(3):261-268.

Hoover, R., 1986. *Archaeological Survey Report for the Proposed Shell-Union Oil Pipeline Connection, Price Canyon Facility.* On file, Central Coast Information Center, Department of Anthropology, University of California, Santa Barbara.

______, 1990. *Archaeological Resources of the Nipomo Dunes Preserve*. Prepared for the Nature Conservancy, San Luis Obispo, California. Contract No. CAFO-0005.

Hoover, R., and Sawyer, W. B., 1977. Los Osos Junior High School Site CA-SLO-214. San Luis Obispo County Archaeological Society Occasional Paper 11.

Hoover, M. B., Rensch, H. E., Rensch, E. G., and Abeloe, W. N., 1990. *Historic Spots in California.* 4th edition, revised by D. E. Kyle. Stanford University Press, Stanford, California.

Johnson, J. R., 1988. *Chumash Social Organization: An Ethnohistoric Perspective.* Ph.D. dissertation, Department of Anthropology, University of California, Santa Barbara. University Microfilms, Ann Arbor, Michigan.

Jones, T. L., 1993. Big Sur: A Keystone in Central California Culture History. *Pacific Coast Archaeological Society Quarterly* 29 (1): 1-77, Costa Mesa.

Jones, T. L. and Ferneau, J. A., 2002. Prehistory at San Simeon Reef: Archaeological Data Recovery at CA-SLO-179 and -267, San Luis Obispo County, California. San Luis Obispo County Archaeological Society Occasional Paper 16.

Jones, T. L. and Waugh, G., 1995. Central California Coastal Prehistory: A View from Little Pico Creek. *Perspectives in California Archaeology* 3, Institute of Archaeology, University of California, Los Angeles.

Jones, T. L., Davis, K., Farris, G., Grantham, S. D., Fung, T. W., and Rivers, B., 1994. *Toward a Prehistory of Morro Bay: Phase II Archaeological Investigations* for the Highway 41 Widening Project, San Luis Obispo County, California. Prepared for the Department of Transportation, District 05, San Luis Obispo, California.

Jones, T. L., Stevens, N. E., Jones, D. A., Fitzgerald, R. T., and Hylkema, M. G., 2007. The Central Coast: A Midlatitude Milieu. In *California Prehistory.* T. L. Jones and K. A. Klar, eds., AltaMira Press, Lantham, Maryland.

King, C., 1982. *The Evolution of Chumash Society.* Unpublished PhD. dissertation, University of California, Davis.

______, 1990. *The Evolution of Chumash Society: A Comparative Study of Artifacts Used in Social System Maintenance in the Santa Barbara Channel Region before A.D. 1804*. Garland, New York.

Kroeber, A. L., 1925. *Handbook of the Indians of California*. *Bulletin 78* of the Bureau of American Ethnology of the Smithsonian Institution, Government Printing Office, Washington. Republished in 1976 by Dover Publications, Inc., New York.

Mason, J. A., 1912. The Ethnology of the Salinan Indians. *University of California Publications in American Archaeology and Ethnology* 10(4):97-240.

Miles, S. R., and Goudey, C. B., 1998. *Ecological Subregions of California: Section and Subsection Descriptions.* USDA, Forest Service Pacific Southwest Region, San Francisco. Electronic document, http://www.fs.fed.us/r5/projects/ecoregions/.

Moratto, M. J., 1984. *California Archaeology.* Academic Press, Inc., San Diego.

Palmer, K., 1999. *Central Coast Continuum—From Ranchos to Rockets: A Historic Overview for an Inventory and Evaluation of Historic Sites, Buildings, and Structures, Vandenberg Air Force Base, California.* Prepared under contract to BTG, Inc. Submitted to 30 CES/CEVPC, Vandenberg Air Force Base.

Priestley, H. I., 1937. *A Historical, Political, and Natural Description of California by Pedro Fages, Written for the Viceroy in 1775.* Translated by Herbert Ingram Priestley. University of California Press, Berkeley.

Rabb, L. M., and Larson, D. O., 1997. "Medieval Climatic Anomaly and Punctuated Cultural Evolution in Coastal Southern California." *American Antiquity* 62: 319-336.

Rivers, B., and Jones, T. L., 1993. Walking Along Deer Trails: A Contribution to Salinan Ethnogeography Based on the Field Notes of John Peabody Harrington. *Journal of California and Great Basin Anthropology* 15(2):146-175.

Squibb, P., 1984. *Captain Portola in San Luis Obispo County in 1769.* Tabula Rasa Press, Morro Bay, California.

Storke, Y. A. 1891. *Memorial and Biographical History of the Counties of Santa Barbara, San Luis Obispo, and Ventura, California*. The Lewis Publishing Company.

TravelPaso, 2015. *History of Paso Robles*. http://www.travelpaso.com/about/history. Accessed on February 1, 2016.

Whitten, D., 2017. *Glass Bottle Marks.* Electronic document, https://www.glassbottlemarks.com/. Accessed November 2017.

PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

NATIVE AMERICAN CONSULTATION

Print Form

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Phase I Archaeological Study, Paso Robles Airport Area Infrastructure Project

County: San Luis Obispo

USGS Quadrangle
Name: Paso Robles, Estrelle

Township: 26S Range: 12E, 13E Section(s): 12,13,14; 7,18

Company/Firm/Agency:
Padre Associates, Inc.

Contact Person: Rachael Letter

Street Address: 369 Pacific Street

City: San Luis Obispo Zip: 93401

Phone: (805) 245-2650

Fax: (805) 786-2651

Email: rletter@padreinc.com

Project Description:

Padre Associates, Inc. is conducting a Phase I archaeological study for several infrastructure improvements at the Paso Robles Municipal Airport. These improvements include the installation of utility lines and the realignment of Dry Creek Road.

X Project Location Map is attached

STATE OF CALIFORNIA Edmund G. Brown, Jr., *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

September 7, 2017

Rachael Letter
Padre Associates Inc.

Email to: rletter@padreinc.com

RE: Paso Robles Airport Area Infrastructure Project, San Luis Obispo County

Dear Ms. Letter,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not preclude the presence of cultural resources in any project area. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at frank.lienert@nahc.ca.gov.

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contacts
9/7/2017

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez , CA 93460
kkahn@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stenslie, Chair
365 North Poli Ave Chumash
Ojai , CA 93023
jtumamait@hotmail.com
(805) 646-6214

Salinan Tribe of Monterey, San Luis Obispo Counties
Patti Dunton, Tribal Administrator
7070 Morro Road, Suite A Salinan
Atascadero , CA 93422
salinantribe@aol.com
(805) 464-2650
(805) 235-2730 Cell
(805) 460-9204

Xolon-Salinan Tribe
Karen White, Council Chairperson
P.O. Box 7045 Salinan
Spreckels , CA 93962
blukat41@yahoo.com
831-238-1488

Coastal Band of the Chumash Nation
Mia Lopez
, Chumash
(805) 324-0135

yak tityu tityu - Northern Chumash Tribe
Mona Olivas Tucker, Chairwoman
660 Camino Del Rey Chumash
Arroyo Grande , CA 93420
olivas.mona@gmail.com
(805) 489-1052 Home
(805) 748-2121 Cell

Northern Chumash Tribal Council
Fred Collins, Spokesperson
P.O. Box 6533 Chumash
Los Osos , CA 93412
fcollins@northernchumash.org
(805) 801-0347 (Cell)

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes
P.O. Box 5687 Chumash
Ventura , CA 93005
(805) 701-3246

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.
331 Mira Flores Court Chumash
Camarillo , CA 93012
(805) 427-0015

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessments for the proposed
Paso Robles Airport Area Infrastructure Project, San Luis Obispo County

November 3, 2017

Freddie Romero
Santa Ynez Tribal Elders Council
P.O. Box 365
Santa Ynez, California 93460

Re: Native American Consultation for Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Improvement Projects, San Luis Obispo County, California

Dear Mr. Romero,

Padre Associates, Inc. (Padre) is conducting a Phase I archaeological study for two projects in Paso Robles. The proposed scope of work for the two projects includes:

- Paso Robles Phase I Airport Area Infrastructure Improvement Project - install water main, gravity main, force main, and recycled water main lines within roads surrounding the Paso Robles Airport, and;

- Dry Creek Road Improvement Project - road re-surfacing, improvements, and slight realignment on Dry Creek Road.

Both projects are located within Sections 12, 13, 14 in Township 26 South, Range 12 East and Sections 7 and 18 in Township 26 South, Range 12 East as shown on the USGS 7.5' Paso Robles and Estrella topographic quadrangles (maps enclosed).

A search of the Sacred Lands File by the Native American Heritage Commission (NAHC) did not identify tribal cultural resources within the vicinity of the Project sites. A records search completed at the Central Coast Information Center (CCIC) located at University of California, Santa Barbara did not identify any archaeological sites within the Project sites or a 0.25-mile radius.

Padre conducted a pedestrian survey of both Project sites on September 21 and 22, 2017. The survey identified one small historic trash dump in the southwest corner of a potential staging area for the Paso Robles Phase I Airport Area Infrastructure Improvement Project. No resources were observed within the Dry Creek Road Project site.

Padre has initiated this consultation as a best practice to ensure that tribes with traditional lands or cultural places located within the Project sites are given the opportunity to comment. If you have no concerns but you know of others who might, we would appreciate it if you could contact us with the names of these individuals or organizations.

Please note that this letter does not constitute formal tribal consultation as outlined in Public Resources Code (PRC) § 21080.3.1. At the appropriate time, the City of Paso Robles shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated tribes that have requested such notice as required by PRC § 21080.3.1 subdivision (d).

Please contact me at (805) 786-2650 ext. 41 or rletter@padreinc.com if you have any questions regarding this Project or require any additional information. Thank you for your time.

Sincerely,

Rachael J. Letter
Senior Archaeologist
Padre Associates, Inc.

cc. Ditas Esperanza, P.E., Capital Projects Engineer, City of El Paso de Robles

From: Fred Collins <fcollins@northernchumash.org>
Sent: Thursday, November 16, 2017 7:35 AM
To: Rachael Letter
Subject: RE: Native American Consultation for Paso Robles Projects

Hello Rachael,

Thank you for the information, NCTC is recommending that you folks do some spot checking, when they start the ground disturbance and throughout the surface work.

Thank you,

Fred Collins
NCTC

From: Rachael Letter [mailto:RLetter@PADREINC.com]
Sent: Tuesday, November 14, 2017 10:10 AM
To: fcollins@northernchumash.org
Subject: FW: Native American Consultation for Paso Robles Projects

Hi Fred,

It was nice to speak with you this morning. As requested, here is the original email sent earlier this month.

Thank you,

Rachael J. Letter, M.S., RPA
Senior Archaeologist
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401
Cell: 805-245-2650
Office: 805-786-2650 ext. 41
Email: rletter@padreinc.com

From: Rachael Letter
Sent: Friday, November 03, 2017 11:10 AM
To: fcollins@northernchumash.org
Subject: Native American Consultation for Paso Robles Projects

Dear Mr. Collins,

Padre Associates, Inc. (Padre) is conducting a Phase I archaeological study for two projects in Paso Robles. The proposed scope of work for the two projects includes:

- Paso Robles Phase I Airport Area Infrastructure Improvement Project - install water main, gravity main, force main, and recycled water main lines within roads surrounding the Paso Robles Airport, and;

- Dry Creek Road Improvement Project - road re-surfacing, improvements, and slight realignment on Dry Creek Road.

Both projects are located within Sections 12, 13, 14 in Township 26 South, Range 12 East and Sections 7 and 18 in Township 26 South, Range 12 East as shown on the USGS 7.5' Paso Robles and Estrella topographic quadrangles (map attached).

A search of the Sacred Lands File by the Native American Heritage Commission (NAHC) did not identify tribal cultural resources within the vicinity of the Project sites. A records search completed at the Central Coast Information Center (CCIC) located at University of California, Santa Barbara did not identify any archaeological sites within the Project sites or a 0.25-mile radius.

Padre conducted a pedestrian survey of both Project sites on September 21 and 22, 2017. The survey identified one small historic trash dump in the southwest corner of a potential staging area for the Paso Robles Phase I Airport Area Infrastructure Improvement Project. No resources were observed within the Dry Creek Road Project site.

Padre has initiated this consultation as a best practice to ensure that tribes with traditional lands or cultural places located within the Project sites are given the opportunity to comment. If you have no concerns but you know of others who might, we would appreciate it if you could contact us with the names of these individuals or organizations.

Please note that this email does not constitute formal tribal consultation as outlined in Public Resources Code (PRC) § 21080.3.1. At the appropriate time, the City of Paso Robles shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated tribes that have requested such notice as required by PRC § 21080.3.1 subdivision (d).

Please contact me at (805) 786-2650 ext. 41 if you have any questions regarding this Project or require any additional information.

Thank you for your time!

Rachael J. Letter, M.S., RPA
Senior Archaeologist
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401
Office: 805-786-2650 ext. 41
Email: rletter@padreinc.com

APPENDIX B

CONFIDENTIAL: CALIFORNIA DPR 523 FORMS

State of California &The Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code **Reviewer** **Date**

Page 1 **of** 4 ***Resource Name or #:** Site 1

P1. Other Identifier:

***P2. Location:** ☒ **Not for Publication** ☐ **Unrestricted**

***a. County** San Luis Obispo

***b. USGS 7.5' Quad:** Estrella **Date:** 1979 **T** 26 South**; R** 13 East**;** Section 18**;** Mount Diablo **B.M.**

c. Address: **City:** **Zip:**

d. UTM: Zone 10; *NAD 83:* Center: 3949271m N, 715575m E

e. Other Locational Data:

***P3a. Description:** Site 1 is a historic trash dump located on the south side of Dry Creek Road on the edge of the bluff lying in a southeast trending gully. The site measures approximately 8 feet by 5 feet with an unknown depth and consists of numerous sanitary cans, concrete fragments, a metal gas tank, a metal pail, a metal ironing board, and glass bottles and jars.

***P3b. Resource Attributes:** AH4. Historic Trash Scatter

***P4. Resources Present:** ☐Building ☐Structure ☐Object ☒Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photograph:

P5b. Description of Photo: Close up of Site 1

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both

***P7. Owner and Address:** Unknown

***P8. Recorded by:**
Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93401

***P9. Date Recorded:** September 22, 2017

***P10. Survey Type:** Intensive pedestrian survey

***P11. Report Citation:**
Letter, R. J. and Letter, C. J. 2018. *Phase I Archaeological Study, Paso Robles Phase I Airport Area Infrastructure Improvement and Dry Creek Road Improvement Projects*. Prepared by Padre Associates, Inc. Prepared for Terra Verde Environmental Consulting, LLC.

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☐Building, Structure, and Object Record ☒Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐Other:

ARCHAEOLOGICAL SITE RECORD

Page 2 **of** 4 ***Resource Name or #:** Site 1

***A1. Dimensions: a. Length** 8 feet (N-S) × **b. Width** 5 feet (E-W)
Method of Measurement: ☐ Paced ☐ Taped ☒Visual estimate ☐ Other:
Method of Determination: ☒ Artifacts ☐ Features ☐ Soil ☐Vegetation ☐ Topography
☐ Cut bank ☐ Animal burrow ☐ Excavation ☐Property boundary ☐ Other (Explain):
Reliability of Determination: ☐ High ☒Medium ☐ Low Explain: Depth unknown
Limitations: ☒ Restricted access ☐Paved/built over ☒Site limits incompletely defined
☒ Disturbances ☐ Vegetation ☒ Other (Explain): Located in a gully

A2. Depth: ☐ None ☒ Unknown
***A3. Human Remains:** ☐ Present ☒ Absent ☐ Possible ☐Unknown (Explain):

***A4. Features:** None

***A5. Cultural Constituents:** The following was observed: numerous sanitary cans, concrete fragments, a metal gas tank, a metal pail, a metal ironing board, and glass bottles and jars. Archaeologists observed two diagnostic artifacts: a complete amber liquor bottle with a Ball Brothers Glass Manufacturing Company maker's mark dating (circa 1935-1960) and a complete clear glass jar with a Maywood Glass Company maker's mark (circa 1930-1959) (Whitten, 2017). Modern bottles are also present.

***A6. Were Specimens Collected?** ☒ No ☐ Yes

***A7. Site Condition:** ☐Good ☒ Fair ☐Poor:

***A8. Nearest Water:** The gully leads down to Dry Creek feeding Huerhuero creek a tributary of the Salinas River.

***A9. Elevation:** 840 feet AMSL

A10. Environmental Setting: Located on the edge of an old low terrace in the southern Salinas River Valley. The gully these items were placed in is on the north bluff edge of Dry Creek an ephemeral drainage leading to Huerhuero creek to the west which is a tributary of the north flowing Salinas River.

A11. Historical Information: Bureau of Land Management General Land Office records indicate that Albert Benten received the land patent for Lots 3 and 4 and the east half of the southwest quarter of Section 18, Township 26 South, Range 13 East in 1873. An examination of historic topographic maps and aerial photographs reveals that four structures and a windmill appear within 500 feet of Site 1 in 1952 and are still present today. Based on the date ranges for the two diagnostic artifacts observed, Site 1 was likely created after these structures were constructed.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ☐1914-1945
☒ Post 1945 ☐ Undetermined

A13. Interpretations: It is likely these items are associated with the property located to the west and were placed in the gully to reduce erosion.

A14. Remarks: Background research did not reveal that Site 1 is associated with historically significant events or individuals. Additionally, does not have the potential to yield important information that could not be obtained from other sources. Thus, the removal of Site 1 would be a less than significant impact.

A15. References: Whitten, D. 2017. *Glass Bottle Marks.* Electronic document, https://www.glassbottlemarks.com/. Accessed November 2017.

A16. Photographs:
Original Media/Negatives Kept at: Padre Associates, Inc. 369 Pacific Street, San Luis Obispo, CA 93401

***A17. Form Prepared by:** C. J. Letter **Date:** November 2017

State of California & The Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Location Map

Primary #
HRI#
Trinomial

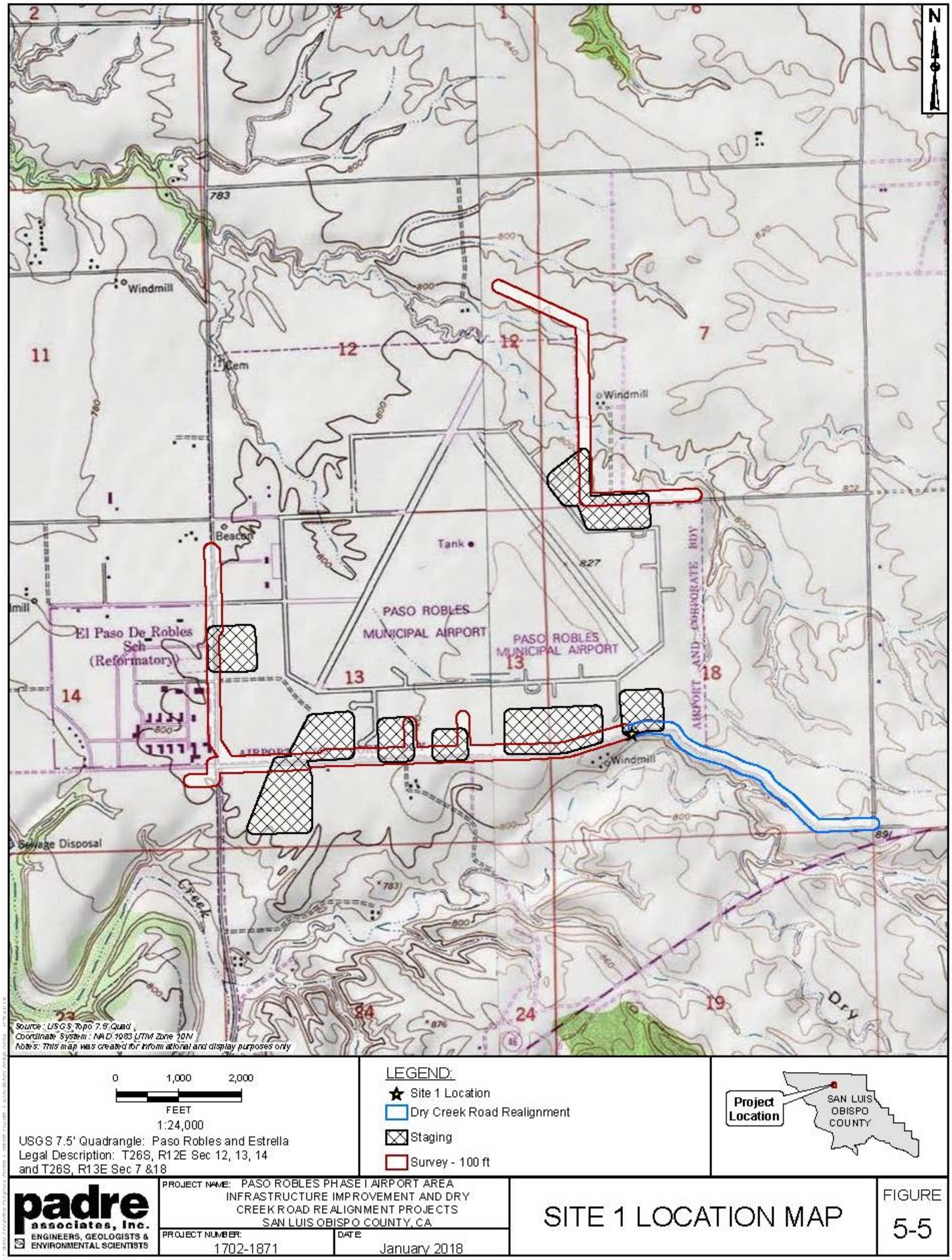
Page 3 **of** 4

***Resource Name or #:** Site 1

***Map Name:** USGS 7.5' Quad: *Estrella, CA*

***Scale:** 1:24000

***Date of Map:** 1979



***Resource Name or #:** Site 1

***Recorded by:** Padre Associates, Inc.

***Date:** November 2017

☒ Continuation ☐ Update

Overview of gully, facing southwest

Close-up of liquor bottle base

Close-up of jar base